Elder abuse in New Zealand: Social risk factors

A thesis
presented in partial fulfilment
of the requirements for the degree of

Doctor of Clinical Psychology
in
Psychology

At Massey University, Manawatu,
New Zealand

Yvonne Woodhead

2018

ABSTRACT

Elder abuse is a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person. Elder abuse has been linked to significant morbidity and mortality and is receiving increasing attention from policymakers and health professionals. The research literature has identified various factors as correlates of elder abuse. Given the strength of evidence for loneliness and lack of social support as correlates of elder abuse, the present study aimed to examine these factors as well as a related concept, social network type, in the New Zealand context. Data was analysed from the 2010 and 2012 waves of the New Zealand Longitudinal Study of Ageing (NZLSA) which focused on health and ageing indicators such (N = 3277 in 2010; N = 3212 in 2012). Cross-sectionally, the focus of this study was whether loneliness, social support and social network type predicted elder abuse. Longitudinally, I explored whether the same three variables predicted later elder abuse at two-year follow-up. Multiple regression, moderation and mediation analyses were primarily applied. Elder abuse was found to be related to poorer physical and mental health outcomes both at baseline and two years later. Loneliness and social support were both related to elder abuse, with loneliness also related to elder abuse two years later. Social network type was not related to elder abuse. Social support had a moderating effect on the relationship between elder abuse and loneliness as well as a partially mediating effect on the relationship between elder abuse and mental health. Loneliness partially mediated the relationships between elder abuse and lower physical health, lower mental health and increased age. Most of these moderating and mediating effects were significant both at baseline and two years later. Potential limitations and suggestions for future research are discussed. These findings are intended to provide supporting evidence that loneliness and social support are key factors to consider as correlates of elder abuse, and to

inform health professionals, researchers and older adults about social lifestyle choices likely to reduce risk of elder abuse.

ACKNOWLEDGEMENTS

I owe my supervisors, Professor Christine Stephens and Dr Joanne Taylor, a great debt of gratitude for the support and guidance they have given me during the process of writing this thesis. I would like to thank Professor Christine Stephens for always thinking the best of me, trying to inspire me by making statistics fun and giving me emotional support, hope and encouragement when continuing with this thesis seemed overwhelming. I would like to thank Dr Joanne Taylor for her meticulous reading, relevant feedback and valuable overall involvement throughout the different phases of this thesis. Without the expertise and trust of both, I could not have completed this thesis. In addition, I would like to thank Dr Matt Williams and Dr Joanne Allen for their advice and assistance at various times during this thesis. My thanks also go to the School of Psychology staff at Massey University for providing me with the office facilities, computer programmes and access to the New Zealand Longitudinal Studies of Ageing (NZLSA) data to complete this work. Finally, I would like to thank my husband and postgraduate colleagues for their sharing, understanding and for cheering me on.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER ONE

What is Elder Abuse?

1.1 Definition of Elder Abuse

Definitions are important in the understanding and use of language. They are concise, serving to conceptualise and explain the use of certain terms. However, as with language, definitions change and evolve over time as greater knowledge is gained and as linguistic fashions change. The definition of elder abuse has similarly changed and evolved over the past few decades, resulting in issues of complexity in defining elder abuse (Wallace & Crabb, 2017).

There are multiple definitions of elder abuse in the literature (Pillemer, Burnes, Riffin & Lachs, 2016). The definition of elder abuse endorsed internationally by the World Health Organisation (WHO) and locally by the Ministry of Health and Age Concern New Zealand (ACNZ) will be used in this thesis. The definition endorsed by these organisations is:

> a single, or repeated act or lack of appropriate action, occurring within any relationship where there is an expectation of trust, that causes harm or distress to older people (ACNZ, 2007, p.13; Glasgow & Fanslow, 2006, p.78; Sethi et al., 2011, p.1).

Some have suggested that difficulties with determining the definition of elder abuse stem from difficulties with defining the terms included within the definitions of elder abuse, such as 'trust' and 'harm' (Goergen & Beaulieu, 2013). As Wallace and Crabb (2017) state:

> Thus, it is apparent why [elder abuse] definitions vary and are difficult to construct and apply. They involve the depths of complex interpersonal human relationships, such as family and social dynamics, criminality, marriage, and community responsibility. They

> are promulgated by many scientific disciplines, such as legal, administrative, clinical, biological, social, and behavioural. Each discipline has its own interests, professional structures, social mandates, accumulated lore, intellectual traditions, observational methods, and dialectical processes. Each strives to understand and communicate its findings, and each suffers from environmental challenges such as limited resources, conceptual variability, and inadequate measurement methods, as well as social challenges like great cultural variation among families, communities and populations, competing views of the role of government, protection from release of medical and other records and, in many instances, preserving individual autonomy in personal and political decision-making (Wallace & Crabb, 2017, p.3).

Definitions of elder abuse vary across countries, disciplines, organisations and research studies (Dong, 2017). This varied understanding of what elder abuse is limits current research in terms of its ability to accurately and systematically determine prevalence, correlates and severity of elder abuse. This in turn, limits the ability to transform knowledge into effective policy development and intervention strategies (Dong, 2017).

There is a tension between the use of shorter, broader definitions to be applied generally and more detailed definitions to be applied to specific subtypes of elder abuse (Wallace & Crabb, 2017). The difference between these, can be considered in parallel to the difference between characterising elder abuse and categorising/classifying it. The former, characterising, can be thought of similarly to diagnostic criteria/guidelines to aid identification and direct intervention. These guidelines are not aimed at a complete or detailed description of all the diversely possible situations. An example of a characterising system is the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013). Characterising elder abuse applies broad definitions of elder abuse. The latter,

categorisation/classification, can be best thought of as intended to describe different and specific subtypes of elder abuse with the purpose of aiding social, clinical and public health research (Wallace & Crabb, 2017).

When reviewing elder abuse research, it is important to consider from whose perspective and for what purpose the definition is best serving. Research from different professional groups may use different approaches/jargon when defining elder abuse. The purpose of defining elder abuse may vary, from educating on the nature of elder abuse or providing a classification system of elder abuse to defining for clinical, administration or legal reasons and/or predicting the course of an illness. Some definitions may also try to include aspects of intent and causality (Wallace & Crabb, 2017). The following subsections discuss the individual elements of the elder abuse definition used in this thesis, adopted from the Ministry of Health, WHO and ACNZ definition.

1.2 Definition of 'Older People'

From a research perspective, older people in this thesis are defined as those aged 65 years and older, which is based on the numerical approach suggested by Krug, Mercy, Zwi and Lozano (2002). They define older adults as individuals who have reached the legal retirement age. This is the age of 65 years based on the requirements of the New Zealand superannuation scheme (Work and Income New Zealand, 2017). Numerical age is the most frequently used method of defining older age in research and policy development (Phillipson, 2013).

From a practical perspective, it is recognised that there is a need for flexibility regarding the age of the older person experiencing abuse (Glasgow & Fanslow, 2006). There is nothing especially significant about the age of 65 which marks the boundary between adulthood and older adulthood. Older adults of the same age may vary quite significantly in relation to their

physical health and cognitive capacity, activity levels and functional abilities (Wilson, 2000). They may also vary in terms of how old they subjectively feel and how they experience ageing (Montepare, 2009). Life expectancies vary across ethnic groups in New Zealand, which is relevant to the concept of what an older person is within each ethnic group. For instance, in the period 2012 to 2014, a non- Māori person was expected to live 7.1 years longer than a Māori person in New Zealand (Statistics New Zealand, 2015) suggesting that the Māori understanding of what an older adult is could be different to a non-Māori understanding.

Older age is recognised to be a social construct, influenced by sociocultural and political factors. In countries other than New Zealand who also use numerical age to define older adulthood, some use a legal retirement age that varies from that of 65 years. In other cultures, the concept of the older person is tied to community standing, wisdom, knowledge, authority and social roles rather than numerical age (Krug et al., 2002). Historically, older age was tied to incapacity to work (Thane, 2000).

There are three categories of older people recognised in the literature; the young-old (65-74 years old), the old-old (75-84 years old) and the oldest-old (85+ years old; Cannon, 2015). It is recognised that these too, are arbitrary distinctions to make. However, these are useful categories to use for the purposes of the current research.

1.3 Definition of 'Act or Lack of Appropriate Action' and 'Causes Harm or Distress'

As with other forms of violence, elder abuse can take various forms of abuse including physical, psychological, sexual, financial and neglect (Glasgow & Fanslow, 2006; Sethi et al., 2011). These five forms of abuse are commonly recognised by researchers, practitioners and the legislative provisions of various jurisdictions (for instance, see Dong & Simon, 2014; Peri,

Fanslow, Hand & Parsons, 2008; Pillemer, Connolly, Breckman, Spreng & Lachs, 2015; Smith & Long, 2011). These five forms will also be used to define elder abuse in this thesis.

The Ministry of Health defines physical abuse as "infliction of physical pain, injury or force, including medication abuse (deliberate or accidental misuse of medications that sedate or result in harm to the older person) and inappropriate use of restraint or confinement that causes pain or bodily harm" (Glasgow & Fanslow, 2006, p.78). Other definitions, such as that used by the National Center on Elder Abuse (NCEA), require additional elements including intention, position of trust and vulnerability of the older adult (Center on Elder Abuse, 2015).

There can be challenges in regard to correctly identifying the occurrence of physical abuse. Firstly, difficulties can arise due to changes associated with the ageing process which can predispose older adults to falls and other events causing injury. Sometimes, these may be incorrectly attributed to physical abuse. In addition, injuries can occur due to non-traumatic processes such as sepsis or bleeding disorders. Conversely, there may be no evidence of injury despite an act of physical abuse (Wallace & Crabb, 2017).

The Ministry of Health defines psychological abuse as "any behaviour that causes anguish, stress or fear, including verbal abuse, intimidation, harassment, damage to property, threats of physical or sexual abuse, and the removal of decision-making powers" (Glasgow & Fanslow, 2006, p.78). The NCEA requires additional elements including position of trust and vulnerability of the older adult (Center on Elder Abuse, 2015).

Vulnerability to psychological abuse may be exacerbated by physical and mental health problems, social isolation and bereavement (Center on Elder Abuse, 2015). It can be difficult to differentiate between intentional abuse and poor social skills, in much the same way as it can be difficult to differentiate intentional child abuse and poor parenting skills (Trocme et al.,

2011). Screening tools have been found to be a poor fit for measuring psychological abuse, inappropriate for use with cognitively impaired older adults and an unreliable measure of psychological abuse depending on the setting of the alleged abuse (Wallace & Crabb, 2017).

The Ministry of Health defines sexual abuse as "any forced, coerced or exploitive sexual behaviour or threats imposed on an individual, including sexual acts imposed on a person unable to give consent, or sexual activity an adult lacking mental capacity is unable to understand" (Glasgow & Fanslow, 2006, p.78). The NCEA requires additional elements including position of trust and vulnerability of the older adult (Center on Elder Abuse, 2015). Consent obtained by coercive means is not adequately included in many definitions of sexual abuse but does not amount to consent (Wallace & Crabb, 2017).

Determining incapacity and dysfunction in regard to ability to provide consent can be difficult, and yet consent is the key difference between acceptable and exploitative sexuality (Teitelman, 2006). Ethical issues arise when a long-term partner caregiver makes judgements about what is/is not appropriate sexual behaviour with an older adult who lacks capacity to consent (Benbow & Beeston, 2012). In practice, possible sexual abuse has been determined by comparing patterns of assent before and after, for example, presence of dementia (Lingler, 2003).

The Ministry of Health defines financial/material abuse as "illegal or improper exploitation and/or use of funds or other resources, including when a person given ordinary or enduring power of attorney abuses their powers and fails to operate in the best interests of the older person" (Glasgow & Fanslow, 2006, p.78). Other definitions, such as that of the NCEA, require additional elements including position of trust, acting for own profit/benefit of third

party and use of means of coercion/intimidation/deception/undue influence (Center on Elder Abuse, 2015).

One of the defining attributes of financial abuse is that the benefits of a transaction are in the perpetrator's favour. This can be important to consider, as often it can be difficult to prove financial abuse when the older adult is assumed to be cognitively competent, may have actually consented to the transaction, and there is lack of proof as to undue influence on the part of the perpetrator (Wallace & Crabb, 2017).

Often, difficulties with financial capacity precede other decision-making difficulties, as memory, calculation abilities and executive functioning are all essential cognitive functioning abilities (relevant to financial capacity) which tend to become impaired early (Wood et al., 2014). Coercive, controlling behaviours by perpetrators for the purpose of limiting the victim's access to funds/resources makes the victim financially dependent on the perpetrator. This same pattern occurs in intimate partner violence (Wallace & Crabb, 2017).

The Ministry of Health defines elder neglect as the experience of "harmful effects as a result of another person failing to perform behaviours which are a reasonable obligation of their relationship to the older person and are warranted by the older person's unmet needs and includes abandonment" (Glasgow & Fanslow, 2006, p.78). The three categories of neglect include active neglect, meaning "the conscious and intentional deprivation by a carer of basic necessities, resulting in harmful physical, psychological, material and/or social effects"; passive neglect, meaning "the refusal or failure by a carer, because of inadequate knowledge, infirmity, or disputing the value of a service, to provide basic necessities, resulting in harmful physical, psychological, material and/or social effects" and self-neglect, meaning "when a person refuses to accept or fails to provide themselves with basic necessities, resulting in

harmful physical, psychological, material and/or social effects" (Glasgow & Fanslow, 2006, p.78).

Elder neglect raises many important philosophical issues which reflect on the complexity of the concept. Firstly, the way that elder neglect is defined means someone (whether it be the older person him/herself in the case of self-neglect or another person caregiver) is deemed to have responsibility to meet the essential requirements for daily living of an older adult (National Center on Elder Abuse, 2015). Many definitions of neglect include examples of what these needs are, such as food, water, clothing, shelter, personal hygiene, medicine, comfort and personal safety (National Center on Elder Abuse, 2015). Furthermore, failure to meet these needs is often considered neglectful by elder neglect definitions whether wilful or not (Sethi et al., 2011). This definition of elder neglect can present challenges in regard to identifying the supposed caregiver, especially in situations where the caregiver has a cognitive or physical impairment, lives in another part of the country or is a paid housekeeper who only cleans every few weeks. It is also unclear whether individuals in a trust relationship with the older adult could be held complicit for elder neglect; individuals such as healthcare professionals who have simply not detected signs of neglect or are unable/too busy to take action (Wallace & Crabb, 2017).

Specific to New Zealand is an additional sixth form of abuse called abuse of enduring power of attorney. This occurs when a person who has been appointed as an enduring power of attorney abuses their entrusted powers and fails to operate in the best interests of the older person. This commonly takes the form of psychological and financial/material abuse (ACNZ, 2004). It is referenced in the Ministry of Health's financial/material abuse definition (Glasgow & Fanslow, 2006).

The literature recognises that sub-types of abuse may be relevant to the above forms of abuse. These include partner abuse which occurs "within a life-long or recent partnership", institutional abuse which occurs "within residential care where a policy or practice results in abuse or neglect", abuse by discrimination, disrespect and ageist attitudes which includes "behaviour that is perceived by older people as dishonouring or insulting" and structural/societal or systemic abuse which is the "marginalisation of older persons such as by social or economic policies" (Glasgow & Fanslow, 2006, p.78).

Contextual factors (such as cultural, environmental and institutional factors) often affect perceptions of acceptability of behaviour towards older adults, again influencing determinations of prevalence, correlates and severity of elder abuse. The use of both a broad definition as well as specific definitions for particular populations and settings may aid current research and development of policy and intervention strategies (Dong, 2017).

1.4 Relationship of Trust

Any person interacting with an older person either directly or indirectly has the potential to commit elder abuse. There is a wide ranging list of potential abusers, including family members, friends, neighbours, healthcare providers, caregivers, social or support workers, residential care facility owners/managers, other resident patients in such facilities and any persons managing an older person's personal affairs (e.g. lawyers, accountants). However, research has consistently shown that abusers are frequently members of the older person's family. Local data reports that 40% of abusers are adult children and 15% spouses (Age Concern New Zealand, 2005). Internationally, a United States National Elder Abuse Incidence Study found 90% of abusers are family members; 44% abusers adult children and 19% spouses (Thompson and Atkins, 1996).

1.5 Cultural Considerations

Cultural differences can affect perspectives on what constitutes elder abuse (Jervis, 2014). Each ethnic culture uniquely identifies acceptable and unacceptable behaviours towards older adults (Wallace & Crabb, 2017). Research on ethnic cultural perspectives is limited because data on ethnicity is not always captured in records of elder abuse (Glasgow & Fanslow, 2006). However, the Ministry of Health have included within their Family Violence guidelines some information about the main cultural groups in New Zealand and their values in relation to older people to aid understanding of ethnic cultural perspectives on elder abuse.

Levels of awareness of elder abuse and its correlates vary amongst cultures. One study has found that greater awareness of abuse is associated with lower tolerance of abusive behaviour (Mitchell & Finkelhor, 2001). Cultural influences are also thought to affect how older adults with dementia are treated. For instance, some cultures do not recognise dementia as a neurological illness and instead perceive it as possession by evil spirits thus influencing their treatment towards dementia sufferers (Wallace & Crabb, 2017).

Māori. Older generations are considered to play a crucial role in carrying the integrity, status and traditions of their people (Durie, 1999). Older adults often act as spokespersons for their families and tribal groups, mentor younger family members and have an important role in preserving and transmitting cultural knowledge. They are regarded as taonga (treasures; Durie, 1999).

Abuse in Māori whanau can be attributed to both historical and current causes affecting sociological, economic and cultural factors. These factors include the impacts of colonisation (the breakdown of traditional social structures and systems of discipline and justice), loss of traditional beliefs, values, philosophies and language (impacting on identity, roles and

relationships), changes in how violence is managed (traditionally a public iwi and hapu concern, now a private whanau issue), urbanisation and social isolation (resulting in dislocation from social supports and networks) and hardship due to poor educational achievement, limited employment opportunities and low income (Barnes, 2000; Glasgow & Fanslow, 2006).

Elder abuse can similarly be attributed to these sociological, economic and cultural factors. Traditionally, older Māori were treated with respect and well cared for due to their important eldership responsibilities within the tribe as spiritual leaders, mediators in conflict, cultural guardians and mentors to younger members (Durie, 1999). Social changes during recent decades have resulted in loss of these traditional responsibilities and associated relationships (Dawson, 2002). Elder abuse is often associated with shame and stigma amongst Māori (Dawson, 2002). Traditional Māori cultural perspectives on elder abuse may therefore need to reflect the importance of respect for older people and what they have to offer.

Pacific. Traditionally, older Pacific people were treated with respect due to a predominant Pacific worldview that respect towards older people is part of the social protocol and etiquette which governs relationships. It is recognised that older Pacific people have critical roles in the physical, mental and spiritual wellbeing of their nuclear and extended families. It is also recognised that there are familial obligations to provide care for them (Glasgow & Fanslow, 2006). Traditionally, caring is seen as a duty with help being viewed as something offered rather than requested (Huakau & Bray, 2000). Elder abuse is often associated with shame and fear of community scrutiny or family distress (Glasgow & Fanslow, 2006).

The majority of older Pacific people currently living in New Zealand are overseas-born. The introduction of Western societal and religious beliefs and values can clash with more traditional Pacific beliefs and values. Intergenerational tensions between Pacific-born family members and New Zealand-born children/grandchildren can arise when there are

disagreements about cultural protocols and respect for older people (Glasgow & Fanslow, 2007). Traditional Pacific cultural perspectives on elder abuse may also therefore need to reflect the importance of respect for older people and the social traditions of valuing older people.

Other ethnic communities. There are more than 200 ethnic groups (defined as a group with a sense of peoplehood or belonging based on shared culture, values, beliefs, religion or symbols such as food, dress or language) in New Zealand. The majority of new migrants to New Zealand are from Asia (South Korea, China, Taiwan, Hong Kong and Malaysia) but significant numbers are also from Europe (Eastern Europe, Netherlands, Germany, Italy) (Glasgow & Fanslow, 2006).

Traditionally, older people in ethnic groups with age-honouring values such as filial piety held positions of prestige within their families and were treated with respect. Older people in these ethnic cultures are traditionally obeyed, cared for and respected. It is recognised that there are familial obligations to provide care for them. Often, there is an emphasis on interdependence and continuity between generations within the family and the older person is cared for within the family home (Chen, Wu & Yeh, 2016; Glasgow & Fanslow, 2006). Placement of older people into institutionalised care may therefore be considered by some cultures to constitute psychological abuse and neglect (abandonment) (Lee, Kaplan & Perez-Stable, 2014; Zhan & Rhonda, 2003).

Traditionally, older people in such ethnic cultural groups are also cared for by younger family members in the form of relief from the stresses of decision making. Managing the health and financial matters of older family members, for example, without their informed consent or input, may in these cultures be considered respectful of an older person's care needs (Lachs & Pillemer, 2004; Mukherjee, 2013). However, in Western cultures, this same act can be

considered overcontrolling, infantilising, demoralising and/or disrespectful of the older person's wishes (Krug et al., 2002). The removal of decision-making powers is also included in the Ministry of Health's definition of psychological abuse.

Other considerations. The Western-dominant research on elder abuse is reflected in the use of Western values-laden definitions and screening tools which are often culturally inappropriate for other ethnic cultural populations studied (Wallace & Crabb, 2017). Certain acts of abuse can be considered special forms of abuse in some social groups, such as threats of deportation in immigrant populations or disclosing non-conventional sexual orientation and transgender desires (Senturia, Sullivan, Ciske & Thornton, 2000).

Social tolerance of abusive behaviour affects how often it is considered to occur within a culture. In some traditional patriarchal cultures, males taught a moral obligation to discipline their wives may feel justified in controlling or disciplining their wives with the use of violence. Consent to sex may also be assumed within the marriage and not be perceived as rape (Wallace & Crabb, 2017). In the context of elder abuse, similar social acceptability of such normative behaviours can affect definitions of abuse. Many cultures will define elder abuse differently based on the common values and behaviours of that specific culture.

Summary. Elder abuse encompasses a range of behaviours which fall on a continuum, ranging from mild acts that few would label abusive to severe abuse that almost everyone would consider abusive. Between these two ends of the continuum is a grey area, in which elder abuse is more difficult to determine (Wallace & Crabb, 2017). The cultural context and the impact on the particular individual must be considered when determining what constitutes elder abuse. The impact on the older person is generally a good guideline to use when determining what constitutes abuse (Glasgow & Fanslow, 2006). Failure to effectively account

for sociocultural factors when defining elder abuse will affect detection and intervention (Wallace & Crabb, 2017).

1.6 Anthropological View of Ageing

Elder abuse is complex in its conceptualisation. It is dynamic, evolving over time, and it is continuously varied, depending on the cultural context it is situated within. Societal views about older adults not only vary across cultures but have changed throughout time, influencing their treatment throughout history. From a historical, anthropological perspective, older adults have been both punished but also admired and revered. What would now be considered elder abuse is recorded in various periods throughout history. Perez-Careles' summary of the treatment of older adults across time is relevant to our understanding of how context shapes and influences our understanding of what constitutes elder abuse. This continuous change in our perception of what is acceptable and unacceptable treatment of older adult individuals has research consequences. These consequences include difficulty with defining abuse and therefore measuring prevalence and etiology, leading to subsequent difficulties with development of effective policies and interventions.

Prehistorical times. There were very few older adults during this time period, as surviving to old age was difficult due to disease and environmental difficulties. Older age was considered special and supernatural, and older adults often held privileged positions as tribal elders, sorcerers/shamans and depositories of knowledge and/or tribal/clan memories. Survival was highly virtued, and older adults were therefore held in high regard consistent with this value (Perez-Carceles, 2017).

Egyptian civilisation. Similarly, older adults held privileged positions due to their experience and wisdom. Older adults were often educators and advisors (Perez-Carceles, 2017).

Greek civilisation (precursor to modern day Western civilisation). Youth and beauty were highly prized during this time. Older age was seen as a time of deterioration and death. Although older adults were often valued for their wisdom and played an advisory role politically, and respect for older parents was included within the law of Athens, power was generally retained by the youth (Perez-Carceles, 2017).

Hebrew civilisation. The Old Testament of the Bible commanded Hebrews to honour thy parents. Older adults played an important role in the leadership of the Jewish people and for the most part, held privileged positions. However, due to negative socio-political events from the fifth century onwards, older adults progressively lost their political power (Perez-Carceles, 2017).

Roman civilisation. Older adults were generally seen as problematic during this period. Older male adults, under Roman law in the form of Pater Familias, had authority over the family and slaves. This concentration of power generated conflict and hatred towards older adults. Older female adults, holding the authority of Mater Familias, were generally treated well by offspring. However, older single female adults were despised. Once political power of the Senate waned, older adults lost their family and political power and generally became less well tolerated and cared for. However, the Romans also emphasised the importance of caring for the needy (in which older adults were included within this group) (Perez-Carceles, 2017).

Middle Ages (Fifth to Tenth century). Older adults during this time were considered to be weak and vulnerable. They depended on family for their survival. This time period was

fairly brutal and older adults were often sheltered in hospitals and monasteries temporarily, and in that sense, enjoyed a higher standard of living than most. Old age was generally seen as something to fear during this time period. It was perceived as ugly, decrepit, and often referred to as representative of sin and its consequences. Older adults in the church were often given menial tasks to do under monastic rules rather than highly regarded roles (Perez-Carceles, 2017).

The Renaissance. Western Europe's discovery of Ancient Greece meant that the cultural values of beauty, youth and perfection were revived. Old age was viewed as ugly, melancholic and decrepit and this was reflected in the arts of the time. However, in practice, the attitude towards older adults was less extreme (Perez-Carceles, 2017).

Early modern period. During this time period, power was based on the wishes of the people. Care of the elderly shifted from being a family responsibility to being a State responsibility. With the Industrial Revolution, individuals became valued for the work they did or had done, and the State, on behalf of society, felt obliged to reward them. With this, came the concept of 'retirement'; a reward for workers older than 50 years at the time. At first, the pension was only for government officials, before being extended to soldiers, civil servants and other dangerous professions. It eventually shifted from a generous reward to an acquired entitlement (Perez-Carceles, 2017).

Current society. Technological changes have meant that older adults are no longer keepers of wisdom. Neither is their experience valued, for its association with the past. In addition to this, older adults must contend with physical and aesthetic difficulties meaning that they occupy an undesirable role in society. Longer life expectancies due to improved living conditions and lengthy times without income, mean increased poverty and dependency on the State. At the same time, geographical distances between families and female participation in

the labour force have resulted in many older adults living alone with absence of family support (Perez-Carceles, 2017).

Summary. Three factors are thought to determine the social status of older adults; their physical agility/productivity value, their knowledge/experience and their physical features. In time periods which had a stronger legal structure and were more civilised, older adults were relatively better treated (e.g. Roman civilisation as opposed to the Middle Ages). Older adults have also been better treated in civilisations based on oral traditions and customs, where they had an important role to play in transmitting collective memories to future generations (e.g. less so in current times due to writing, archive records and computers). Societies which valued beauty were also difficult time periods for older adults (e.g. Ancient Greece, the Renaissance and arguably current times) (Perez-Carceles, 2017). The changing acceptability of elder abuse over time as to what constitutes elder abuse has research consequences. These consequences include difficulty with defining abuse and therefore measuring prevalence and etiology, leading to subsequent difficulties with development of effective policies and interventions. Cultural and societal conceptualisations are complex and dynamic. With continued cultural and societal changes in viewpoint relevant to the treatment of older adults, these research difficulties will remain.

1.7 Summary

Definitions are important in the understanding of what elder abuse is. The challenge in the elder abuse field has been the absence of one uniform definition of elder abuse. Understandings of elder abuse have varied across time and continue to vary across cultures. Much of what is considered to be abusive of older adults has tended to depend on what society values and how society has situated older adults in terms of those values.

There is no doubt that like the interpersonal social dynamics it reflects, the concept of elder abuse is complex, dynamic and continuously evolving. Not only have there been cultural variations in how to define an older adult, but there have also been differences in opinion about what should constitute unacceptable and abusive behaviour. Lack of agreement about the key components to be included within a definition of elder abuse as well as disagreement about how each of these key components themselves should be defined, goes some way to explaining the difficulty in defining elder abuse.

The absence of a unified definition of elder has resulted in an inability in the elder abuse research field to accurately and systematically determine prevalence, correlates and severity of elder abuse. This in turn, has limited the ability to transform elder abuse knowledge into effective policy development and intervention strategies (Dong, 2017).

The definition of elder abuse that will be used in this thesis is the definition endorsed by the World Health Organisation (WHO), Ministry of Health and Age Concern New Zealand (ACNZ). The definition is

> a single, or repeated act or lack of appropriate action, occurring within any relationship where there is an expectation of trust, that causes harm or distress to older people (ACNZ, 2007, p.13; Glasgow & Fanslow, 2006, p.78; Sethi et al., 2011, p.1).

This thesis defines an older adult as someone aged 65 years or older and recognises six forms of elder abuse, including physical, sexual, psychological, financial, neglect and abuse of enduring power of attorney.

CHAPTER TWO

Prevalence and Consequences of Elder Abuse

2.1 Prevalence Statistics

Prevalence of elder abuse amongst the community-dwelling population in New Zealand is estimated to be between three to ten percent (ACNZ, 2015; Pillemer et al., 2016; Yeung, Cooper & Dale, 2015). The research on prevalence in Māori, Pacific and ethnic communities is limited. Referral analysis by ACNZ suggests that elder abuse is most prevalent in those of New Zealand European ethnicity, as 86% reports of abuse come from individuals of this ethnic descent. In addition, prevalence statistics of reports from victims suggest that most are women (68%), aged 70 to 84 years old (62%) and living alone (40%) (ACNZ, 2005). However, other research has found no differences across cultural groups in attitudes towards older adults and ageing (Ng, 2002). It is possible that the ACNZ statistics more accurately reflect the demographic makeup of older people in New Zealand rather than proportional prevalence rates. Personal values are thought to be more predictive than cultural values, indicating that traditional cultural values which promote positive attitudes towards older adults do not always translate into protection against their abuse (Xin et al., 2016).

Of the cases seen by ACNZ between 1998 – 2001, the majority of abuse was psychological (56%) and financial/material (46%). The prevalence of physical abuse and neglect were also significant (22% and 18%, respectively). The prevalence of sexual abuse was 3% (ACNZ, 2002). Psychological and financial/material forms of abuse were also found in more recent statistics to be the more common forms of abuse (ACNZ, 2015). Internationally, prevalence of elder abuse is estimated to be 15.7% in older persons aged 60 years and older. This was determined by a recent systematic review and meta-analysis of the best available

evidence from 52 studies in 28 countries (from diverse regions) (Yon, Mikton, Gassoumis & Wilber, 2017). The estimated prevalence of the different forms of abuse followed similar patterns (psychological abuse, 11.6%; financial abuse, 6.8%; neglect, 4.2%; physical abuse, 2.6%; sexual abuse, 0.9%) (Yon et al., 2017). Estimates of prevalence are likely to be lower than true prevalence. It is believed that only one in 24 cases of elder abuse is reported (WHO, 2011).

From a research perspective, categorising elder abuse according to form of abuse can be useful in order to inform policy and set targets for intervention. However, from a practical perspective, older people victim to elder abuse often experience multiple forms of abuse at once. For example, using regular physical abuse as a means of ensuring financial control (and exploitation) will also have the effect of psychological abuse (Bagshaw, Wendt, Zannettino & Adams, 2013; Biggs, Manthorpe, Tinker, Doyle & Erens, 2009).

There are challenges in determining community prevalence of elder abuse due to variability in methodology across prevalence studies (Yeung et al., 2015; Williams, Davis & Acierno, 2017). A comprehensive table summarising elder abuse prevalence studies by Williams et al. (2017) indicates large variation across studies in sample sizes, participation rates, demographic makeup of participants (age, gender and ethnicity inclusions and proportions of sample), modes of administering the survey, forms of abuse included, elder abuse measures used, and threshold of items required to deem presence of elder abuse. For example, studies at one end of the spectrum only consider one form of abuse such as self-neglect or financial abuse while studies at the other end of the spectrum consider fives forms of abuse including psychological, physical, sexual, financial and neglect.

2.2 Implications of Elder Abuse

Health

Health professionals are likely to encounter elder abuse in one out of every 20 older adults (Pillemer et al., 2015; Pillemer et al., 2016). Elder abuse victims are twice as likely to die prematurely compared with people who are not victims of elder abuse (Lachs, Williams, O'Brien, Pillemer & Charlson, 1998). Elder abuse results in wide ranging and long term adverse physical and psychological health consequences which ultimately result in increased premature residential care, hospitalisation, disability, morbidity and controlled mortality (Cohen, 2011). Physical health consequences include physical injuries (such as head injuries, broken bones and wounds), gynaecological and gastrointestinal complaints, myalgia, other physical pain and fatigue (Luo & Waite, 2011). Psychological consequences include guilt, low self-esteem, fear, stress, learned helplessness, alienation, shame, denial and post-traumatic stress syndrome (Luo & Waite, 2011). Self-destructive behaviours, suicide and major mental health diagnoses such as anxiety and depression can also result (Dong, 2012; Falk, Flores & Cole, 2014; Rizzo et al. 2015).

Social Justice/Legal Implications of Elder Abuse

Elder abuse is an inherent violation of one's personhood and the basic universal human rights to security, to be free from subjection to cruel, inhuman or degrading treatment and to enjoy a standard of living which provides for health and wellbeing (Biggs & Haapala, 2013; Smith & Long, 2011; United Nations, 1948). Statutory protections and remedies for elder abuse are provided for domestically by sections 151, 195 and 195A of New Zealand's Crimes Act 1961. These sections protect the 'vulnerable adult', defined in section 4(1) of the Crimes Amendment Act (No 3) 2011 as 'a person unable, by reason of detention, age, sickness, mental

impairment, or any other cause, to withdraw himself or herself from the care or charge of another person'. There are also protections for older adults under the Domestic Violence Act 1995, the Protection of Personal and Property Rights Act 1988, the Health Practitioners Competence Assurance Act 2003 and the Health and Disability Commission Act 1994 (Baker, 2014).

Generally speaking, legal definitions of vulnerability across countries account for an impairment that interferes with or prevents the performance of necessary activities for daily living. Vulnerability could arguably be further extended to include the ability to protect oneself from exploitation and abuse or the inability to report abuse. The definition in the Crimes Amendment Act (No 3) 2011 includes these elements.

However, the matter of legally defining a relationship of trust is not so clear. Family, friends and joint tenants could all arguably be a in relationship of trust, as could residential care providers, health professionals, neighbours and even acquaintances. It is unclear in the New Zealand legislation whether this relationship of trust is required to constitute an offence of elder abuse, despite the inclusion of this element in the definition of elder abuse stated by the Ministry of Health (Glasgow & Fanslow, 2007).

2.3 Ageing Population

Elder abuse is increasingly growing in magnitude. As with most other countries in the world, New Zealand is an ageing population. The number of persons aged 65 years and older in New Zealand is projected to more than double within a 50-year period, from 600,000 (14 percent) in 2012 to 1.5 million (26 percent) in 2061 (Statistics New Zealand, 2014). Internationally, the number of persons aged 60 years and older is also projected to more than double within a shorter 30-year period to 1.2 billion in 2025 (Pillemer et al., 2015; Sethi et al.,

2011). Most growth is expected amongst the old-old age group (Statistics New Zealand, 2000). The ageing population is believed to be due to three main factors; increased life expectancy, lower fertility and large birth cohorts during the decades between the 1950s-1970s (Statistics New Zealand, 2006). Ethnic minority groups such as Māori, Pacific Island and Asian populations are estimated to remain younger due to differences in mortality and fertility rates (Statistics New Zealand, 2006).

The trend towards an ageing population has implications in terms of increased government spending demands on healthcare, superannuation costs and housing. Most importantly in relation to vulnerability to elder abuse, the older adult population will increasingly gain a political voice and the promotion of their rights will become increasingly important to future governments (Koopman-Boyden & Waldegrave, 2009).

2.4 Promotion of the Rights of Older People

Elder abuse is increasingly shifting from a private domestic violence issue to a societal public health/criminal justice issue (Krug et al. 2002; Pillemer et al., 2015). Despite awareness of elder abuse issues since the 1970s, funding for research and development of elder abuse interventions has only recently become accessible in the last three decades (Schafer & Koltai, 2015), meaning that knowledge about effective interventions is 40 years behind what is known relevant to child abuse and 20 years behind what is known relevant to intimate partner violence (Dong 2012; Peri et al., 2008; Schafer & Koltai, 2015).

Both national governmental and international bodies are increasingly prioritising protection from elder abuse in their mainstream ageing policies (Pillemer et al., 2015). The United Nations General Assembly recently designated the 15th June as World Elder Abuse Awareness Day in resolution 66/127 (United Nations, 2012) and more recently, the 2015 White

House Conference on Ageing discussed elder abuse as one of its four priority topics (U.S. Department of Health and Human Services, 2015). New Zealand initiatives include the development of a 'New Zealand Positive Ageing Strategy' (aimed at promoting the value of older adults and improving their opportunities to participate in society) and a Families Commission funded report titled 'Elder Abuse and Neglect: Exploration of Risk and Protective Factors' aimed at educating the public about vulnerabilities to elder abuse (Ministry of Social Development, 2001; Peri et al., 2008).

In terms of non-governmental action, Age Concern New Zealand (ACNZ) is the leading organisation focused on preventing elder abuse. ACNZ is a key player in the establishment of the Elder Abuse and Neglect Prevention Services (a network of 28 services nationwide which work alongside health service providers, lawyers and the police to provide free confidential assessment, intervention, support and advocacy assistance to older adults experiencing or at risk of experiencing abuse). Local Age Concern Councils operate 23 of the 28 services while other charitable organisations operate the remaining 5 services. ACNZ also drives public education initiatives aimed at increasing awareness about how to identify and respond to elder abuse (Collins, 2014).

Successful responses to elder abuse must not only include consideration of the magnitude of the problem, but also of evidence of useful interventions and knowledge of risk factors (WHO, 2007). Few studies to date have examined the effectiveness of interventions (Sethi et al., 2011). However, there is a strong knowledge base regarding theories and risk factors of elder abuse.

2.5 Working towards a Solution to the Problem of Underreporting

Underreporting

Elder abuse is significantly underreported at a rate that only one in every 24 cases of abuse is reported (WHO, 2011). There are multiple reasons for not reporting abuse.

Fear. Older people may fear the consequences of reporting their abuser's behaviour. Consequences may include provoking further abuse, losing a source of support, being abandoned, being institutionalised or being forbidden from seeing grandchildren (Dong, 2012; Enguidanos, DeLiema, Aguilar, Lambrinos & Wilber, 2014; Mihaljcic & Lowndes, 2013).

Shame. Older people may be ashamed about their experience of abuse (Lee et al., 2014). Some cultures emphasise values of independence and discourage admitting vulnerability (Mysyuk, Westendorp & Lindenberg, 2013). Other cultures emphasise values of respect for elders/filial piety and discourage admitting to lack of receipt of this from younger family members (Dong, 2012).

Nobody to disclose to. Older people may be socially isolated and have no one to help them recognise that they are being abused in the first place or to disclose their experience of abuse to. In these situations, older people may try to rationalise or justify their experience on the basis that their care places a burden on the abuser (Dong, 2012; Yan, 2015).

Lack of knowledge about the law or helpful agencies. Older people may not be able to identify relevant agencies or may lack knowledge about how to contact such agencies. They may have linguistic limitations which prevent them from being able to communicate their

experiences. In addition, they may not be aware of the laws that exist which protect them (Lee et al., 2014; Mukherkee, 2013).

Mistrust of agencies. Older people may not believe that police or social agencies will be able to help (Yeung et al., 2015). They may fear consequences such as deportation or racism. They may have had previous negative experiences with particular agencies and therefore lack trust in relation to such agencies (Lee et al., 2014; Mukherkee, 2013).

Reducing Reliance on Reporting

Educating potential observers, those likely to come into contact with older adults on a regular basis, about how to identify and respond to elder abuse may be an alternative solution to the problem of underreporting. Older adult victims of abuse are often socially isolated and such encounters may be the only opportunities available to them to bring awareness to their circumstances (Cohen, 2011).

Paternalistic Mandatory Reporting Policies

Mandatory reporting policies applied overseas in health profession settings have frequently proven problematic. On one hand, mandatory reporting underreports the less visible forms of financial and psychological elder abuse which can be more difficult for external bodies to detect and therefore allows such abuse to continue unimpeded (Cohen, 2011; Thobaben, 2012; Trevitt & Gallagher, 1996). On the other hand, it revictimises older adults in circumstances where disclosure and intervention efforts provoke further harm (Harbison et al., 2012; Payne, 2008; Smith & Long, 2011). Mandatory reporting has occasionally resulted in incorrect accusations of abuse, causing difficulties for genuine carers and damage to their relationship of care with the older adult. Physical injuries in older people can often be attributed to normal ageing but are mistaken for physical abuse. Fractures, bruises, contusions, lacerations

and head injuries can result from falls due to loss of balance, weight loss can result from illness and failure to take medication can be due to self-directed non-adherence (Cohen, 2011; Lachs & Pillemer, 2004; Smith & Long, 2011). Within agencies, there is the possibility of disagreement about what warrants reporting and what does not (Cohen, 2011).

Screening tools

Screening tools may aid with the identification of elder abuse by signalling potential risk and need for further enquiry (Cohen, 2011). When combined with professional knowledge (i.e. of how to distinguish between normal ageing and signs of physical abuse), skills (i.e. interviewing) and judgement, screening tools can be helpful because they include criteria about elder abuse and provide a more socially permissible, routine format by which to ask confrontational questions (Smith, 2011). These professional attributes are necessary to create a non-judgemental, safe atmosphere for truthful discussion and to account for personality, relationship, cultural and circumstantial nuances not necessarily evident in screening tool results at first glance (Cohen, 2011).

An overarching limitation of screening tools is that they do not cater for culturally diverse definitions of elder abuse and therefore may yield inaccurate screening results for individuals from cultures other than those on which the tools are based (Cohen, 2011; Wallace & Crabb, 2017). Screening tools that require direct questioning are also only suitable for use with cognitively intact older adults (Cohen, 2011).

Cohen (2011) has identified the following elder abuse screening tools; five that require direct questioning but which can alternatively be administered using self-report methods (Hwalek-Sengstock Elder Abuse Screening Test [H-S/EAST], Vulnerability to Abuse Screening Scale [VASS], Self-Disclosure Tool, Elder Abuse Suspicion Index [EASI] and

Caregiver Abuse Screen [CASE]), two that require screening for signs of abuse (Elder Assessment Instrument [EAI] and Signs of Abuse Inventory), four that require screening for risk factors of abuse (including the Indicators of Abuse Screen [IOA] and Expanded IOA [E-IOA]) and an integrative model utilising all three types of screening tools (Ohio Elder Abuse and Domestic Violence in Late Life). Other screening tools in the research literature not included in Cohen's (2011) review include the Brief Abuse Screen for the Elderly, the Elder Psychological Abuse Scale, the Caregivers Psychological Elder Abuse Behaviour Scale, the Older Adult Psychological Abuse Measure and the Older Adult Financial Exploitation Measure (Phelan & Treacy, 2011). Schofield (2017) also completed a summary of the screening tools available. In addition to the ones identified by Cohen (2011) and Phelan and Treacy (2011), several others were also identified including the Social Vulnerability Scale, Minimum Dataset Home Care Interview, Elder Abuse and Neglect Assessment Instrument, Elder Abuse Questionnaire, Detection Scales for the Risk of Domestic Abuse and Self-Negligent Behaviour in Elderly Persons and the Geriatric Mistreatment Scale.

2.6 Summary

Prevalence of elder abuse has been difficult to determine due to mass underreporting as well as variation of prevalence rates across studies which have used different definitions of elder abuse and research methodologies. However, what is known about elder abuse is that is results in serious consequences for the individual older adult victims who experience it.

Elder abuse is quickly gaining recognition as a serious global public health and societal problem. Elder abuse results in serious adverse mental and physical health outcomes for its victims as well as associated economic health costs. Given the world's ageing population, elder abuse will continue to grow in terms of its magnitude. The New Zealand older adult population is expected to more than double within a 50-year period to 1.5 million in 2061 (Statistics New

Zealand, 2014). This means there is great potential for elder abuse to become a costly health and economic issue for New Zealand and for many other countries.

There have been some efforts made to develop screening tools and apply mandatory reporting policies. Protection of the rights of older adults from elder abuse through legislative changes is becoming a popular solution worldwide. In New Zealand, statutory protection exists in the form of sections 151, 195 and 195A of the New Zealand's Crimes Act 1961 as well as various sections under the Domestic Violence Act 1995, the Protection of Personal and Property Rights Act 1988, the Health Practitioners Competence Assurance Act 2003 and the Health and Disability Commission Act 1994 (Baker, 2014). Help agencies exist in the form of Age Concern New Zealand.

CHAPTER THREE

Causes of Elder Abuse

3.1 Theories of Elder Abuse

Theories, as explanations of observed phenomena, systematically shape understanding of behaviours, situations and events. Understanding through theory is best thought of as a process rather than something that is static. Theories give meaning to data collected but also form the basis on which new data is sought (Roberto & Teaster, 2017). The theoretical underpinnings of elder abuse research are lacking in comparison to the empirical findings published by the field. Yet, theories are clearly important because of their influence on the education and training of the professionals in the field and their role in informing science and policy development. There is a clear need for a link between sound theory, practice and policy (Roberto & Teaster, 2017). The following consists of an overview of the more common elder abuse theories to date.

Stressed Caregiver Theory. The caregiver stress hypothesis posits that physical and psychological abuse is a consequence of overworked, underappreciated caregivers who have the responsibility of care for an older person without adequate assistance from other family members or the community (Gordon & Brill, 2001). Initial research conceptualised older people as being in the same dependent relationship as children. The prevailing view at the time was that caregivers abused children because they were stressed, and similar parallels were drawn in relation to the abuse of older people (Gordon & Brill, 2001). More recent research on elder abuse from a caregiver stress perspective has tended to focus on caregiving relationships where the care provided is for older people with functional and/or cognitive impairments (Roberto & Teaster, 2017).

Victim characteristics in such situations predictive of abuse can include ill health and functional disabilities (Jackson & Hafemeister, 2012; Jackson & Hafemeister, 2013; Jorgest, Daly, Galloway, Zheng & Xu, 2012; Pillemer & Finkelhor, 1989). Perpetrator characteristics in such situations predictive of abuse can include personality, deviant behaviours and dependence on the older person for shelter, security and support. Potentially harmful caregiver behaviours include resentment about caregiving responsibility, anger, caregiver depersonalisation and reliance on proactively aggressive caregiving strategies (such as threatening abandonment or nursing home placement and verbally yelling or screaming) (Roberto & Teaster, 2017).

Compared to professional carers, family caregivers are generally unpaid and work constantly with only unpredictable rest times (Smith, 2011). They may also have been initially pressured into their caregiving role and experience resentment at having to fulfil this duty or obligation (Baillie, 2007). Caregivers often report anxiety and depression (Smith, 2011). They often have their own personal work/study, financial and family stressors to manage and when additional caregiving stress overwhelms, they may be more likely to commit abuse (Smith, 2011). This can particularly be the case for older adults with severe health problems or prolonged dementia, who may behave aggressively and unintentionally provoke a similar aggressive response in the caregiver (Shugarman, Fries, Wolf & Morris, 2003).

Psychopathology Theory. Caregivers who have limited abilities to tolerate frustration and to control their behaviour may be more likely to abuse older people (Gordon & Brill, 2001; Smith & Long, 2011). Various pathologies including alcoholism and mental health illness have been found to be present in perpetrators of abuse (Gordon & Brill, 2001; Smith & Long, 2011).

Dependency Theory. This theory posits that older people who are dependent on their caregivers, or who are in situations where their caregiver is dependent on them, are more

vulnerable to abuse. Older people in these situations may be dependent for reasons of mental or physical limitations (Gordon & Brill, 2001; Johannesen & Logiudice, 2013). Caregivers in these situations may be dependent on the older person for reasons of needing accommodation or financial/material support (Smith & Long, 2011).

Life Course Perspective. Research on elder abuse from a life course perspective has tended to focus on abuse of older people by family perpetrators. It recognises the role of family violence and the interplay of social relationships and bonds, whether positive or negative, across the lifespan (Roberto & Teaster, 2017). The learned violence concept or intergenerational transmission of family violence is used to explain violence towards older age parents once previously abused children reach adult age (Gordon & Brill, 2001; Korbin, Anetzberger & Austin. 1995; McDonald & Thomas, 2013). Long-term intimate partner violence is used to explain violence towards older age spouses (Band-Winterstein & Eiskovits, 2009).

Ecological Theory. Research on elder abuse from an ecological perspective recognises that older people participate in multiple systems in their environment, systems of which each interact with one another and with the individual to influence life experiences (Sethi et al., 2011). The microsystem describes the person's immediate relationships and surroundings. The mesosystem describes how elements in the microsystem interact and influence each other. The exosystem describes how elements external to the individual interact with elements in the microsystem and can affect the individual through such interactions. The macrosystem, consisting of cultural values, customs and laws interact with all other three systems and can affect the individual though such interactions (Sethi et al., 2011). Unlike the previous theories explained, the ecological model is broader and more holistic in its view of the causes of abuse. It is not aimed at specific situations or relationships and can therefore be applied to a greater

variety of situations. For these reasons, the ecological model will form the basis of the present study's examination of risk factors of elder abuse.

Figure 1 below illustrates the ecological model which is based on Bronfenbrenner's work (1986). In contrast to the previous theories described, the ecological model is an acknowledgement that human life is complex and that various facets of an older person's life might contribute to vulnerability to abuse. These various facets of life include factors at the individual, relationship, community and societal levels. Variations of the ecological model continue to be used in research as a basis of risk and vulnerability for elder abuse.

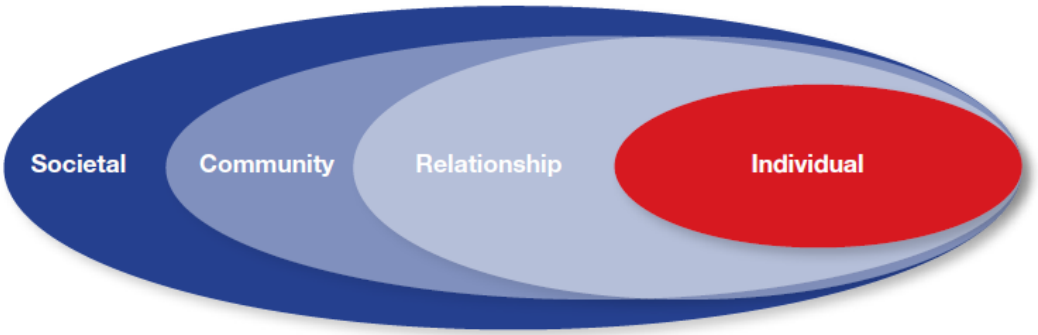


Figure 1. Ecological model of elder abuse from Sethi et al., 2011, p.5

Pillemer et al. (2016) summarises commonly studied elder abuse risk factors based on the ecological model. These risk factors have been classified based on the strength of supporting evidence; 'strong' meaning validated by substantial evidence with unanimous or near unanimous support from several studies, 'potential' meaning backed by mixed or limited supporting evidence and 'contested' meaning lacking in clear, supporting evidence. In their summary, there is strong evidence for risk factors including poor functional abilities, poor physical and mental health, cognitive impairment, and low socioeconomic status on the part of the individual (victim) and dependency, poor mental health and substance abuse issues on the

part of the individual (perpetrator). They also found strong evidence for protective factors, including social support and a shared living arrangement between the perpetrator and victim.

A similar summary of elder abuse risk factors and strength of supporting evidence was completed by the WHO. Their version indicates strong evidence for risk factors including dementia of the individual (victim), depression, substance use problems, hostility and aggression and financial problems on the part of the individual (perpetrator), financial/emotional/accommodation dependence of the perpetrator on the victim, a shared living arrangement between the perpetrator and the victim, and social isolation of the individual (victim) (Sethi et al., 2011). These risk factors and others from the research are discussed below.

Individual victim risk factors. Individual risk factors most commonly discussed in the research literature include age, gender, economic living standards, physical health and mental health.

Age. The findings on the relationship between elder abuse and age are contested (Johannesen & Logiudice, 2013; WHO, 2007). There is some evidence that risk of elder abuse increases with age (Choi & Mayer, 2000). For instance, prevalence of elder abuse amongst older persons aged 70+ years was twice the prevalence of older persons aged 65 to 69 years in a study conducted in Ireland (Naughton, Drennan & Treacy., 2010). Similar increases in prevalence of elder abuse amongst those aged 75+ years compared to those aged 65 to 74 years old were also found in three other studies (Iborra, 2008; National Center on Elder Abuse, 1998; Action on Elder Abuse, 2004). However, other studies have found the opposite; that being less than 70 years is predictive of greater risk of elder abuse (Acierno et al., 2010; Amstadter et al., 2011; Biggs et al., 2009). The reasons for this are unclear but likely due to variations in the

methodologies of these studies, for example with the use of different population samples, measures, modes of administration or inclusion of different forms of abuse.

Gender. There is a potential relationship between elder abuse and gender (Johannesen & Logiudice, 2013; Litwin & Zoabi, 2004; Sethi et al., 2011). There is some evidence that victims of elder abuse are more often female than male. For instance, prevalence of women reporting abuse was about double the prevalence of men reporting abuse in at least two studies (Naughton et al., 2010; O'Keeffe et al., 2007). One rationale for this suggested by the literature is that traditional gender roles disempower women from such things as handling their financial affairs and encourage toleration of physical and sexual abuse, thereby increasing their dependency on others and vulnerability to abuse (Lee et al., 2014; Peri et al., 2008). A similar feminist rationale for this gender difference is that women often experience socioeconomic and health disadvantages, often electing to remain in unsafe circumstances due to lack of independent economic means (Koenig, Rinfrette & Lutz. 2006; Lev-Wiesel & Kleinberg, 2002).

However, recent studies have found no relationship between elder abuse and gender when controlling for other variables (Acierno et al., 2010; Krug et al., 2002). Furthermore, other studies have found the opposite; that men are more vulnerable to elder abuse (Soares et al., 2010). One rationale for this is that men tend to be more dependent on others to meet their care needs in later life (Penhale, 1993), are lonelier, more likely to be targets for vengeance from family members for past grievances (Kosberg, 1998) and more likely to tolerate abuse without asking for help due to traditional gender roles (Kosberg, 1998; Waite & Das, 2010).

Socioeconomic status. There is strong evidence for the relationship between elder abuse and low socioeconomic status (Johannesen & Logiudice, 2013). However, Litwin and Zoabi (2004) suggest that this difference between rich and poor may not exist and that wealthier older

adults may simply be in less frequent contact with social service agencies and come under less external monitoring/oversight.

Health. There is varying strength of evidence for the relationship between elder abuse and health (Johannesen and Logiudice; Sethi et al., 2011). The literature suggests that the greater the impairment, the greater the likelihood of being unable to defend oneself or of being cognitively aware of any abuse occurring in the first instance (Falk et al., 2014). Physical difficulties such as illness, frailty, poor vision or hearing, reduced mobility and decreased coordination are believed to be related to vulnerability to elder abuse (Dong & Simon, 2014; Smith, 2011). Psychosocial factors such as cognitive impairments and mental health problems (including clinical depression, low self-esteem and substance abuse problems) are also believed to be related to vulnerability to elder abuse (Bagshaw et al., 2013; Dong & Simon, 2014; Shugarman et al., 2003).

Individual perpetrator risk factors. Please refer above to the stressed caregiver theory, psychopathology theory, dependency theory and life course perspective sections for discussion on individual perpetrator risk factors. In summary, risk factors include poor mental health, low frustration tolerance, stress from caregiving, emotional/financial dependency and past grievances against the individual older adult on the part of the individual perpetrator.

Relationship risk factors. Please refer above to the stressed caregiver theory, psychopathology theory, dependency theory and life course perspective sections for discussion on relationship risk factors. In summary, risk factors include situations where the family has undergone some unforeseen or unfavourable change in circumstances, there is a history of poor relationships of abuse between family members, difficulties emerge due to role reversal, a carer has been forced to change their lifestyle due to caring responsibility, a carer has financial difficulties and/or conflicting responsibilities, a carer lacks support, the older person requires

care at a level beyond that which the caregiver is capable of, the older person has visual, hearing or speech difficulties, the older person has an illness or dementia that causes unpredictable aggression or wandering or major personality changes, the older person refuses care for themselves or their caregiver, family members are isolated and lack other relationships which can provide social, emotional and physical satisfaction and there are financial pressures and/or beliefs about rights to inheritance leading to control of the older person's finances, property and other resources (Glasgow & Fanslow, 2007).

Community risk factors. Quantity and quality of social relationships are distinct aspects of social relationships relevant to elder abuse (Antonucci, Arjouch & Birditt, 2014). A systematic review recently revealed that elder abuse is most strongly correlated to aspects of social relationships such as relationship conflict, family disharmony and low levels of social support (Johannesen & Logiudice, 2013). Elder abuse is frequently committed by someone with whom the victim has a relationship of trust or is reliant on to meet their basic needs (Peri et al., 2008). This is recognised by the definition of elder abuse used in New Zealand (ACNZ, 2007). It highlights the primacy of social life when assessing older adults for vulnerability to abuse (Keating, Otfinowski, Wenger, Fast & Derksen, 2003).

Social support. Social support has been defined in numerous various ways. The functionalist approach to defining social support focuses on the function or outcomes of social support. For example, Cobb (1976) defined social support as information which led the individual to believe they belong, are loved and cared for and Pearlin (1990) defined social support as the access to and use of individuals, groups or organisations to help manage life. Kaplan, Cassel and Gore (1977) also defined social support as the meeting of social needs through interaction with others. The health approach to defining social support focuses on the health benefits of social support. For example, Caplan (1974) defined social support as the

social ties that contribute to the maintenance of psychological and physical integrity of individuals over time and Cohen, Gottlieb and Underwood (2000) defined social support as the process through which social relationships promote health and wellbeing. The social network approach to defining social support focuses on different levels of social connection. Lin, Ensel, Simeone and Kuo (1979) defined social support as the support available to individuals through their social ties to others in the community and Berkman (1984) defined social support as the assistance obtained by individuals from members of their social network.

The functional and health approaches to defining social support have been criticised for focusing too much on the outcomes of social support rather than what social support actually is as a standalone concept (Song, Son & Lin, 2014). Social support at its most basic is characterised by social relationships and the aid provided by such relationships (Berkman, 1984). Social support inherently involves relationships but can also be influenced by broader community dynamics (Berkman & Glass, 2000; Dong, Beck & Simon, 2010). It is provided informally by family and friends or formally by organisations such as religious or community groups.

Social support is the content of social relationships (Pescolido & Levy, 2002). It describes the assistance or resources available and/or obtained from a social network (Barrera, 1986; Melchiorre et al., 2013; Uchino, 2004). Its forms include emotional support (expressing comfort and caring), informational support (providing advice and guidance), tangible support (providing material help) and sense of belonging (sharing social activities) (Litwin & Landau, 2000; Uchino, 2004). It is the quality of social relationships. This is in contrast to the structure or size of social relationships which concerns the quantity rather than quality of an individual's social network (Stroebe, 2011).

Weiss (1974) proposed that different social relationships provide different relational

necessities, termed ‘social provisions’. He identified six different types of social provision, all of which he deemed necessary for the individual to feel adequately supported, avoid loneliness and manage personal adjustments where required. These provisions include guidance and reliable alliance (the two assistance-related provisions) and social integration, opportunity for nurturance, reassurance of worth and attachment (the non-assistance-related provisions). Weiss proposed that individuals will maintain different relationships in order to obtain these social provisions. For instance, guidance (information or advice, reducing uncertainty or anxiety) is provided by parental figures, teachers and mentors; reliable alliance (availability of tangible assistance, reducing vulnerability) from family; social integration (sense of belonging/identity through shared activities and interests, reducing emotional and social isolation) from friends; opportunity for nurturance (responsibility for care of others/sense of being needed by others, reducing sense of being meaningless) from one’s spouse and children; reassurance of worth (recognition of value and competence, reducing low self-esteem) from family and colleagues; and attachment (emotional closeness, reducing insecurity) obtained from one’s spouse, close family or friends. Weiss also proposed that the absence of each provision results in specific cognitive and emotional consequences, and that each provision cannot be substituted or compensated for by any other.

Social support is transactional in nature as, guided by norms of interdependence and reciprocity, it often involves both giving and receiving (Berkman & Glass, 2000; Wenger, 1984). In fact, giving, rather than receiving, social support has been associated with lower morbidity (Brown, Nesse, Vinokur & Smith, 2003), with the perception of usefulness rather than the act of giving support itself, being the most significant aspect of providing social support (Gruenewald, Karlamangla, Greendale, Singer & Seeman, 2007). Social support exchanges occur across the lifespan and are frequently based on shared histories with long-standing social connections, explaining patterns of continued receipt of social support in later

life stages despite inability during these later stages to reciprocate (Berkman & Glass, 2000).

Social support in older adulthood becomes particularly important as it is often the main means of meeting personal care needs (Melchiorre et al., 2013; Wenger, 1997). Expectations of social support differ across sources of social support with the most expected of immediate family members, particularly of spouses and daughters (Phillipson, Bernard, Phillips & Ogg, 2001; Wenger, 1984; Wenger, 1996). These preferences are often clearly defined and fixed, with spouses expected to provide emotional and practical support and adult children (particularly adult daughters) expected to maintain contact and provide supplementary practical support. Adult sons, siblings and friends are often expected to provide voluntary companionship and short term emergency help (Phillipson et al., 2001; Wenger, 1984; Wenger, 1996). It is acknowledged by the present study that these expectations of care are primarily based on Western models of social support and support expectations.

Failure to meet these expectations may require adaptive responses (Rook, 2009). Such responses include the utilisation of substitute compensatory relationships in the form of siblings, friends and nephews/nieces for single, childless older adults (Melchiorre et al., 2013; Phillipson et al., 2001; Wenger, 1984). Alternative adaptations also include migration closer to willing social support sources (i.e. for widowers or retirees), increased use of formal organisations or increased independence (Wenger, 1994a; Wenger, 1996; Zettel & Rook, 2004).

Extensive empirical evidence has demonstrated that social support is associated with better health outcomes throughout the lifespan (Sorkin & Rook, 2004). Lack of social support is believed to contribute to psychological distress, loneliness, depression, poorer cognitive functioning, disease, disability, premature institutionalisation and mortality (Dong et al., 2010; Melchiorre et al., 2013; Rook, 2014; Sorkin & Rook, 2004). However, it is also the subjective

perception of being able to access social support rather than the actual receipt of it which research has found to be most important (Barrera, 1986; Idler & Benyamini, 1997).

Research has also found that social support is related to lower vulnerability to elder abuse. A systematic review of 17 studies by Johannesen and Logiudice (2013) found a statistically significant relationship between low social support and elder abuse. One study in the review involving 5777 participants found that, after controlling for confounds, low social support was associated with a three-fold likelihood of elder abuse (Acierno et al., 2010). The direction of this relationship has been found to apply to all forms of elder abuse (Acierno et al., 2010; Amstadter et al., 2011). It has also been found to apply to both genders (Dong & Simon, 2010), both urban and rural populations (Dong & Simon, 2014) and in both Western and Eastern societies (Dong et al., 2016).

Social support has also been demonstrated to modify the relationship between loneliness and elder abuse (Dong, Beck & Simon, 2009). Dong et al. (2009) found that every 1-point increased in an individual's loneliness score was associated with a 44% increase in risk for elder abuse. After adding social support to their analyses, it was found that loneliness was no longer associated with increased risk for abuse. Social support therefore was found to alleviate the risk posed by loneliness as a contributing factor to vulnerability to elder abuse.

However, it is likely that there are individual differences in response. There is some evidence to suggest that women require greater levels of social support because they are more likely to be financially dependent on others (Dong et al., 2010) and because they are more sensitive to poor relationship quality and functioning (Guedes et al., 2015). Other evidence suggests that it is not gender that is important, but the individual's willingness to accept social support. Independent older adults with a strong internal locus of control may be reluctant about receiving social support (Wenger, 1997).

The mechanisms underlying the relationship between social support and elder abuse have not been well explored (Dong & Simon, 2008). One suggestion that has been proposed is the idea that lack of social support results in more negative, harm-focused appraisals of unpleasant situations leading to greater likelihood that a particular situation will be seen as constituting elder abuse (Dong & Simon, 2008; Luo & Waite, 2011). Another suggestion proposed is that older adults who experience abuse are more likely to hold the belief that they lack social support (Acierno et al., 2010). A third suggestion is that lack of social support indirectly increases the risk of experiencing elder abuse because lack of social support has a role in contributing to the development, maintenance and exacerbation of mental health problems, and mental health problems can increase risk of elder abuse (Amstadter et al., 2011; Dong & Simon, 2008). Finally, it has also been suggested that individuals with greater social support are at reduced risk of elder abuse because they have greater social control (Dong & Simon, 2008).

The mechanisms underlying the relationship between social support and elder abuse can also be understood in the context of negative social support, which is the term used to describe negative interpersonal exchanges with others including criticism, intrusiveness, conflict and rejection (Newsom, Mahan, Rook & Krause, 2008). The poor management of negative social support, particularly during times of stress or crisis, may strain relationships (Luo & Waite, 2011). This can lead to increased vulnerability to elder abuse, as negative interpersonal exchanges become distressing and escalate to violence (Rook, 1984; Rook, 2014; Sorkin & Rook, 2006). Such negative situations are more likely to eventuate when the relationship is necessary (i.e. due to such reasons as social role obligations) and/or when the potential abuser is uncontrollable or unwilling to change (Rook, Luong, Sorkin, Newsom & Krause, 2012).

Social networks. Social networks describe the structure of social relationships (Pescolido & Levy, 2002; Schafer & Koltai, 2015). The concept of social networks originated from Durkheim's research about the influence of social integration and other social experiences on individual pathology, in particular suicide (Berkman & Glass, 2000). Durkheim's work was closely followed by Bowlby's theory of attachment, relating security of caring attachments to physiological and psychological health outcomes (Berkman & Glass, 2000). Social network theory has since examined the role of social relationships in daily life, in particular how social networks influence the attitudes, behaviour and health outcomes of the individuals in those social networks (Berkman & Glass, 2000).

Social networks can be understood in terms of their size (number of network members) or density (social embeddedness; the extent to which network members are connected to/know one another) (Berkman & Glass, 2000; Schafer & Koltai, 2015). An individual's social network can be thought of as that individual's web of social relationships and the characteristics of those social relationships (Berkman & Glass, 2000). Research from a structural approach frequently measures marital status, number of social network members (i.e. friends, family), frequency of interaction with network members and involvement with groups and community organisations.

Wenger's Practitioner Assessment of Network Type (PANT) is a measurement instrument which attempts to classify and describe individual social networks in terms of both size and density (Wenger, 1994a; Wenger, 1997). Briefly, Wenger's five PANT types are 1) Local Family Dependent; close family ties, peripheral friends and limited contact with neighbours. An older individual with this type of network would be likely to describe their situation as follows: 'I'm very lucky to have my family near me. They'll take care of me if necessary.' 2) Locally Integrated; close relationships with local family, friends and neighbours. An older individual with this network type would say of their situation: 'We all know each

other round here and look out for each other. There's always someone popping in to see how I am.' 3) Local Self-contained; arms-length relationship(s) or infrequent contact with at least one relative, primary reliance on neighbours. Older individuals would say of this network: 'I like to keep myself to myself, but I know the neighbours are there if I want them.' 4) Wider Community-focused; absence of nearby relatives but active relationships with children, distant relatives and friends. An older individual would describe this social network type as follows: 'Although all my family live away, I've got good friends nearby and they'd help me if I needed anything.' 5) Private Restricted; absence of local kin, few nearby friends and low level of community involvement. An older individual would say of this network: 'I don't really have much to do with the people around here but then I've always been independent/a bit of a loner' (Wenger, 1994a; Wenger, 1997; Wenger & Keating, 2008).

The PANT is believed to be the most valuable in practice of all current social network classification systems (Fiori. Antonucci & Cortina, 2006; Fiori, Smith & Antonucci, 2007; Litwin & Landau, 2000). It has predictive validity (Wenger, 1994a; Wenger, 1997). The Wenger has also been validated in New Zealand samples (Szabo, Stephens, Allen & Alpass, 2016). Each of the five social network types are representative of different combinations of social support sources (i.e. family, friends, neighbours, formal services) and types of social support provided (i.e. practical, emotional) (Wenger, 1997; Wenger & Tucker, 2002). In explaining the potential vulnerabilities of each of the five social network types, the PANT also reveals something about the nature of social network size and density as is consistent with the research literature. Each network type presents different potential vulnerabilities to elder abuse (Wenger, 1997).

Bonnie and Wallace (2003) also recognise the role of social networks of older adults in relation to vulnerability to elder abuse. In relation to elder abuse, social networks function to

provide a source of physical and emotional support to older adults. They buffer stress experienced by caregivers of older adults, monitor and report suspected elder abuse to the authorities and provide a context in which attitudes, values and norms relevant to elder abuse can be transmitted (Wenger, 1994b). Older adults who are fortunate enough to benefit from supportive social networks consisting of reliable, trustworthy sources of care and support (whether that support be physical, emotional, financial or other) are less likely to experience elder abuse. In contrast, older adults in less supportive social networks consisting of negative, neglectful or exploitative sources unwilling to provide the care and support required but motivated to commit abuse (whether that abuse be physical, emotional, financial or other) are more likely to experience elder abuse. Older adults with no social networks (or only very few, infrequent social contacts) are similarly vulnerable to elder abuse, as social sources often play a role in monitoring the wellbeing of others in their social sphere and intervening in the case of abuse or other injustice.

The value of social networks lies in the quality, not quantity of social relationships in the network (Beach, Shulz & Sneed, 2016). Not all social relationships within a network will be profitable to older adults in terms of their provision of social support (Litwin & Landau, 2000; Phillipson et al., 2001). There may be variation in the type, frequency, intensity and extent of social support provision (Berkman & Glass, 2000). Not all social connections are willing to provide tangible help in later life in relation to household chores, personal care, transport and finances (Phillipson et al., 2001; Uchino, 2004).

High density, or close-knit and tightly-clustered, social networks (i.e. Wenger's Local Family Dependent Network Type) enable coordination of social support, monitoring and responsive action against suspected elder abuse when motivated by prosocial intentions (Schafer & Koltai, 2015). However, when motivated by antisocial intentions, these same

networks also enable coordination of elder abuse by socially isolating older adult victims and concealing ongoing elder abuse (Schafer & Koltai, 2015).

In support of this, there is some evidence to suggest that abusers are more frequently embedded in a network than on the outer margins of a network (Schafer & Koltai, 2015). Abusers in the majority of cases are believed to be family members (Acierno et al., 2010; Cassidy, 2004) often also residing in a shared living arrangement with the older adult victim (ACNZ, 2015; Rizzo et al., 2015). One of these reasons is the motivation to preserve inheritance by reducing the older adult's care costs (Bagshaw et al., 2013). Another is the intergenerational transmission of violence (Gordon & Brill, 2001; Johannesen & Logiudice, 2013). A final reason is abuser psychopathology whereby family members who are overbearing or lack impulse control due to mental health problems or substance abuse become abusive (Lachs & Pillemer, 2004).

In contrast, low density (or diverse and distinctly grouped) social networks (i.e. Wenger's Locally Integrated Network Type) may offer a greater quality of social relationships to older adults in some circumstances. Low density social networks enable older adults to retain their privacy, self-esteem, power, locus of control and autonomy by reducing dependency on one particular group (Litwin & Zoabi, 2004; Schafer & Koltai, 2015). Cultivating a variety of different social groupings may reduce the risk that elder abuse goes undetected as it will be more likely to be condemned and addressed by another group (Litwin & Zoabi, 2004; Schafer & Koltai, 2015).

Loneliness. Loneliness has been defined as the perception of social isolation. Social isolation is characterised by living alone, having few social network ties and having infrequent social contact. Social isolation is an objectively quantifiable concept, based on amount of social contact and social network size. Loneliness is the perception or subjective experience of social

isolation. It is the subjective feeling that arises from living a socially isolated life (Holt-Lunstad, Smith, Baker, Harris & Stephenson., 2015). Loneliness and social isolation are interrelated but different concepts.

Loneliness is characterised by intense feelings of emptiness, abandonment and forlornness (Dong, Simon, Gorbien, Percak & Golden, 2007). It is closely related to satisfaction with social contacts (Dong, Chang, Wong & Simon, 2012; Holmen & Furukawa, 2002). Specifically, it can be thought of as the dissatisfaction arising from the discrepancy between desired and actual social relationships (Holt-Lunstad et al., 2015).

Social isolation and loneliness are not often significantly correlated. Some individuals may be socially isolated yet not feel lonely and actually prefer to be alone. Conversely, it is possible to be surrounded by others or to have frequent social contact yet still feel lonely. Different individuals require different amounts of social contact. Some will express loneliness despite regular contact with family and friends, whilst others will not report loneliness despite limited social contact (Statistics New Zealand, 2013a). This distinction between loneliness and social isolation as two independent constructs is important for the purposes of research and understanding the influence of loneliness as opposed to social isolation on wellbeing (Heravi-Karimooi, Rejeh, Forough & Vaismoradi, 2011; Holt-Lunstad et al., 2015).

There is a growing body of research that suggests subjective interpretations of social isolation (loneliness) is related to wellbeing (Statistics New Zealand, 2013a). Loneliness has serious health-related consequences (Dong et al., 2009). Loneliness has more of an impact on health and wellbeing than social isolation (Cacioppo, Hawkley & Thisted, 2010). It has been associated with depression, poorer sleep, smoking, physical inactivity, higher blood-pressure and a 26% increased likelihood of death (Holt-Lunstad et al., 2015). It has also been associated with greater mental health problems and cognitive decline, poorer physical health, more

physician visits, poorer quality of life, nursing home admission and increased suicidal ideation (Dong et al., 2012; Dong et al., 2007). Older age is a time when individuals are particularly prone to these effects of loneliness, due to the multiple losses and changes (particularly loss of a partner) experienced during this life stage (Dong et al., 2012; Holmen & Furukawa, 2002).

As well as the contribution to poorer health outcomes, several studies have found that loneliness also results in increased vulnerability to elder abuse (Dong & Simon, 2008; Luo & Waite, 2011; Martins, Neto, Andrade & Albuquerque, 2014). One study conducted in China found a 44 percent increase in risk of elder abuse for every 1 point increase in loneliness (after controlling for confounds) in older adult women. However, the same relationship was not found in relation to older adult men, potentially suggesting a stronger relationship between loneliness and elder abuse for women (Dong et al., 2009).

Conversely, social engagement is a protective factor against risk of elder abuse, with studies showing that more active social involvement decreases likelihood of experiencing elder abuse (Pillemer & Wolf, 1986). However, it is recognised that it is important that older adults are forthcoming about any untoward treatment in order for prompt intervention to take place.

The mechanism underlying the relationship between loneliness and elder abuse has not been well explored. Some have suggested that loneliness is indirectly related to elder abuse because it reflects dependency, and dependency creates situations conducive to elder abuse (Dong et al., 2007; Peri et al., 2008). Others have suggested that loneliness is indirectly related to elder abuse because it reflects poor health and age (due to changes such as deteriorating mobility, loss of driving privileges, retirement and loss of loved ones, reducing ability and/or willingness to maintain social interactions), and both poor health and age are related to elder abuse (Amstadter et al., 2011). Alternatively, loneliness is understood to be a result of elder abuse (Heravi-Karimooi et al., 2011). Victims are thought to withdraw from others for reasons

of fear of provoking further abuse or shame about their experience (Amstadter et al., 2011). This notion of a bidirectional relationship between loneliness and elder abuse is supported by cross sectional studies (Dong et al., 2007; Von Heydrich, Schiamberg & Chee, 2012). No prospective studies examining how changes in one affect the other have been published.

The New Zealand General Social Survey (NZGSS) reported on patterns of loneliness in 8500 New Zealand adults aged 15 years and older between April 2010 and March 2011 (Statistics New Zealand, 2013a). Participants were asked how often they felt isolated from others in the last four weeks, with a 5-point response scale consisting of none of the time to all of the time. The findings were that 11 percent of older people (those aged 65 years and older) identified as feeling lonely all, most or some of the time (Statistics New Zealand, 2013a). These responses were then studied against other factors of interest, including many of the same variables used in the current study (age, gender, mental and physical health, economic standard of living). Economic standard of living was strongly found to increase loneliness in later life for older adults, as was living in a household with less than or more than two people in the household. Female older adults were more likely to feel lonely than male older adults. Across all age groups, those who had not had face-to-face contact with their family and friends in the last week were more likely to feel lonely (Statistics New Zealand, 2013a).

Societal level. The societal level is the outermost level of the ecological model. It focuses on wider societal factors that influence elder abuse. The risk factors located at this level are poorly studied in relation to elder abuse and are only supported as "potential" correlates by the evidence base (Sethi et al., 2011).

Ageism. Ageism is an example of a societal attitude that encourages the adverse treatment of older adults. Ageism is the stereotyping and discrimination of people because they are old and the subtle identification of older people as lesser human beings (Butler, 1975).

Societies that ascribe to ageism do not value older people as individuals who have something to offer and who are worthy of respect. These societies tend to accept and permit elder abuse and do little to respond to occurrences of abuse and associated consequences (Featherstone & Hepworth, 2005; Peri et al., 2008; Sethi et al., 2011).

Youth, productivity and accumulation of wealth are highly prized in current Western society whereas older adulthood is generally viewed negatively as a life stage associated with great loss. Ageist attitudes in capitalist societies such as New Zealand commonly perpetuate negative stereotypes of older adults whereby they become associated with lack of value due to their perceived declining physical and mental abilities, productivity and income earning/wealth accumulation potential (Featherstone & Hepworth, 2005; Peri et al., 2008). These perceptions make it easier for people to abuse older people without feeling any guilt or remorse as the older person can be thought of as burdensome and/or an object for exploitation (Sethi et al., 2011; Thane, 2000).

Stereotypes such as these have severe consequences for older people, resulting in discrimination in employment, housing, healthcare, politics and the media (Raynor, 2015). They are met with fear about the rising costs of government spending, given a projected smaller younger workforce to support spending with taxable income; the 'pension crisis' (Marin, 2013; Thane, 2000). These stereotypes often also become internalised and contribute to unhelpful beliefs and behaviours by older adults themselves (Chrisler, Barney & Palatino, 2016).

Such stereotypes do not consider the unique contribution that older adults can offer, with their knowledge, experience and wisdom. They also do not consider the contribution of older adults in the form of spousal care, sibling care, childcare, emotional and financial support provided to families, voluntary work, ongoing participation in the workforce and spending in the marketplace (Koopman-Boyden & Waldegrave, 2009; Phillipson et al., 2001).

Cultural norms of violence. Societies that condone violence as a means of conflict resolution contribute to violent behaviour. Violence may be normalised by the media or by gender values which attribute higher value to men (Sethi et al., 2011).

Economic and social factors. Societies with high economic and social disparity contribute to an atmosphere where older people are often dependent on others to meet their care needs. In at least three studies, higher educational and occupational attainment (assumed to be relevant to socioeconomic status) were found to reduce vulnerability to elder abuse (Kissal & Beser, 2011; Lowenstein, Eiskovits & Winterstein, 2009; O'Keeffe, 2007).

Community dynamics. Changes in society in recent decades have affected the ability of families to provide adequate care for their aged relatives. The rapid post-industrial expansion of the female labour market has meant that previously unemployed women in the household are now less available to provide family care to older adults (Baillie, 2007). In addition, globalisation which has enabled individuals to live at greater geographical distances from their aged relatives and a trend towards rearing smaller families/fewer children has also meant that family care is less available to older adults (Phillipson, Bernard, Phillips & Ogg, 2001; Wenger, 1984).

Due to fiscal constraints, governments are becoming increasingly reliant on informal family care of older adults. Yet employers are often unwilling to grant employees leave from work to provide care to older relatives for lengthy periods of time (Peri et al., 2008). This situation can result in family pressure being placed on particular individuals, usually lower-income earning female family members, to give up their careers to become full time carers. Often, these caregivers have little to no appropriate training to care for the high and complex needs of many older adults. The quality of the psychological relationship between the carer and the aged relative can be affected by such sacrifices (Baillie, 2007; Smith, 2011; Wenger,

1984). Availability of care is distinct from willingness of care (Baillie, 2007; Smith, 2011; Wenger, 1984). Resulting resentment towards the aged relative can contribute to a hostile family atmosphere conducive to elder abuse (Baillie, 2007; Rook, 2000).

Western communities have become increasingly individualistic and disconnected during the last three decades (Peri et al., 2008). Communities which lack a sense of connection between different households, lacking in the exchange of practical help and support to one another, often enable elder abuse to go unnoticed or unaddressed (Peri et al., 2008). This is supported by studies which have shown that older adults with poor levels of community support were more likely to report elder abuse compared to those with strong to moderate levels of community support (Sethi et al., 2011). Lack of external support can add to the stress of individual households caring for older adults with many studies showing that abusive carers lack social support to assist them with their caregiving tasks and lack of social support is a risk factor for the presence of burnout in caregivers (Sethi et al., 2008). Older adults who are not in contact with others who can monitor their welfare are at increased risk of abuse (Peri et al., 2008). This can be exacerbated by the lack of external monitoring of abuse by banks, lawyers and other community voluntary and non-voluntary organisations (Peri et al., 2008). Community support from church members, friends and neighbours are often vital to the treatment and caring of older adults as part of a sense of shared responsibility for the welfare of community individuals.

3.2 Theoretical Elements from Research of Abuse of other Vulnerable Groups

Aspects of theory from other fields of research may inform theories of elder abuse. Elder abuse theories have borrowed heavily from the fields of child abuse and intimate partner violence.

Child Abuse. Social learning theory describes the notion that children learn from observing, imitating and modelling the behaviours of others (usually their parents). Home influences, in terms of acceptable attitudes and behaviour, shapes the child's future behaviour. Early childhood exposure to abuse is on this basis, thought to be linked to perpetrating violence in adolescence and adulthood (Roberto & Teaster, 2017).

Intimate Partner Violence. Intimate partner violence is often used to secure power and control within a relationship. Power is generally thought to be located in the person who controls most of the resources (e.g. income, occupational prestige), and when there is an imbalance of power in the relationship, violence is used to gain and maintain power and control. Violence is also likely to occur amongst perpetrators who have been socialised to hold a positive view of violent attitudes and behaviour and the need for power and control in relationships (Roberto & Teaster, 2017). This would be relevant to older adults abused by their spouses or partners in later life.

Contagion/Public Health. Contagion phenomenon describes the notion that certain behaviours, similar to diseases, can spread throughout a population through peers, family and environmental influences. There is a lot of evidence for contagion processes in the areas of, for example, imprisonment, stress, emotions and sharing of information on social media. Of most relevance, evidence for a Contagion of Violence model focused on child abuse and intimate partner violence was presented at a 2013 science workshop (Patel, Simon & Taylor, 2013). In elder abuse, the contagion model of violence is thought to be directed towards vulnerable older adults by younger family members due to the perpetrator having witnessed/directly experienced abuse or experienced a traumatic event (Roberto & Teaster, 2017).

Social Organisation/Social Sciences. The way people in a community interact, cooperate and support each other regulates how social networks operate in that community.

Certain shared norms determine which behaviours are acceptable and unacceptable in that community. In the area of intimate partner violence, it is theorised that community members in socioeconomically disadvantaged areas are less willing to report domestic violence due to a norm that people 'mind their own business'. Therefore, perpetrators have less to fear in the way of police or neighbourhood intervention for their aggressive behaviour towards their partners (Roberto & Teaster, 2017). This would be relevant to economic living standards being a risk factor for elder abuse.

3.3 Summary

Various theories have been proposed to explain the causes of elder abuse. Of these, the stressed caregiver theory, psychopathology theory, dependency theory, life course perspective theory and ecological theory are the most common and have been discussed above. Learning from other disciplines which have attempted to explain child abuse and intimate partner violence may also benefit the field of elder abuse.

Elder abuse is complex and the variation in theories which attempt to explain the phenomenon reflect this. The ecological theory model, based on Bronfenbrenner's work (1986), recognises the complexity of human life and accounts for various facets of an older person's life which might contribute to vulnerability to abuse. Its holistic and broad account of abuse makes it a useful model to examine risk factors in the present study.

There are also many risk factors identified in the research literature which reflect the complexity of elder abuse and the interplay between the different levels of the ecological model. A World Health Organisation analysis of these studies produced a summary of such risk factors and categorised each based on the strength of supporting evidence, within the ecological model framework. Of these, dementia of the individual victim, depression,

substance use, financial problems and aggression/hostility of the individual perpetrator, financial and emotional dependence of the perpetrator on the victim and a shared living arrangement in their relationship and social isolation of the individual victim were strongly supported by the evidence base as risk factors of elder abuse (Sethi et al., 2011). Poor physical and mental health of the victim (Dong & Simon, 2004) and lower social support (Johannesen & Logiudice, 2013) were also identified as risk factors of elder abuse.

CHAPTER FOUR

Summary and Gaps in the Research

The way in which older adults are perceived has varied across time and across cultures. Partly for this reason, elder abuse has been defined in different ways across time, cultures but also across research fields/professions. This variation in understanding of the concept of elder abuse has resulted in difficulties in the accurate and systematic determination of prevalence, correlates and severity as well as difficulties in the development of policy and intervention strategies.

The current definition of elder abuse endorsed in New Zealand by the Ministry of Health (MOH) and Age Concern New Zealand (ACNZ) is:

> a single, or repeated act or lack of appropriate action, occurring within any relationship where there is an expectation of trust, that causes harm or distress to older people (ACNZ, 2007, p.13; Glasgow & Fanslow, 2006, p.78; Sethi et al., 2011, p.1).

New Zealand currently recognises six forms of elder abuse, including physical abuse, psychological abuse, sexual abuse, financial abuse, neglect and abuse of enduring power of attorney (ACNZ, 2004; Glasgow & Fanslow, 2006). Understandings of the perceived types of behaviour deemed unacceptable and abusive enough to fall within these specific categories vary across cultures and will no doubt also continue to change and evolve with time (Perez-Carceles, 2017; Wallace & Crabb, 2017).

Elder abuse is a growing global public health concern, with one in ten older adults estimated to experience elder abuse each month worldwide. Prevalence is expected to increase, given ageing population growth trends in many countries (Chen & Dong, 2017). Elder abuse

has serious social justice, legal and health implications. Elder abuse is a domestic crime, it breaches the basic human right of its victims to safety and to not be subjected to cruel, inhumane or degrading treatment, and results in physical injuries, mental health problems and increased risk of morbidity, mortality and premature residential care or hospital placement (Dong, 2012; Falk et al., 2014, Lachs & Pillemer, 2004; Lee et al., 2014; Pillemer et al., 2015; Rizzo et al., 2015).

Elder abuse is currently estimated to occur in three to ten percent of the community-dwelling New Zealand population (ACNZ, 2015; Pillemer et al., 2016; Yeung et al., 2015). The most common forms of abuse are thought to be psychological and financial abuse (ACNZ, 2002; ACNZ, 2015). However, in practice, the experience of victims is not so neatly categorical and many will actually experience multiple forms of abuse simultaneously (Bagshaw et al., 2013; Biggs et al., 2009). However, due to differences in elder abuse definitions and the use of different research methodologies across the various studies, it is unlikely that true prevalence rates are currently known (Dong, 2017). In addition to this, there is a problem of mass underreporting of abuse by older adult victims for reasons of fear, shame, lack of knowledge about the law/helpful agencies, mistrust of agencies, or lack of contacts to disclose abuse to (Dong, 2012; Mukherkee, 2013). The current rate of reporting is thought to be in the range of only one in every 24 cases of abuse reported (WHO, 2011).

Screening tools developed to overcome the obstacles of underreporting have found to be lacking due to their monocultural focus and narrow understanding of elder abuse (Wallace & Crabb, 2017) in addition to the need for sound professional knowledge, skills and judgement in their use (Smith, 2011). However, theories about the causes of elder abuse which form the basis on which screening tools are created, present a possibility for understanding elder abuse from a risk perspective.

Empirical research suggests greater mental and physical health problems, low socioeconomic status and low social support are risk factors of elder abuse (Johannesen & Logiudice, 2013). Further, social isolation has also been found to be a risk factor for elder abuse (Sethi et al., 2011).

Social support has been associated with better health and wellbeing throughout the lifespan, including reduced psychological distress, depression, loneliness, cognitive functioning difficulties, disease, disability, premature institutionalisation and mortality (Dong et al., 2010; Melchiorre et al., 2013; Rook, 2014; Sorkin & Rook, 2004). In addition, social support has been associated with reduced vulnerability to elder abuse (Acierno et al., 2010; Dong & Simon, 2010; Dong et al., 2016). Furthermore, social support has been found to reduce the effect of loneliness which is a risk factor for elder abuse (Dong et al., 2009). However, there is an absence of research focused on the effect of social support on elder abuse amongst older adults in the New Zealand context when controlling for other risk factors.

Social network types, a structural framework for understanding the various types of social support, have been theorised to be related to elder abuse (Wenger, 1997). Wenger's Practitioner Assessment of Network Type (PANT) is a measurement instrument which attempts to classify and describe individual social networks in terms of both size and density and is believed to be the most valuable in practice of all current classification systems (Fiori et al., 2006; Fiori et al., 2007; Litwin & Landau, 2000). Each of the five social network types are representative of different combinations of social support sources (i.e. family, friends, neighbours, formal services) and types of social support provided (i.e. practical, emotional) (Wenger, 1997; Wenger & Tucker, 2002). The value of social networks lies in the quality, not quantity of social relationships in the network (Beach et al., 2016). Social networks can either protect older adults from abuse by monitoring and intervention, enable the continuance of

undetected abuse through the transmission of attitudes and norms which are tolerant of abuse, or enable more proactive coordination of abuse by isolation of the older adult victim (Schafer & Koltai, 2015; Wenger, 1994b). Research about the role of social network type on elder abuse amongst older adults in the New Zealand context has also been absent and represents a further gap in the research literature.

Social isolation, or more specifically the perception of social isolation (loneliness), has been associated with poorer health and wellbeing (Cacioppo et al., 2010; Dong et al., 2009; Statistics New Zealand, 2013a). Loneliness has been associated with depression, poorer sleep, smoking, physical inactivity, higher blood-pressure and a 26% increased likelihood of death (Holt-Lunstad et al., 2015). Loneliness has also been associated with greater mental health problems and cognitive decline, poorer physical health, more physician visits, poorer quality of life, nursing home admission and increased suicidal ideation (Dong et al., 2012; Dong et al., 2007). In addition, loneliness has found to be related to increased vulnerability to elder abuse (Dong & Simon, 2008; Dong et al., 2009; Luo & Waite, 2011). There is also a lack of evidence for the role of loneliness in elder abuse amongst older adults in the New Zealand context when controlling for other risk factors.

The current study aims to examine these known risk factors for elder abuse, social support, social network type and loneliness, in the New Zealand context. It is recognised that there is already research that shows social support and loneliness are correlates of elder abuse in New Zealand (Yeung et al., 2015). However, the current study will aim to study how these two variables (in addition to social network type) are related to elder abuse whilst additionally controlling for risk factors associated with the individual victim level of the ecological model (namely; age, gender, socioeconomic status, health).

Although social isolation (rather than the subjective concept of loneliness) is recognised by the evidence base as a strong risk factor for elder abuse, it is loneliness that will be focused on in the present study due to other research suggesting that loneliness too poses a risk for elder abuse (Dong et al., 2009). Low social support is recognised as a potential risk factor due to its mixed or limited supporting evidence (Sethi et al., 2011). Social network type does not appear at all in the WHO's summary of elder abuse risk factor studies.

Conducting research and contributing to a more comprehensive knowledge base is crucial to developing effective evidence-based interventions to promote protection against elder abuse (Pillemer et al., 2015). Therefore, it is hoped that studying the roles of loneliness, social support and social network in relation to elder abuse in the New Zealand context will contribute knowledge to the field of elder abuse and potentially aid policy and intervention development. These contextual factors that lead to an increased likelihood of elder abuse, labelled 'permessors', could be considered interdependent events that lead to elder abuse (Lindenberg, Westendorp, Kurrle & Biggs, 2013). This information would be helpful for adults approaching older adulthood in relation to the assessment of their social involvement and lifestyle and the associated risk for elder abuse their circumstances present.

The health consequences of elder abuse, both physical and psychological, have been well documented in the research literature and there can be no doubt as to the financial and social justice costs to its victims. Elder abuse adversely affects health outcomes because of the direct injurious effects of physical, sexual abuse and psychological forms of abuse. Furthermore, financial abuse and/or neglect can also limit an individual's quality of life, indirectly resulting in adverse physical or psychological consequences, by limiting older adults' ability to access daily living resources such as comfortable accommodation options, heating, house maintenance and cleaning supplies, quality food, personal grooming supplies,

transport, entertainment and social activities. Older adults who are made to feel like an unwanted burden can easily begin to experience deterioration in their self-esteem, happiness, mental health and physical health. The current study therefore also aims to examine the health consequences of elder abuse in New Zealand.

CHAPTER FIVE

The Present Study

The current study investigates the relationship between elder abuse and health, social support, social networks and loneliness amongst a large sample of community-dwelling older adults in New Zealand.

5.1 Aims

Elder abuse has serious consequences for its victims. New Zealand, like the rest of the world, is experiencing an ageing population trend. As this trend continues, elder abuse will become increasingly concerning for the health and social justice costs to its victims as well as the economic costs to government. Although there is strong evidence for loneliness as a risk factor for elder abuse elsewhere in the world, there is an absence of evidence to support the role that social support and social networks play in elder abuse. There is limited evidence for all three variables in the New Zealand context. The current study aims to contribute further to the knowledge base of elder abuse with a focus on 1) the health consequences of elder abuse in New Zealand as well as a focus on how 2) loneliness, 3) social support and 4) social networks influence risk of elder abuse.

The present study has three main aims. The first aim is to examine the health consequences of elder abuse in the New Zealand older adult community dwelling population. The second aim is to determine whether elder abuse of the New Zealand older adult community dwelling population is related to loneliness, social support and/or social network type. The third aim is to explore moderating and mediating variables that contribute to explanations of elder abuse.

5.2 Research Questions

Research Question 1:

Are there health consequences of elder abuse for those community-dwelling older adults who report abuse in New Zealand?

Research Question 2:

What roles do loneliness, social support and social network type have in relation to risk of elder abuse for community-dwelling older adults in New Zealand?

Research Question 3:

Are loneliness, social support and social network type related to each other/do they interact with each other in regard to the risk they pose for elder abuse for community-dwelling older adults in New Zealand?

5.3 Hypotheses

Research has found that elder abuse results in serious adverse physical and mental health consequences.

Hypothesis 1:

Elder abuse is predictive of reduced physical and mental health two years later.

Research has found that loneliness is strongly related to elder abuse (Sethi et al., 2011). Social support and a related concept, social network type, could also contribute to risk of elder abuse.

Hypothesis 2:

Greater loneliness, lower social support, greater identification with the family dependent social network type and lesser identification with the locally integrated social network type will be related to higher levels of reported elder abuse (controlling for age, economic living standards and physical and mental health) at baseline and two years later.

According to the research literature, social support has been found to remove the effects of loneliness as a predictor of elder abuse (Dong et al., 2009).

Hypothesis 3:

Social support will moderate the relationship between loneliness and elder abuse. The relationship between loneliness and elder abuse will be weaker for individuals with greater social support.

The research suggests the relationship between elder abuse and loneliness may be stronger for women than for men (Dong et al., 2009). Other studies also suggest there may be gender differences in terms of the importance of social support, with women needing higher levels of social support (Dong et al., 2010; Guedes et al., 2015).

Hypothesis 4:

Gender will moderate the relationship between loneliness and elder abuse. The relationship between loneliness and elder abuse will be stronger for women.

Hypothesis 5:

Gender will moderate the relationship between social support and elder abuse. The relationship between social support and elder abuse will be stronger for women.

The research literature has stated that low social support has a role in developing, maintaining and exacerbating mental health problems and therefore is indirectly predictive of elder abuse (Amstadter et al., 2011; Dong & Simon, 2008).

Hypothesis 6:

Mental health will mediate the relationship between social support and elder abuse.

Poor health is thought to indirectly contribute to risk of elder abuse because it facilitates loneliness. Poor health, which results in changes such as deteriorating mobility and loss of driving privileges, is thought to reduce ability and/or willingness to maintain social interactions and therefore can lead to loneliness (Amstadter et al., 2011).

Hypothesis 7:

Loneliness will mediate the relationship between physical health and elder abuse.

Hypothesis 8:

Loneliness will mediate the relationship between mental health and elder abuse.

The research has also suggested that life changes in older age (including deteriorating health but also including retirement, loss of driving privileges and loss of loved ones) may reduce opportunities for social experiences and facilitate loneliness (Amstadter et al., 2011).

Hypothesis 9:

Loneliness mediates the relationship between age and elder abuse.

CHAPTER SIX

Method

6.1 Overview of the New Zealand Longitudinal Study of Ageing (NZLSA)

The present study analysed participants in the 2010 and 2012 waves of the New Zealand Longitudinal Study of Ageing (NZLSA), which expanded on the earlier Health, Work and Retirement Longitudinal Study (HWR). The HWR was established by the Health Ageing and Research Team (HART) in 2005 (Massey University, 2015; New Zealand Association of Gerontology, 2015). It was a national longitudinal study of ageing designed to track the health, work and retirement of people in late-midlife (Alpass et al., 2007). In 2006 the HWR first surveyed a representative sample of the general New Zealand population aged 55 to 70 years and a representative sample of the New Zealand Māori population (indigenous people of New Zealand: Māori descent indicated on electoral roll) aged 55 to 70 years. The HWR was again administered in 2008.

The NZLSA was closely aligned with the HWR and also established by HART (Massey University, 2015; New Zealand Association of Gerontology, 2015). It was funded by the Foundation for Research, Science and Technology (FRST) and led by the New Zealand Institute for Research on Ageing (NZIRA), working in collaboration with the Family Centre Social Policy Research Unit and Massey University's School of Psychology. The NZLSA also comprised two waves of data collection. The NZLSA is a nationally representative longitudinal study of health and ageing with the aims of providing data on health and ageing indicators as well as identifying health, wealth and social factors that contribute to positive ageing in New

Zealand. It is comparable to similar studies in North America, Europe and Asia (Massey University, 2015; New Zealand Association of Gerontology, 2015).

6.2 Participants

Individuals invited to participate in the NZLSA 2010 included 2500 individuals who had completed the 2008 HWR survey, 900 individuals aged 50 to 62 years who had participated in a related retirement-planning study titled 'Psychosocial and financial factors influencing men and women's retirement planning' and 200 individuals aged 50 to 84 years who had completed the NZLSA pilot study questionnaire. These 3600 individuals had previously consented to their enrolment as participants in the NZLSA. A further 400 individuals who had only completed the 2006 HWR survey (and not the 2008 survey) were also invited to enrol as participants in the NZLSA.

Participants were randomly selected from the New Zealand electoral roll, a compulsory voting register of New Zealand adults aged over 18 years old, and invited to participate in the study (Alpass et al., 2007). It is recognised that the majority of New Zealand adults are registered on the electoral roll, for example with 96% registered in 2007, which makes the electoral roll highly representative of New Zealand (Alpass et al., 2013). Individuals not living in the community were excluded from participating, to ensure a community-dwelling sample.

Participants in the 2010 sample were 3277 older adults aged between 50 and 90 years (M = 64.55, SD = 7.98). Of those, 1812 were female and 1465 male. Due to dropout between 2010 and 2012, the number of participants consisted of 3212 older adults in the 2012 sample.

The majority (62.4%) identified themselves as non-Māori, 37.6% as Māori. Māori representation was considered to be essential, and therefore participants from this subpopulation were actually recruited at a higher proportion than would be expected from their

representation in the normal population. Due to oversampling, Māori were over-represented and New Zealand Europeans were under-represented in the overall sample (Towers & Noone, 2007). New Zealand Māori constitute 15.3% of the national population (at 30 June 2017, 734,220 Māori of the 4,793,700 national population; Statistics New Zealand, 2017a; Statistics New Zealand, 2017b). The Māori sample was randomly selected from those individuals on the electoral roll who identified as being Māori in terms of their primary ethnicity. In the present study, Māori participants were analysed with the wider sample and not analysed separately as a sub-group. Firstly, this was due to the need to interpret any cultural interpretations resulting from such analyses with caution because of the over-sampling procedure used (Yeung et al., 2015). Secondly, this was because it was felt to be inappropriate and insensitive to discuss Māori health statistics separately because historically, this segregated treatment has had negative impacts for Māori as a subgroup.

As seen in Table 1, the majority of participants in both the 2010 and 2012 samples responded to the survey items indicating higher than average physical and mental health (56.2% scored themselves higher than the normative average physical health score of 50 and 53.5% scored themselves higher than the normative average mental health score of 50), and identified with the highest categories of economic living standards, with high levels of social support, low levels of loneliness, the locally integrated and local self-contained social network types, and low levels of elder abuse. Table 1 also presents the means and standard deviations of the sample in relation to the measures which will be explained below, as well as the Cronbach's alpha reliability coefficients calculated for each group (note these differ to the psychometric properties of the measures reported in the research literature).

Table 1

Sample: Key Study Variables

Variable	2010 (*N*=3277)			2012 (*N*=3212)		
	M (SD)	Range	*α*	*M (SD)*	Range	*α*
Age	64.55 (7.98)	50-90		66.55 (7.78)	51-87	
Economic living standards (ELS)	23.48 (6.48)	0-31	0.823	24.14 (6.19)	0-31	0.813
Physical health (PH)	49.37 (10.95)	10-71	***	49.47 (10.83)	11-69	***
Mental health (MH)	49.10 (7.92)	13-71	***	49.31 (7.98)	15-68	***
Mental health: Depression (CES-D-10)	1.42 (0.68)	1-4	0.788	1.41 (0.68)	1-4	0.771
Loneliness (LON)	3.47 (3.21)	0-11	0.872	3.17 (3.21)	0-11	0.875
Social support (SOCSUP)*	79.30 (10.11)	35-96	0.924			
Social Network Type**			0.554			
Private restricted network (PR-SNT)	1.70 (1.31)	0-8				
Wider community-focused network (WC-SNT)	2.42 (1.26)	0-8				
Family dependent network (FD-SNT)	2.75 (1.58)	0-8				
Locally integrated network (LI-SNT)	3.96 (1.65)	0-8				
Local self-contained network (LSC-SNT)	4.27 (1.65)	0-8				

Elder abuse (VASS)	0.51	0-7	0.522	0.37	0-6	0.558

Note: * = Social support was not measured in 2012. ** = The Cronbach's alpha was determined based on the total social network type scale as it is the scoring method that determines social network type rather than different subscale/social network type items. *** = The Cronbach's alpha statistics were not reported for the health measures due to the complex algorithms and norming used to score the measures.

6.3 Procedure

The NZLSA used a postal questionnaire to collect data. The NZLSA was administered using the Tailored Design Method, an internationally standardised multiple-contact postal procedure that has been demonstrated to enhance survey response rates (Alpass et al., 2007). Potential participants were first mailed a letter introducing the study and explaining their random selection. They were advised that they would shortly be receiving a questionnaire. A week later, the same individuals were mailed an information sheet explaining the study, a questionnaire and a free-post return envelope. The following fortnight, individuals who responded by returning a completed questionnaire were mailed a postcard thanking them for their participation and individuals who had not responded were mailed a postcard urging them to participate. Individuals who had still not responded in the three weeks following this postcard reminder were mailed another copy of the questionnaire. Individuals who had not responded five weeks after receiving their second copy of the questionnaire were mailed another postcard urging them to participate (Alpass et al., 2007).

Consent to participate in the NZLSA was implied by return of the questionnaire by post. All participants provided written consent to the use of their data. Participants were assured both in the initial letter of invitation and in the subsequent questionnaire that responses would be kept anonymous. Questionnaires, each containing a unique identification number linked to participant contact details held only by a NZLSA research officer at the School of Psychology,

were returned to the research officer using a freepost return envelope supplied by the NZLSA. Questionnaires did not contain any participant contact details and therefore could not be linked to individual names by anyone except the NZLSA research officer. These questionnaires have been stored in a locked research room at the School of Psychology, and only the research officer has a key to the room. The data has been the NZLSA Principal Investigator's responsibility for safe keeping and will be disposed of five years after the end of the study.

Ethical advice was sought on the appropriate wording of potentially embarrassing content from colleagues of the NZLSA researchers who had received ethical approval to include such questions in their own studies. Pilot testing was conducted to gather feedback on the likelihood that participants would be offended by questions about sensitive topics, potential for participant confusion and level of participant burden. Sensitive questions (identified by the research team as potentially embarrassing or uncomfortable to answer) were extensively reviewed and discussed to resolve ethical concerns. Participants were informed that they were not under any obligation to answer any question in order to minimise potential discomfort. This was stated both in the initial letter of invitation and in the preamble to sensitive questions. This statement acknowledged that many people did not like to answer questions related to particular topics but reiterated the importance of gathering the data for the success of the study and again assured that all answers would be kept completely confidential. Participants were also provided with a mental health advisory note outlining local and national contact details for mental health advice should any concerns arise. This method of data collection was approved by the Massey University Human Ethics Committee (Application number 09/70).

Bicultural practice was prioritised. Historically, Māori have been excluded from health and ageing research despite their considerable presence in New Zealand as tangata whenua (14.9% of the population identified as being of Māori ethnicity or descent in the 2013 census)

and consistently poorer health and wellbeing indicators (Statistics New Zealand, 2013b). HART aimed to respect the Treaty of Waitangi principles of partnership, protection and participation by maximising Māori participation in the HWR in order to protect their interests in being included in health and ageing research, therefore enabling analysis of Māori health and ageing as a subgroup (Alpass et al., 2007). The HWR intentionally oversampled Māori to achieve a strong Māori participation rate (Alpass et al., 2007). In terms of partnership, the questionnaires were developed in consultation with staff from the School of Māori Studies at Massey University and the Māori and Pacific sections of the Family Centre Social Policy Research Unit. The questionnaire content was also formally reviewed by a Māori Advisory Group to ensure cultural appropriateness (Alpass et al., 2007). In terms of the Treaty of Waitangi principle of protection, a Māori researcher, fluent in Te Reo Māori, was available for Māori participants throughout the data collection process as a point of contact (Alpass et al., 2007).

Please refer to Appendix 1 to view the 2010 version of the NZLSA survey (Massey University, 2015). The 2012 version is also available for viewing online from the same source, the Massey University website. Unlike the 2010 version, the 2012 version does not contain measures of social support or social network type.

6.4 Design

The present observational study was a cross-sectional design with related prospective research aims. Cross-sectionally, it explored whether loneliness, social support and social network type (controlling for demographic variables) could predict elder abuse. Longitudinally, this study explored whether the same three variables (again controlling for demographic variables) could predict later elder abuse at a two year follow up. Hypotheses

regarding moderating and mediating effects were explored cross-sectionally and across time (two years).

6.5 Measures

The questionnaire comprised sections measuring health, wellbeing and quality of life; family and friends; caring commitments; work or retirement status; financial wellbeing; living in the neighbourhood and personal information. Various standardised measures were contained within these sections, several of which were selected for analysis in the present study. Table 2 briefly describes the purpose of the six measures used in the present study. Please refer to Appendix 1 for the NZLSA survey from 2010 which contains these measures (Massey University, 2015).

Table 2

Description and Purpose of the Measures

VARIABLE NAME:	**Economic living standards (ELS)**
NAME:	Economic Living Standards Index Short Form (ELSI-SF)
AUTHOR:	Jensen, Spittal & Krishnan (2005).
DESCRIPTION:	A survey tool for measuring people's economic standard of living.
PURPOSE:	To augment other descriptive analyses of survey populations in terms of living standards.
APPENDIX REF:	Items 49-52 of Appendix 1
VARIABLE NAME:	**Physical health, Mental health**
SUBSCALES:	**Physical Health (PH), Mental Health (MH)**
NAME:	Short Form 12 item (version 2) Health Survey (SF-12v2)
AUTHOR:	Optum
DESCRIPTION:	A self-report measure of functional health and wellbeing from the patient's point of view.
PURPOSE:	To monitor population physical and mental health.
APPENDIX REF:	Items 1-7 of Appendix 1
VARIABLE NAME:	**Social network type**
SUBSCALES:	**Family dependent (FD-SNT), Locally integrated (LI-SNT), Wider community-focused (WC-SNT), Local self-contained (LSC-SNT), Private restricted (PR-SNT)**
NAME:	Practitioner Assessment of Network Type (PANT)
AUTHOR:	Wenger (1994a)
DESCRIPTION:	Originally developed as an interview administrated measure of social network type.
PURPOSE:	To help practitioners identify the social networks of older adults.
APPENDIX REF:	Items 16-18 of Appendix 1
VARIABLE NAME:	**Social support (SOCSUP)**
NAME:	Social Provisions Scale
AUTHOR:	Cutrona & Russell (1987)

DESCRIPTION: PURPOSE: APPENDIX REF:	Originally developed as an interviewer administrated measure of the degree to which one's social relationships provide perceived social support. To examine the degree to which respondents' social relationships provide various dimensions of social support. Item 15 of Appendix 1
VARIABLE NAME: NAME: AUTHOR: DESCRIPTION: PURPOSE: APPENDIX REF:	**Loneliness (LON)** De Jong Gierveld Loneliness Scale De Jong Gierveld & Van Tilburg (2010) A self-report measure of overall, emotional and social loneliness. To enable research about loneliness via survey format. Item 20 of Appendix 1
VARIABLE NAME: NAME: AUTHOR: DESCRIPTION: PURPOSE: APPENDIX REF:	**Elder Abuse (MVASS)** Vulnerability to Abuse Screening Scale (VASS) Schofield, Reynolds, Mishra, Powers & Dobson (2002) A self-report measure of risk of elder abuse. To identify older women at risk of elder abuse. Item 21 of Appendix 1

Variables.

Age, Gender and Ethnicity. Questions listed in a personal information section asked participants for their date of birth, gender (scored categorically; men coded as 1, women coded as 2) and to indicate which ethnic group(s) they belonged to (the options including New Zealand European, Māori, Samoan, Cook Island Māori, Nieuan, Chinese, Indian, Tongan and Other (e.g. Dutch, Japanese, Tokelauan). In the NZLSA 2010 survey, these questions were contained in items 63-64 and 72-73 (please refer to Appendix 1).

Economic living standards. The Economic Living Standards Index Short Form (ELSI-SF) is a short version of the Economic Living Standards Index (ELSI; Jensen, Spittal &

Krishnan, 2005). The ELSI, which is specific to New Zealand, was developed for the Ministry of Social Development's continuing research programme as a tool to isolate economic living standards from other variables that are also known to be related to social outcomes (for instance health status, life expectancy, educational attainment and offending) (Jensen et al., 2005). The developers of the ELSI-SF recognised that income is often a poor indicator of living standards and does not consider how different households manage their resources differently and the variation in costs of living. Therefore, the measure is based on consumption of household goods and social/recreational participation, rather than a measure of pure income and assets (Jensen, Spittal, Crichton, Sathiyandra & Krishnan, 2002).

The ELSI-SF is made up of 25 items that assess living standards on the basis of three aspects; ownership restrictions (includes eight items about failure to own something that is desired because of lack of affordability), social participation restrictions (includes six items about inability to undertake social activities because of cost) and economising (includes eight items about the need to reduce day-to-day spending in areas such as clothing, medical care and home heating) (Jensen et al., 2005). Three further items ask participants for self-ratings about satisfaction with their standard of living and the extent to which their needs are being adequately met.

The scores on the 25 items are combined to produce a continuous total score ranging from 0 to 31. A higher score on the ELSI-SF indicates higher economic living standards. The scores can be further categorised into seven levels ranging from 'Severe hardship' to 'Very good' (Jensen et al., 2005). The ELSI-SF has good internal consistency (α = 0.88) and good validity (correlated with other similar variables expected to be associated with standard of living at r = 0.35-0.59) (Jensen et al., 2005). In the NZLSA 2010 survey, these questions were contained in items 49-52 (please refer to Appendix 1).

Mental health. The 12 item (version 2) Health Survey (SF-12v2) developed by QualityMetric is a shorter version of the 36 item Health Survey (SF-36v2) (Hussey, 2013). The SF-12v2 is a self-report measure of functional health and wellbeing and includes items that assess general health perceptions, vitality, physical functioning, bodily pain, social functioning, mental health and role limitations due to physical and mental health. The SF-12v2 scoring method produces two composite scores, one of which represents mental health and the other physical health. This score is calculated using an algorithm and compared against population norms where the population mean is 50. Scores greater than 50 indicate better health and scores lower than 50 indicate worse health (Hussey, 2013). The SF-12v2 was standardised (z-scores) using means and standard deviations calculated from the HWR 2006 survey and the New Zealand Health Survey Factor Coefficients' two scales. Each of the two SF-12v2 Mental Health and Physical Health scales were normed using the HWR 2006 means and standard deviations, therefore enabling longitudinal comparisons of SF-12v2 scores across the different HWR and NZLSA waves (Stevenson, 2014). The SF-12v2 has good internal consistency (α = 0.82 for the Mental Health Scale) and good validity (correlated with variables from a similar measure, the EQ-5D, at r = 0.38 – 0.61 for the Mental Health Scale) (Cheak-Zamora, Wyrwich & McBride, 2009). In the NZLSA 2010 survey, these questions were contained in items 1-7 (please refer to Appendix 1).

The 10 item version of the Center for Epidemiological Studies Depression Scale (CES-D-10) is a short, structured self-report measure used to identify depressive symptoms related to major/clinical depression in older adults, adults and adolescents (Eng & Chan, 2013; Gomez & McLaren, 2015; Radloff, 1977). The CES-D-10 was developed by Radloff in 1977 using items selected from previously validated depression scales. It was designed for use in general population surveys and has been shown to discriminate well between psychiatric inpatient populations and general population samples (Radloff, 1977). It is used widely in research and

clinical settings as a screening measure rather than as a diagnostic tool (Eng & Chan, 2013; Gomez & McLaren, 2015). The CES-D-10 items require respondents to choose between four possible responses. Each response option is allocated a score ranging from 0 to 3. Two of the items are expressed negatively (absence of depressive symptoms) and are reverse scored. The scores on the 10 items are combined to produce a maximum score of 30. A score of 10 or more indicates depression. A higher score on the CES-D-10 indicates a higher degree of depressive symptoms. The CES-D-10 is not scored if responses to more than two items are missing. The CES-D-10 has good internal consistency (α = 0.86) and good validity (correlated to SF-36 Mental Health Scale at r = 0.71; convergent validity of r = 0.91; divergent validity of r = 0.89) (Miller, Anton & Townson, 2008). In the NZLSA 2010 survey, these questions were contained in item 8 (please refer to Appendix 1).

Physical health. The SF-12v2 produces a composite score that represents physical health. This score is calculated and interpreted in the same manner as the SF-12v2 Mental Health score (Hussey, 2013). The SF-12v2 has good internal consistency (α = 0.88 for the Physical Health Scale) and good validity (correlated with variables from a similar measure, the EQ-5D, at r = 0.56 – 0.61 for the Physical Health Scale) (Cheak-Zamora et al., 2009). In the NZLSA 2010 survey, these questions were contained in items 1-7 (please refer to Appendix 1).

Social support. The Social Provisions Scale (SPS) measures the degree to which one's social relationships provide perceived social support. The SPS is made up of 24 items that measure perceived social support based on the six forms of social support identified by Weiss in 1974; guidance (advice or information), reliable alliance (assurance that others can be relied on in times of stress), reassurance of worth (acknowledgement of one's competence), attachment (emotional closeness), social integration (belonging) and opportunity for

nurturance (assistance) (Cutrona & Russell, 1987; Weiss, 1974). Four items relevant to each form of social support are included on the SPS. The SPS items require respondents to indicate their agreement with statements by rating them with a score ranging from 1 ('Strongly disagree') to 4 ('Strongly agree'). Half of the items are expressed negatively (absence of social provision) and are reverse scored. The scores on the 24 items are combined to produce a maximum score of 96. A higher score on the SPS indicates a higher degree of perceived social support. Several studies have provided evidence for the SPS's reliability and validity. The SPS has good internal consistency ($r > 0.60$ across all variables in Russell, Altwater & Val Velzen, 1984) and good validity (correlated with similar measures of social networks, satisfaction with social relationships and social support; Cutrona & Russell, 1987). In the NZLSA 2010 survey, these questions were contained in item 15 (please refer to Appendix 1).

Social network type. The Practitioner Assessment of Network Type (PANT) is a tool designed to help practitioners identify the social networks of older adults (Wenger 1994a, 1994b). The PANT instrument has demonstrated predictive validity, identifying social network type unequivocally 75 percent of the time (Wenger, 1997). The PANT is made up of eight items that ask about geographical proximity to family, frequency of face-to-face contact with family/friends/neighbours and involvement in community/social/religious group activities. Each item requires respondents to choose between a set of response options, with each response option allocated a letter. This letter must be circled wherever it occurs in the subsequent five columns that follow across the page. These five columns correspond to the five different social network types. The circled letter responses in each of the columns are summed and noted down. A maximum score of 8 in any one column is possible, provided a score of 0 is obtained in the other four columns. In contrast, it is possible to obtain up to five different scores across the five columns, with the 8 points distributed across the columns. A higher score in a particular column indicates the greater extent to which the respondent identifies with that column's social

network type. The respondent's social network type is determined by the column in which they obtain their highest score (the column with the most circled letters). Participants are deemed 'borderline' (highest scores in two social network types) 20 percent of the time and 'inconclusive' (highest score in more than two columns) 5 percent of the time (Wenger, 1997). The present study produced 16.9 percent borderline and 3.8 percent inconclusive social network types. The PANT has been tested and validated (Wenger, 1994a) and has high predictive validity (Wenger, 1997). In the NZLSA 2010 survey, these questions were contained in items 16-18 (please refer to Appendix 1).

Loneliness. The De Jong Gierveld Loneliness Scale is an 11 item self-report measure of social and emotional loneliness (De Jong Gierveld & Van Tilburg, 2010). The De Jong Gierveld Scale was developed as a research tool rather than as a diagnostic tool (De Jong Gierveld & Van Tilburg, 2010). The items require participants to respond to directional statements which have a neutral mid-point on a scale indicating agreement/disagreement. The emotional subscale requires positive 'Yes' responses to indicate loneliness while the social subscale requires 'No' responses to indicate loneliness. The scores on the 11 items are combined to produce a maximum score of 11. A higher score on the scale indicates a higher degree of loneliness. Scores are further categorised into four levels ranging from 'Very severely lonely' to 'Not lonely' (De Jong Gierveld & Van Tilburg, 2010). The total score is not valid if responses to more than one item are missing. The scale also provides the option of administering an emotional loneliness six item subscale or a social loneliness five item subscale, based on the distinction between social and emotional loneliness (Weiss, 1973). The complete scale scores (rather than the separate subscale scores) were analysed in the present study. The De Jong Gierveld Scale has good internal consistency (α = 0.85 for social loneliness and α = 0.81 for emotional loneliness) and good validity (correlated with similar loneliness-

related variables) (De Jong Gierveld & Van Tilburg, 2010). In the NZLSA 2010 survey, these questions were contained in item 20 (please refer to Appendix 1).

Elder abuse. Participants completed the Vulnerability to Abuse Screening Scale (VASS) (Schofield, Reynolds, Mishra, Powers & Dobson, 2002) which is an elder abuse measure consisting of 12 items (four subscales with each containing three items). Before analysing the results from the sample, the VASS was analysed to ensure that it was a valid and reliable measure. Due to validity concerns expressed by the authors of the VASS as well as concerns arising from the present study's internal reliability testing of the VASS (see Table 3, p.94), two of these subscales were removed. The resulting modified version of the VASS (see Table 9, p.101), was used instead. This modified version (MVASS) contains seven items as a result of principal components factor analysis, which revealed a different subscale distribution of the items than the original VASS. The process of analysing and modifying the VASS is discussed in Chapter 7. The MVASS is scored in the same way as the NZLSA scored the original VASS, with every 'Yes' response on an item scored 1 and every 'No' response scored 0. The scores on all seven items are summed to produce a maximum score of 7. A higher score indicates higher risk of elder abuse, the VASS being a continuous variable measure. Presence of elder abuse in the present study was deemed with a 'Yes' response to one or more MVASS items. The reason one and not two or more 'Yes' responses was chosen as the minimum number of positive responses indicative of elder abuse, was because of the small number of modified VASS items available. In the NZLSA 2010 survey, these questions (the full scale VASS) were contained in item 21 (please refer to Appendix 1).

6.6 Preliminary Data Screening

The data were screened for missing data. Missing data is considered either missing completely at random (MCAR), missing at random (MAR) or missing not at random (MNAR).

When MCAR, the distribution of missing data is not related to other variables in the data set. When MAR, the distribution of missing data is related to other variables in the data set. When MNAR, the missing data is related to the missing values themselves. Whether missing data is MCAR, MAR or MNNAR determines which method of dealing with missing data is appropriate (Tabachnick & Fiddell, 2013). Due to the variability of missing data across the different research questions (MAR), no data was imputed. Instead, for each research question that was analysed, the cases with data missing on any of the selected variables for that particular analysis were excluded from the analysis (listwise deletion). Listwise deletion is normally avoided in cases where missing data is not considered MCAR and if the proportion of missing data is large (the removal of cases with missing data results in a loss of power in subsequent analyses). However, due to the large sample size and relatively small proportion of missing data, it was decided that listwise deletion was the appropriate method to deal with the missing data in the present study.

The data were also screened for outliers. Outliers were identified but not removed on the basis that there was no good reason conceptually to remove any particular individual(s) and because large sample sizes are robust to the effect of outliers (Tabachnick & Fidell, 2007; Williams, Grajales & Kurkiewicz, 2013).

There were no concerns with linearity, normality or homoscedasticity in the sample. Although there was skewness in the sample, particularly in relation to the MVASS measure, departure from normality is not normally of concern with large sample sizes due to the Central Limit Theorem (Tabachnick & Fidell, 2007). There were no concerns with multicollinearity. Data screening is discussed in further detail below.

6.7 Statistical Analysis

The IBM SPSS statistical package (version 22.0, IBM SPSS Statistics for Windows, released 2013, IBM Corp, Armonk, NY) was used for data entry and analysis using multiple and logistic regression techniques. Moderating relationships were analysed using the PROCESS custom dialog (created by Andrew F. Hayes and uploaded as an add-on to IBM SPSS) (Hayes, 2013). Mediating relationships were analysed using Preacher and Hayes' 2008 Multiple Mediation (Indirect) custom dialog, another add on available for SPSS software (Hayes, 2013).

The variables were entered under the following terms:

- Age at 2010: Age10
- Gender at 2010: Gender10
- Economic living standards measured by the ELSI-SF at 2010: ELS10
- Physical health measured by the SF-12v2 at 2010: PH10
- Physical health measured by the SF-12v2 at 2010: PH12
- Mental health measured by the SF-12v2 at 2010: MH10
- Mental health measured by the SF-12v2 at 2012: MH12
- Depression measured by the CES-D-10 at 2010: DEP10
- Depression measured by the CES-D-10 at 2012: DEP12
- Loneliness measured by the De Jong Gierveld Scale at 2010: LON10
- Social support measured by the Social Provisions Scale at 2010: SOCSUP10
- Family dependent social network type measured by the PANT at 2010: FD-SNT10
- Locally integrated social network type measured by the PANT at 2010: LI-SNT10
- Locally self-contained social network type measured by the PANT at 2010: LS-SNT10

- Wider community-focused social network type measured by the PANT at 2010: WC-SNT10
- Private restricted social network type measured by the PANT at 2010: PR-SNT10
- Modified elder abuse scale (VASS) at 2010: MVASS10
- Modified elder abuse scale (VASS) at 2012: MVASS12

Research Hypothesis 1: Elder abuse is predictive of reduced physical and mental health two years later. First, the significance of relationships between the health measures (SF-12v2 Physical Health, SF-12v2 Mental Health and CES-D-10) and the elder abuse measure (MVASS) were tested using Pearson's Correlation Analysis. Please see Table 11 for this analysis.

Next, hierarchical linear regression was performed on the data in relation to the SF-12v2 physical health and mental health measures using the Linear Regression function with Blocks on IBM SPSS. In Block 1 of each regression model, the relevant health measure as measured in 2010 was entered into the model (to control for health at baseline) as well as the control variables identified as being correlated to the health measure (age, economic living standards and either the SF-12v2 PH or MH measure (whichever was not the dependent variable)). In Block 2, MVASS10 was entered into the model. The dependent variable was the same relevant health measure entered in Block 1 but as measured in 2012. Please see Tables 12 and 13 for these hierarchical regression analyses.

Research Hypothesis 2: Greater loneliness, lower social support, greater identification with the family dependent social network type and lesser identification with the locally integrated social network type will be related to higher levels of reported elder abuse (controlling for age, economic living standards and physical and mental health) at baseline and two years later. In order to first determine the control variables, significance of

relationships between the key study variables was tested using Pearson's Correlation Analysis. All variables were entered into the same table to enable subsequent checking for multicollinearity (see Table 14 for the intercorrelations of key study variables). Note from Table 14 that gender and the locally self-contained, wider community-focused and private restricted social network types were not significantly related to elder abuse either at baseline or two years later. These four variables were therefore excluded from subsequent analyses. The decision was also made to exclude the CES-D-10 from subsequent analyses and to use the broader MH10 as a measure of mental health, in order to capture the broader mental health problems that result from elder abuse whilst also preventing a doubling up of measurement.

Multiple regression analysis was then performed on eight equations in total. Age10, ELS10, PH10 and MH10 were entered as independent control variables in all of the following eight equations:

1. LON10 was entered as the independent variable. MVASS10 was entered as the dependent variable.
2. LON10 was entered as the independent variable. MVASS12 was entered as the dependent variable.
3. SOCSUP10 was entered as the independent variable. MVASS10 was entered as the dependent variable.
4. SOCSUP10 was entered as the independent variable. MVASS12 was entered as the dependent variable.
5. The family dependent social network type (FD-SNT10) was entered as the independent variable. MVASS10 was entered as the dependent variable.
6. FD-SNT10 was entered as the independent variable. MVASS12 was entered as the dependent variable.

7. The locally integrated social network type (LI-SNT10) was entered as the independent variable. MVASS10 was entered as the dependent variable.
8. LI-SNT10 was entered as the independent variable. MVASS12 was entered as the dependent variable.

There were no concerns with multicollinearity (see Table 14 for the intercorrelations of key study variables) using the < 0.9 threshold (Tabachnick & Fidell, 2007). Each of the following eight equations were screened for outliers using the Mahalanobis distance method (with probability estimates for a case being an outlier set at $p < 0.001$ for the X^2 value). Altogether, across all eight equations, 26 participants were identified as outliers. The outliers identified in each equation were removed from that equation. The maximum number of outliers removed from any one equation was 21 participants. There were several participants who were identified as outliers repeatedly amongst the different equations, most likely indicating differences from the norm on the control variables (Age10, ELS10, PH10, MH10) which were common throughout the equations. However, no clear patterns in the outliers could be identified. Due to the small number of outliers, the data was tested with and without the outliers in each of the eight equations and found no difference to the results. Following removal of outliers in each equation, the data was screened for linearity, normality, homoscedasticity and independence of residuals. There were no concerns with the data in relation to these assumptions, despite the distribution of the dependent variable (the MVASS) being negatively skewed. Although sometimes thought otherwise, multiple regression does not require that each individual variable entered into an equation is normally distributed on its own. Rather, multiple regression requires that the variables together, after being entered into an equation, are normally distributed in terms of their residuals (Williams et al., 2013). Furthermore, significant skewness does not deviate enough from normality to make a substantive difference in the analysis in large samples (Tabachnick & Fidell, 2007). An inspection of the plotted residuals

did not suggest cause for concern with the normality of any of the eight equations. To confirm that the dependent variable was suitable to use applying multiple regression techniques, logistic regression analysis was also performed on each of the eight equations and found much the same significant results. As with previous analyses, cases containing missing data on any of the selected variables for that particular analysis were excluded from the analysis.

Hierarchical multiple regression analysis was performed on the data using the Linear Regression function with Blocks on IBM SPSS. The four control variables (Age10, ELS10, PH10 and MH10) were entered into Block 1 in each of the eight equations. LON10, SOCSUP10, FD-SNT10 and LI-SNT10 variables were individually entered into Block 2 in each of their respective equations. The dependent variables were either MVASS10 (i.e. for odd numbered equations) or MVASS12 (for even numbered equations). Please see Tables 15 to 18 for these multiple regression analyses.

Logistic regression analyses were also performed on the data to confirm the hierarchical multiple regression results due to concerns about the VASS measure. With these logistic regression analyses, the modified VASS dependent variable was dichotomised to make the measure suitable for logistic regression analyses. One or more 'Yes' responses was coded as supporting the presence of elder abuse and zero 'Yes' responses was coded as supporting the absence of elder abuse.

Eight sequential forced entry logistic regression analyses were performed to identify whether or not loneliness, social support, the family dependent SNT and/or the locally integrated SNT could predict if respondents experienced elder abuse at baseline and/or at two-year follow-up. The individual level risk factors (age, economic living standards, physical health and mental health) which were significantly related to elder abuse were controlled for within each analysis. All logistic regression equations consisted of two blocks. All individual

level risk factor covariates were entered into each of the eight models at Block 1 as continuous variables. The loneliness, social support, family dependent SNT and locally integrated SNT variables were each entered independently of each other into their own two of the eight respective models at Block 2, also as continuous variables. Please see Tables 29 to 36 for the logistic regression results.

Research Hypotheses 3-5. The same data was used for the moderation analysis equations as was used for the multiple regression analyses (i.e. with relevant outliers removed). Moderation analysis was performed on the data using the PROCESS custom dialog (created by Andrew F. Hayes and uploaded as an add-on to IBM SPSS) (Hayes, 2013). Please see Tables 19 to 21 for the moderation analyses.

To test the hypothesis that elder abuse is a function of multiple risk factors, and more specifically whether social support moderates the relationship between elder abuse and loneliness, a hierarchical multiple regression was conducted.

H3. Social support will moderate the relationship between loneliness and elder abuse. The relationship between loneliness and elder abuse will be weaker for individuals with greater social support.

The same data set that was used to test Equation 1 of the multiple regression analyses (i.e. with the outliers specific to that data set removed) was used to test H3. In Block 1, social support and loneliness were entered into the model. In Block 2, an interaction term (social support multiplied by loneliness) was entered into the model. To avoid high multicollinearity with the interaction term, each of the social support and loneliness variables were first centred by subtracting the mean score of each variable from each data point of that variable (Aiken & West, 1991). An interaction plot was then created to aid interpretation using Microsoft Excel.

The moderated MVASS values at the mean and at 1 SD below and above the mean of the social support and loneliness variables were entered to create Figure 3. The same process was followed for research hypotheses 4 and 5 as with research hypothesis 3.

H4. Gender will moderate the relationship between loneliness and elder abuse. The relationship between loneliness and elder abuse will be stronger for women.

The same data set that was used to test Equation 1 of the multiple regression analyses was used to test H4. Unlike in H3, the gender variable was entered in place of the social support variable.

H5. Gender will moderate the relationship between social support and elder abuse. The relationship between social support and elder abuse will be stronger for women.

The same data set that was used to test Equation 3 of the multiple regression analyses was used to test H5. Unlike in H3, the gender variable was entered in place of the social support variable and the social support variable was entered in place of the loneliness variable.

Research Hypotheses 6-9. These hypotheses were tested using a mediation model. The same data was used for mediating relationships as was used for the earlier multiple regression relationships. Mediation analysis was performed on the data using Preacher and Hayes' 2008 Multiple Mediation (Indirect) custom dialog (Hayes, 2013). Please see Tables 22 to 28 for the mediation analyses.

Mediation models are concerned with explaining the mechanism by which an independent variable (IV) exerts its influence on a dependent variable (DV). That mechanism is the mediating variable (MV) which accounts for the relationship between the IV and DV or,

in other words, contributes to explanations of process and causality (Preacher & Hayes, 2008). The present study tests:

H6: Whether mental health (MV) is the mechanism by which social support (IV) exerts its influence on elder abuse (DV). The data set from Equation 3 of the multiple regression analyses was used here.

H7: Whether loneliness (MV) is the mechanism by which physical health (IV) exerts its influence on elder abuse (DV). The data set from Equation 1 of the multiple regression analyses was used here.

H8: Whether loneliness (MV) is the mechanism by which mental health (IV) exerts its influence on elder abuse (DV). The data set from Equation 1 of the multiple regression analyses was used here.

H9: Whether loneliness is the mechanism by which age (IV) exerts its influence on elder abuse (DV). The data set from Equation 1 of the multiple regression analyses was used here.

Testing for mediation requires four conditions to be met. First, that the IV is significantly related to the DV (path c); second, that the IV is significantly related to the MV (path a); third, that the MV is significantly related to the DV (path b) and fourth, that when controlling for the indirect effect of the MV, the relationship between the IV and the DV is no longer significant (path c'). In practice, c' is often calculated by multiplying path a by path b and deducting this figure from path c. Partial mediation is deemed to have occurred when path c' is still significant but substantially less than path c. This indicates that there may be other mechanisms in addition to the MV by which the IV exerts an influence on the DV (Baron & Kenny, 1986). These four conditions are tested using regression analyses. The unstandardised

regression coefficient (*b*) is examined in each case to determine the size, direction and significance of relationships (Baron & Kenny, 1986; Preacher & Hayes, 2008). See Figure 2 for a visual representation of the mediation model.

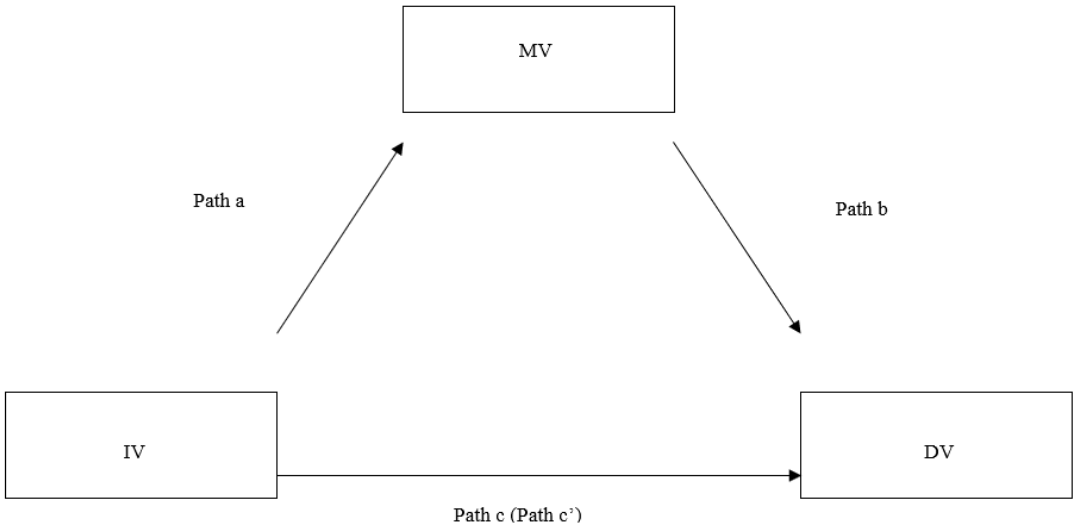


Figure 2. Simple mediation model. The regression coefficient between the IV and the DV, controlling for the MV, is inside of the parentheses.

To test the significance of mediating relationships, the 95% confidence interval of the indirect effect was obtained with 5000 bootstrap samples (Preacher & Hayes, 2008). Mediating effects were considered significant when the confidence interval did not include zero within its range (Preacher & Hayes, 2008). The use of the bootstrapping approach over the Sobel test or Baron and Kenny's (1986) causal steps approach is recommended on the basis that bootstrapping has higher power (reducing Type II errors or false negatives) while maintaining reasonable control over Type I error rate (false positives) (Preacher & Hayes, 2008).

CHAPTER SEVEN

Developing the Elder Abuse measure

7.1 The Vulnerability to Abuse Screening Scale (VASS)

The VASS was developed in the context of the Women's Health Australia (WHA) survey, a longitudinal study examining the health consequences of elder abuse involving over 12,000 Australian women aged 70 to 75 years (Schofield et al., 2002). The VASS was modelled on the 15 item Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST), a self-report measure sensitive to the need for subtle and indirect questioning. Five of the H-S/EAST items were removed and two others (taken from other abuse screening tools) were added in an attempt to strengthen the validity of the measure. The result was the 12 item VASS (Schofield & Mishra, 2003).

The VASS items are divided evenly into Vulnerability, Dependence, Dejection and Coercion subscales, enabling the identification of different forms of elder abuse (Schofield et al., 2002). Whilst Schofield and Mishra explicitly commented on the interpretation of scoring (the higher the score, the higher the individual's vulnerability to elder abuse), they did not in their 2004 paper or in any earlier papers describe how each item was to actually be scored, which items were to be reverse scored or how the scores were to be summed (Schofield & Mishra, 2003). The NZLSA has scored every 'Yes' response a score of 1 and every 'No' response a score of 0. The dependence subscale items are expressed negatively (absence of elder abuse risk) and the present study has reverse scored them. The NZLSA has used a method of combining scores from all 12 items to produce a maximum score of 12.

It has been acknowledged that additional work remains to be undertaken to determine the predictive value of the VASS (Schofield & Mishra, 2003). The following section explains

the concerns that arose with using the VASS in its original form and how these concerns were managed in the present study.

Internal reliability of the VASS. Internal reliability analysis performed on the four VASS subscales by Schofield et al. (2002) provided Cronbach coefficients ranging from 0.39 to 0.55, although Schofield and Mishra (2003) reported slightly higher figures ranging from 0.31 (coercion) to 0.74 (dependence). While Schofield et al. (2002) claim that these reliability coefficients indicate moderate internal reliability and are appropriate for a brief screening instrument, these levels of reliability were considered inadequate for the purposes of the present study. Internal reliability analysis of the present sample (which unlike the WHA, consists of both genders; another important reason for internal reliability analysis of the present sample) found similarly weak Cronbach coefficients ranging from 0.41 (Coercion subscale) to 0.62 (Vulnerability subscale) in the 2010 data set and from 0.38 (Coercion subscale) to 0.70 (Dependence subscale) in the 2012 data set. Although slightly stronger Cronbach coefficients than those obtained in Schofield et al. (2002), these figures do not provide sufficient support for the use of the VASS subscales in isolation. See Table 3 for the internal reliability estimates for the VASS subscales.

Table 3

Internal Reliability Estimates for the VASS Subscales

VASS Subscale	α	
	2010	2012
Vulnerability	0.62	0.64
Coercion	0.41	0.38
Dependence	0.47	0.70
Dejection	0.54	0.53

The Cronbach coefficients for the overall VASS were 0.71 in the 2010 data set and 0.70 in the 2012 data set, indicating adequate internal reliability of the total VASS. Removing one of the Dependence items ('Can you take your own medication and get around by yourself?') from the 2010 data set offered increased reliability of 0.003 points and removing one of the Coercion items ('Does someone in your family make you stay in bed or tell you you're sick when you know you're not?') from the 2012 data set also offered increased reliability of 0.002 points. These items were retained because their removal would have meant losing a large amount of potentially valid and useful data for very minor additional internal reliability.

Validity of the VASS. In order to confirm that the VASS should be divided into four subscales and that the 12 VASS items were meaningfully grouped in to those subscales, the VASS factor structure was tested using principal components analysis and varimax rotation techniques. This factor analysis was performed on all 12 VASS items. The overall sampling adequacy for the analysis of the VASS and its four subscales was reasonable with Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) = 0.77 (2010), KMO = 0.76 (2012). The communalities ranged from 0.39 to 0.70 (2010) and from 0.34 to 0.71 (2012), indicating each VASS item shared a reasonable amount of variance with all other VASS items.

The same four subscales were identified as in the original VASS. These four factors accounted for 55% of the total variance (2010) and 58% of the total variance (2012). Factor analysis performed on the sample resulted in a different distribution of four Vulnerability items and two Dejection items (in both 2010 and 2012), as Schofield's (2002) Dejection item 'Do you feel uncomfortable with anyone in your family?' instead loaded onto the Vulnerability subscale. Tables 4 and 5 present the factor loadings and Tables 6 and 7 provide a summary of the subscales as identified by the original VASS in comparison to those identified in the present study.

Table 4

Factor Loadings, Factor Score Coefficients, Percentage of Variation and Internal Reliability Estimates from Sample 2010

Item	%	Vulnerability	Dependence	Dejection	Coercion	Communality
Afraid	24.64	**.73**	.04	.02	.03	.54
Hurt/Harm	11.60	**.69**	.04	-.12	.21	.53
Names	9.98	**.66**	.07	.19	.15	.50
Uncomfortable	6.69	**.64**	.12	.30	-.03	.52
Medication	4.95	-.11	**.82**	-.05	-.05	.70
Trust	4.77	.19	**.64**	.21	.01	.50
Privacy	4.44	.15	**.66**	.01	.16	.48
Sad/Lonely	8.86	.09	.08	**.80**	.07	.66
Not wanted	7.02	.10	.04	**.79**	.16	.66
Bed/Sick	6.08	.10	.03	-.04	**.82**	.70
Forced	5.59	.29	.07	.22	**.56**	.45
Belongings taken	5.40	.23	.13	.19	**.53**	.39

Table 5

Factor Loadings, Factor Score Coefficients, Percentage of Variation and Internal Reliability Estimates from Sample 2012

Item	%	Vulnerability	Dependence	Dejection	Coercion	Communality
Afraid	24.61	.68				.48
Hurt/Harm	14.93	.72				.53
Names	9.59	.67				.49
Uncomfortable	6.48	.66				.52
Medication	3.50		.83			.71
Trust	4.31		.78			.68
Privacy	4.69		.77			.60
Sad/Lonely	8.77			.84		.71
Not wanted	7.03			.77		.65
Bed/Sick	5.72				.82	.69
Forced	5.31				.67	.55
Belongings taken	5.07				.45	.34

Table 6

Vulnerability to Abuse Screening Scale Subscales from Schofield, Powers & Loxton, 2013

Vulnerability
Are you afraid of anyone in your family?
Has anyone close to you tried to hurt you or harm you recently?
Has anyone close to you called you names or put you down or made you feel bad recently?
Coercion
Does someone in your family make you stay in bed or tell you you're sick when you know you're not?
Has anyone forced you to do things you didn't want to do?
Has anyone taken things that belong to you without your OK?
Dependence
Can you take your own medication and get around by yourself?
Do you trust most of the people in your family?
Do you have enough privacy at home?
Dejection
Do you feel uncomfortable with anyone in your family?
Are you sad or lonely often?
Do you feel that nobody wants you around?

Table 7

Revised Subscales for Present Study

Vulnerability
Are you afraid of anyone in your family?
Has anyone close to you tried to hurt you or harm you recently?
Has anyone close to you called you names or put you down or made you feel bad recently?
Do you feel uncomfortable with anyone in your family?*
Coercion
Does someone in your family make you stay in bed or tell you you're sick when you know you're not?
Has anyone forced you to do things you didn't want to do?
Has anyone taken things that belong to you without your OK?
Dependence
Can you take your own medication and get around by yourself?
Do you trust most of the people in your family?
Do you have enough privacy at home?
Dejection
Are you sad or lonely often?
Do you feel that nobody wants you around?

Note: * = This item was originally a Dejection subscale item (Schofield et al., 2013).

Schofield and Mishra (2003) claim that the VASS is valid yet Schofield et al. (2002) have also previously acknowledged that it is only the Vulnerability and Coercion subscales that are direct measures of elder abuse, with the highest face validity and moderate to good construct validity. In contrast, the Dependence and Dejection subscales provide indirect measures of qualities associated with elder abuse. The Dependence subscale measures lack of autonomy and is associated with needing help, neglect and dissatisfaction with help received.

The Dejection subscale measures depression or social isolation (Schofield & Mishra, 2004; Schofield et al., 2002).

Bivariate correlations were performed and showed a significant moderate relationship between the item 'Are you sad or lonely often?' and the SF-12v2 and CES-D-10 mental health data. Bivariate correlations also showed a significant weak-moderate relationship between the item 'Do you feel that nobody wants you around?' and the SF-12v2 and CES-D-10 mental health data. These results affirmed Schofield's assertion that the Dejection subscale measures depression (rather than elder abuse). This finding is problematic for the purposes of the present study, because the study's research aims control for mental health and it is inappropriate to use a dependent variable which partially measures a control variable. See Table 8 for the bivariate correlations between the VASS Dejection subscale items and the CES-D-10 and SF12v2 mental health measures.

Table 8.

Bivariate Correlations between Dejection Items and CES-D-10 and SF12v2 Mental Health Measures

Item	SF12v2		CES-D-10	
	2010	2012	2010	2012
Are you sad or lonely often?	.42*	.44*	.44*	.43*
Do you feel that nobody wants you around?	.24*	.27*	.25*	.29*

Note: * = p <0.01

The wording of each of the individual Dependence subscale items was also considered, in light of Schofield's claim that the Dependence subscale measures neglect (a recognised form of elder abuse). When compared to the items of the Vulnerability and Coercion subscale which measure actual vulnerability and coercive behaviours it became apparent that the wording of the Dependence subscale makes it more of a measure of risk of neglect than of actual neglect,

and therefore not a sufficiently valid measure of elder abuse for the purposes of the present study.

The Dejection and Dependence subscales (as determined by Table 7) were therefore removed from the VASS for the purposes of the present study. These subscales were also removed in a recent study which used the VASS as an elder abuse measure (Yeung et al., 2015). This modified use of the VASS is consistent with Schofield et al., (2002) who have acknowledged that a screening tool which focuses on the vulnerability and coercion subscales may provide a more refined, simple system to assess the potential for elder abuse (Phelan & Treacy, 2011). See Table 9 for the modified VASS used in the present study.

Table 9

Modified VASS for purposes of present study

Vulnerability
Are you afraid of anyone in your family?
Has anyone close to you tried to hurt you or harm you recently?
Has anyone close to you called you names or put you down or made you feel bad recently?
Do you feel uncomfortable with anyone in your family?*
Coercion
Does someone in your family make you stay in bed or tell you you're sick when you know you're not?
Has anyone forced you to do things you didn't want to do?
Has anyone taken things that belong to you without your OK?

Note: * = This item was originally a Dejection subscale item (Schofield et al., 2013).

CHAPTER EIGHT

Results

8.1 Elder Abuse in the Sample

Elder abuse was reported by 28.5% of the sample in 2010 and 21.1% of the sample in 2012 (abuse determined by an endorsement of 1 or more MVASS items). The highest response rate was from older adults who felt uncomfortable with someone in their family, had been called names/put down/made to feel bad by someone close to them, or had had their belongings taken without their consent. There were a smaller number of older adults who endorsed items which are worded to be more concerning, such as being forced to do things they did not want to do or having someone close to them attempt to hurt or harm them. See Table 10 for endorsement of the MVASS items.

Table 10

Endorsement of MVASS Items

Item	2010 (%)	2012 (%)
Are you afraid of anyone in your family?	3.10	2.30
Has anyone close to you tried to hurt you or harm you recently?	3.20	2.50
Has anyone close to you called you names or put you down or made you feel bad recently?	12.30	10.40
Do you feel uncomfortable with anyone in your family?	13.60	10.70
Does someone in your family make you stay in bed or tell you you're sick when you know you're not?	1.90	1.00
Has anyone forced you to do things you didn't want to do?	5.40	3.00
Has anyone taken things that belong to you without your OK?	12.60	8.50

8.2 Hypotheses and Findings

Hypothesis 1: Elder abuse is predictive of reduced physical and mental health two years later.

Elder abuse, as measured at baseline (MVASS10) was weakly negatively related to physical health at baseline (PH10) and mental health at baseline (MH10) and weakly positively related to Depression at baseline (DEP10), indicating elder abuse was correlated with poorer health outcomes. Elder abuse, as measured at baseline (MVASS10) was also weakly negatively related to physical health two years later (PH12) and mental health two years later (MH12) and weakly positively related to Depression two years later (DEP12), indicating elder abuse in 2010 was correlated with poorer health outcomes two years later. See Table 11 for the intercorrelations of health measures and the MVASS 2010.

Table 11

Intercorrelations of Health Measures and the MVASS 2010

	PH 10	PH 12	MH 10	MH 12	DEP10	DEP12	MVASS10
PH 10		.72*	.04**	.17*	-.33*	-.34*	-.13*
PH 12			.14*	.07*	-.29*	-.37*	-.16*
MH 10				.52*	-.68*	-.41*	-.28*
MH 12					-.45*	-.69*	-.24*
DEP10						.61*	.31*
DEP12							.26*

Note. MVASS10 = Modified VASS measured in 2010, MVASS12 = Modified VASS measured in 2012, PH10 = Physical Health measured by SF-12v2 in 2010, PH12 = Physical Health measured by SF-12v2 in 2012, MH10 = Mental Health measured by SF-12v2 in 2010, MH12 = Mental Health measured by SF-12v2 in 2012, DEP10 = CES-D-10 measured in 2010, DEP12 = CES-D-10 measured in 2012. * = $p < 0.01$; ** $p < 0.05$

Hierarchical regression analysis showed that elder abuse at baseline (Abuse10) was significantly related to physical health reported at baseline (PH10) and two years later (MH12). After controlling for age at baseline (Age10), economic living standards at baseline (ELS10) and mental health at baseline (HH10), elder abuse at baseline (Abuse10) explained a small but significant 0.2% of the variance in physical health at baseline (PH10) (R^2 change = .002, F change (1, 2379) = 7.76, $p < 0.01$) and a small but significant 0.8% of the variance in physical health two years later (PH12) (R^2 change = .008, F change (1, 2163) = 18.96, $p < 0.001$). These findings support Hypothesis 1. See Table 12 for elder abuse predicting physical health outcomes.

Table 12

Elder Abuse Predicting Physical Health Outcomes at Baseline and Two Year Follow Up, Controlling for Mental Health, Age and Economic Living Standards at Baseline (N=2380)

		2010 (*N*=2380)			2012 (*N*=2164)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		67.26	1.87		62.15	2.02	
	Age10	-.43	.03	-.31*	-.46	.03	-.33*
	ELS10	.61	.03	.36*	.52	.04	.30*
	MH10	-.10	.03	-.07*	.09	.03	.06**
Block 2							
Constant		39.06	1.97		65.65	2.34	
	Age10	.07	.03	-.32*	-.47	.03	-.33*
	ELS10	.41	.03	.35*	.47	.04	.27*
	MH10	-.06	.03	-.08*	.07	.03	.05***
	Abuse10	-1.38	.21	-.05**	-1.07	.25	-.10*
Block 1							
Multiple *R*			.45			.44	
R^2			.20*			.20*	
Adjusted R^2			.20			.19	
Block 2							
Multiple *R*			.45			.45	
R^2			.20*			.20*	
Adjusted R^2			.20			.13	
R^2 change			.00**			.01*	

Note. * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=1.86 in 2010, 1.90 in 2012.

Hierarchical regression analysis showed that elder abuse at baseline (Abuse10) was significantly related to mental health reported at baseline (MH10) and two years later (MH12). After controlling for age at baseline (Age10), economic living standards at baseline (ELS10) and physical health at baseline (PH10), elder abuse at baseline (Abuse10) explained a small but significant 3% of the variance in mental health at baseline (MH10) (R^2 change = .03, F change (1, 2379) = 81.18, $p < 0.001$) and a small but significant 2% of the variance in mental health two years later (MH12) (R^2 change = .02, F change (1, 2163) = 33.97, $p < 0.01$). These findings support Hypothesis 1. See Table 13 for elder abuse predicting mental health outcomes.

Table 13

Elder Abuse Predicting Mental Health Outcomes at Baseline and Two Year Follow Up, Controlling for Physical Health, Age and Economic Living Standards at Baseline (N=2380)

		2010 (*N*=2380)			2012 (*N*=2164)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		35.41	1.58		28.41	1.88	
	Age10	.09	.02	.09*	.14	.02	-.14*
	ELS10	.47	.02	.38*	.35	.03	.27*
	PH10	-.05	.02	.07*	.07	.02	.10*
Block 2							
Constant		39.06	1.6		31.51	1.93	
	Age10	.07	.02	.07**	1.24	.02	.12*
	ELS10	.41	.03	.33*	.29	.03	.23*
	PH10	-.06	.02	-.08*	.07	.02	.10**
	Abuse10	-1.38	.15	-.17*	-1.08	.19	-.13*
Block 1							
Multiple *R*			.39			.34	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
Block 2							
Multiple *R*			.42			.37	
R^2			.18*			.13*	
Adjusted R^2			.18			.13	
R^2 change			.03*			.02*	

Note. * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=1.86 in 2010, 1.70 in 2012.

Hypothesis 2: Greater loneliness, lower social support, greater identification with the family dependent social network type and lesser identification with the locally integrated social network type will be related to higher levels of reported elder abuse (controlling for age, economic living standards and physical and mental health) at baseline and two years later.

Bivariate correlations of all variables showed that elder abuse at baseline (MVASS10) and two years later (MVASS12) were weakly negatively correlated with Age at baseline (Age10), economic living standards at baseline (ELS10), physical health at baseline (PH10), mental health at baseline (MH10), social support at baseline (SOCSUP10) and the locally integrated social network type at baseline (LI-SNT10). Elder abuse at baseline (MVASS10) and two years later (MVASS12) were weakly positively correlated with loneliness at baseline (LON10), depression at baseline (DEP10) and the family dependent social network type at baseline (FI-SNT10). Gender and the locally self-contained, wider community-focused and private restricted social network types were not significantly related to elder abuse, either at baseline or two years later. These findings suggest that younger older adults were more likely to report elder abuse in the sample, and that those who reported abuse were more likely to have lower economic standards of living, poorer physical and mental health, less social support and were less likely to be engaged in locally integrated social networks. They were also more likely to report loneliness, depression and family dependent social networks. See Table 14 for the intercorrelations of key study variables.

Table 14. Intercorrelations of Key Study Variables

	Age	Gen	ELS	PH	MH	DEP	LON	SS	FD	LI	LSC	WC	PR
MVASS10	-.10*	.03	-.34*	-.13*	-.28*	.31*	.30*	-.24*	.07*	-.05*	-.01	.00	.03
MVASS12	-.10*	.04	-.28*	-.10*	-.27*	.26*	.23*	-.19*	.06*	-.05**	-.00	.02	.03
Age		-.06*	.09*	-.29*	.12*	-.02	-.08*	-.09*	-.26*	.12*	-.09*	.18*	-.17*
Gen			-.08*	-.00	-.03	.04	-.07*	.02	.05*	.07*	-.09*	.00	-.07*
ELS				.31*	.37*	-.43*	-.40*	.40*	-.09*	.09*	.02	.05*	-.11*
PH					.04**	-.33*	-.16*	.23*	.04	-.01	.07*	-.04**	-.00
MH						-.68*	-.43*	.39*	-.08*	.12*	-.03	.04**	-.14*
DEP							.43*	-.38*	.02	-.12*	.02	-.03	.14*
LON								.63*	-.06*	.27*	-.14*	.06*	-.29*
SS									-.01	.24*	-.11*	.07*	-.28*
FD										-.01	-.25*	-.41*	-.01
LI											-.45*	.10*	-.62*
LSC												-.03	.28*
WC													-.13*
PR													

Note: MVASS10 = Modified VASS measured in 2010, MVASS12 = Modified VASS measured in 2012, Age = Age measured in 2010, Gen = Gender measured in 2010, ELS = Economic Living Standards measured in 2010, PH = Physical Health measured by SF-12v2, in 2010, MH = Mental Health measured by SF-12v2 in 2010, DEP = Mental Health measured by CES-D-10 in 2010, LON = Loneliness measured by De Jong Gierveld Loneliness Scale in 2010, SS = Social Support measured by Social Provisions Scale in 2010, FD = Family Dependent social network type measured in 2010, LI = Locally Integrated social network type measured in 2010, LSC = Local Self-Contained social network type measured in 2010, WC = Wider Community-Focused social network type measured in 2010, PR = Private Restricted social network type measured in 2010, * = $p < 0.01$; ** = $p < 0.05$

Predicting Elder Abuse: Loneliness. Hierarchical regression analysis showed that loneliness at baseline (LON10) was significantly related to elder abuse reported at baseline (MVASS10) and two years later (MVASS12). After controlling for age at baseline (Age10), economic living standards at baseline (ELS10), physical health at baseline (PH10) and mental health at baseline (MH10), loneliness at baseline (LON10) explained a small but significant 1.5% of the variance in elder abuse at baseline (MVASS10) (R^2 change = .002, F change (1, 2451) = 43.9, $p < 0.001$) and a small but significant 0.4% of the variance in elder abuse two years later (MVASS12) (R^2 change = .00, F change (1, 2047) = 10.39, $p < 0.01$). These findings support Hypothesis 2. See Table 15 for loneliness predicting elder abuse at baseline and two year follow up.

Table 15

Hierarchical Multiple Regression Analysis: Loneliness Predicting Elder Abuse at Baseline and at Two Year Follow Up, Controlling for Age, Economic Living Standards, Physical Health and Mental Health

		2010 (*N*=2457)			2012 (*N*=2053)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		3.39	.22		3.00	.22	
	Age10	-.01	.00	-.09*	-.01	.00	-.10*
	ELS10	-.04	.00	-.24*	-.03	.00	-.19*
	PH10	-.01	.00	-.06**	-.01	.00	-.08*
	MH10	-.02	.00	-.17*	-.02	.00	-.18*
Block 2							
Constant		3.73	.22		3.15	.22	
	Age10	-.01	.00	-.08*	-.01	.00	-.10*
	ELS10	-.03	.00	-.21*	-.02	.00	-.17*
	PH10	-.00	.00	-.05***	-.01	.00	-.08**
	MH10	-.02	.00	-.13*	-.02	.00	-.16*
	LON10	.09	.01	-.14*	.04	.01	.08**
Block 1							
Multiple *R*			.38			.35	
R^2			.14*			.12*	
Adjusted R^2			.14			.12	
Block 2							
Multiple *R*			.40			.36	
R^2			.16*			.13*	
Adjusted R^2			.16			.12	
R^2 change			.02*			.00**	

Note. * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=0.32 in 2010, 1.99 in 2012.

Predicting Elder Abuse: Social Support. Social support measured at baseline (SOCSUP10) was significantly related to elder abuse at baseline (MVASS10). After controlling for Age10, ELS10, PH10 and MH10, social support at baseline (SOCSUP10) explained a small but significant 0.9% of the variance in elder abuse at baseline (MVASS10) (R^2 change = .01, F change (1, 2522) = 25.63, $p < 0.001$). Social support at baseline (SOCSUP10), applying the same controls, was not significantly related to elder abuse two years later (MVASS12). These findings partially support Hypothesis 2. See Table 16 for social support predicting elder abuse at baseline and two year follow up.

Table 16

Hierarchical Multiple Regression Analysis: Social Support Predicting Elder Abuse at Baseline and at Two Year Follow Up, Controlling for Age, Economic Living Standards, Physical Health and Mental Health

		2010 (*N*=2528)			2012 (*N*=2109)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		3.40	.23		3.17	.23	
	Age10	-.01	.00	-.09*	-.01	.00	-.10*
	ELS10	-.04	.00	-.24*	-.02	.00	-.17*
	PH10	-.01	.00	-.05***	-.01	.00	-.08*
	MH10	-.02	.00	-.18*	-.02	.00	-.20*
Block 2							
Constant		4.02	.26		3.37	.25	
	Age10	-.01	.00	-.10*	-.01	.00	-.11*
	ELS10	-.03	.00	-.21*	-.02	.00	-.16*
	PH10	-.01	.00	-.04	-.01	.00	-.08**
	MH10	-.02	.00	-.14*	-.02	.00	-.19*
	SOCSUP10	.01	.00	-.11*	.00	.00	-.04
Block 1							
Multiple *R*			.38			.35	
R^2			.14*			.12*	
Adjusted R^2			.14			.12	
Block 2							
Multiple *R*			.39			.35	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
R^2 change			.01*			.00	

Note. * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=1.93 in 2010, 2.00 in 2012.

Predicting Elder Abuse: Family Dependent and Locally Integrated Social Network Types. As seen in Tables 17 and 18, neither the family dependent (FD-SNT10) or locally integrated (LI-SNT10) social network types at baseline were significantly related to elder abuse at baseline (MVASS10) or two years later (MVASS12) when controlling for the individual level variables Age10, ELS10, PH10, MH10.

Table 17.

Hierarchical Multiple Regression Analysis: Family Dependent SNT Predicting Elder Abuse at Baseline and at Two Year Follow Up after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=2548 in 2010, 2130 in 2012)

		2010 (*N*=2548)			2012 (*N*=2130)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		3.40	.22		3.05	.21	
	Age10	-.01	.00	-.09*	-.01	.00	-.10*
	ELS10	-.04	.00	-.24*	-.03	.00	-.18*
	PH10	-.01	.00	-.06**	-.01	.00	-.08*
	MH10	-.02	.00	-.18*	-.02	.00	-.19*
Block 2							
Constant		3.41	.23		3.06	.23	
	Age10	-.01	.00	-.09*	-.01	.00	-.10*
	ELS10	-.04	.00	-.24*	-.03	.00	-.18*
	PH10	-.01	.00	-.06**	-.01	.00	-.08*
	MH10	-.02	.00	-.18*	-.02	.00	-.19*
	FDSNT10	.00	.01	.00	.00	.01	-.00
Block 1							
Multiple *R*			.38			.35	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
Block 2							
Multiple *R*			.38			.35	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
R^2 change			.00			.00	

Note. * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=1.93 in 2010, 2.00 in 2012.

Table 18

Hierarchical Multiple Regression Analysis: Locally Integrated SNT Predicting Elder Abuse at Baseline and at Two Year Follow Up, Controlling for Age, Economic Living Standards, Physical Health and Mental Health

		2010 (*N*=2547)			2012 (*N*=2129)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		3.43	.22		3.05	.21	
	Age10	-.01	.00	-.09*	-.01	.00	-.10*
	ELS10	-.04	.00	-.24*	-.03	.00	-.18*
	PH10	-.01	.00	-.06**	-.01	.00	-.08*
	MH10	-.02	.00	-.18*	-.02	.00	-.19*
Block 2							
Constant		3.43	.22		3.05	.21	
	Age10	-.01	.00	-.09*	-.01	.00	-.10*
	ELS10	-.04	.00	-.24*	-.03	.00	-.18*
	PH10	-.01	.00	-.06**	-.01	.00	-.08*
	MH10	-.02	.00	-.18*	-.02	.00	-.19*
	LISNT10	-.00	.01	-.01	.00	.01	-.01
Block 1							
Multiple *R*			.38			.35	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
Block 2							
Multiple *R*			.38			.35	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
R^2 change			.00			.00	

Note. * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=1.93 in 2010, 2.00 in 2012.

Hypothesis 3: Social support will moderate the relationship between loneliness and elder abuse. The relationship between loneliness and elder abuse will be weaker for individuals with greater social support.

Social support at baseline (SOCSUP10) moderated the relationship between loneliness (LON10) and elder abuse (MVASS10) at baseline. In Block 1, social support at baseline (SOCSUP10) and loneliness at baseline (LON10) explained a small but significant 9.1% of the variance in elder abuse at baseline (MVASS10) (R^2 = 0.09, F(2,3002) = 137.91, p < 0.001). In Block 2, the interaction term (LON10xSOCSUP10) was added to the model and explained an additional small but significant 0.3% of the variance in elder abuse (MVASS10) (ΔR^2 = .003, ΔF(1,3001) = 8.49, p < 0.001, β = .00, t(3001) = 2.91, p < 0.01). Figure 3 illustrates the shape of this relationship. Older adults with the lowest levels of social support at baseline experienced a stronger relationship between elder abuse and loneliness, whereas this relationship was weaker for older adults with the highest levels of social support.

Social support at baseline (SOCSUP10) did not moderate the relationship between loneliness at baseline (LON10) and elder abuse two years later (MVASS12). These findings partially support Hypothesis 3. See Table 19 and Figure 3 for social support as a moderating variable on the relationship between loneliness and elder abuse.

Table 19

Social Support (SOCSUP10) as a Moderating Variable on the Relationship between Loneliness (LON10) and Elder Abuse (MVASS)

		2010 (*N*=3004)				2012 (*N*=2450)			
Block	Predictor	R^2 change	*B*	*SE b*	β	R^2 change	*b*	*SE b*	β
1	LON10		-.15	.02	-.23*		-.10	.02	-.19*
	SOCSUP10		-.01	.002	-.09*		-.01	.002	-.07**
	(Constant)		2.70	.14			1.81	.15	
2	LON10xSOCSUP10	.01*	-.003	.001	.59**	.00	.001	.001	.25
	(Constant)		4.84	.75			2.60	.75	

Note. LON10xSOCSUP10 = LON10 x SOCSUP10 interaction term, * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$

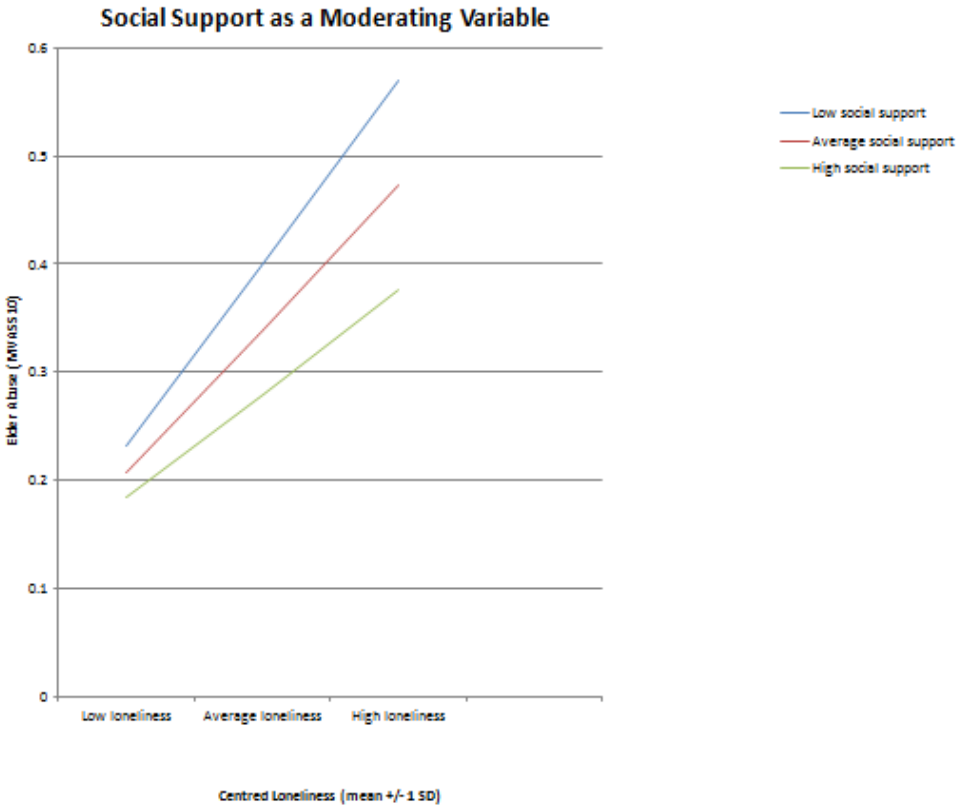


Figure 3. SOCSUP10 as a Moderating Variable on the Relationship between LON10 and MVASS10

Hypotheses 4: Gender will moderate the relationship between loneliness and elder abuse. The relationship between loneliness and elder abuse will be stronger for women.

As seen in Table 20, there was no moderating effect of Gender10 on the relationship between LON10 and MVASS10 or between LON10 and MVASS12.

Table 20

Gender (Gender10)) as a Moderating Variable on the Relationship between Loneliness (LON10) and Elder Abuse (MVASS10)

		2010 (*N*=3021)				2012 (*N*=2461)			
Block	Predictor	R^2 change	*B*	*SE b*	β	R^2 change	*b*	*SE b*	β
1	LON10		-.20	.01	-.31*		-.13	.01	-.24*
	GEN10		.09	.04	.04**		.11	.03	.06**
	(Constant)		2.27	.12			1.46	.12	
2	LON10xGEN10	.001	-.04	.02	-.21	.00	-.11	.02	-.07
	(Constant)		1.71	.36			1.30	.35	

Note. LON10xGEN10 = LON10 x GEN10 interaction term, * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$

Hypothesis 5 was that Gender will moderate the relationship between social support and elder abuse. The relationship between social support and elder abuse will be stronger for women.

Gender at baseline (GEN10) moderated the relationship between social support (SOCSUP10) and elder abuse (MVASS10) at baseline. In Block 1, gender at baseline (GEN10) and social support at baseline (SOCSUP10) explained a small but significant 5.9% of the variance in elder abuse at baseline (MVASS10) (R^2 = 0.59, F(2,3002) = 90.17, p < 0.001). In Block 2, the interaction term (SOCSUP1010xGEN10) was added to the model and explained an additional small but significant 0.1% of the variance in elder abuse (MVASS10) (ΔR^2 = .001, ΔF(1,3001) = 4.32, p < 0.05, β = .00, t(3001) = 2.08, p < 0.05). Figure 4 illustrates the shape of this relationship. Older adult females at baseline experienced a stronger relationship between elder abuse and social support, whereas this relationship was weaker for older adult males.

Gender (GEN10) did not moderate the relationship between social support at baseline (SOCSUP10) and elder abuse two years later (MVASS12). These findings partially support Hypothesis 5. See Table 21 and Figure 4 for social support as a moderating variable on the relationship between social support and elder abuse.

Table 21

Gender (Gender10) as a Moderating Variable on the Relationship between Social Support (SOCSUP10) and Elder Abuse (MVASS10)

		2010 (*N*=3138)				2012 (*N*=2560)			
Block	Predictor	R^2 change	*b*	*SE b*	β	R^2 change	*b*	*SE b*	β
1	SOCSUP10		-.02	.00	-.24*		-.02	.00	-.19*
	GEN10		.09	.04	.04***		.09	.04	.05**
	(Constant)		2.31	.16			1.55	.15	
2	SOCSUP10xGEN10	.001***	-.008	.004	-.33***	.00	-.00	.00	-.13
	(Constant)		1.37	.48			1 .23	.46	

Note. SOCSUP10xGEN10 = SOCSUP10 x GEN10 interaction term, * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$

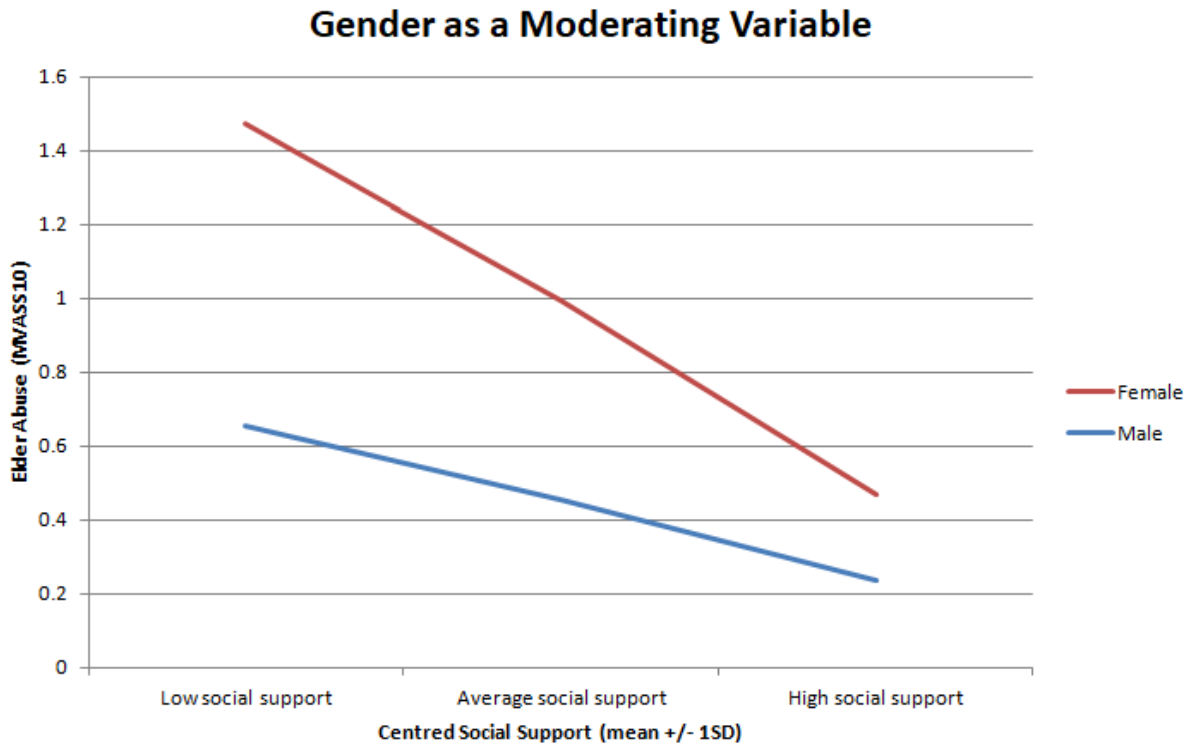


Figure 4. GEN10 as a Moderating Variable on the Relationship between SOCSUP10 and MVASS10

Hypothesis 6: **Mental health will mediate the relationship between social support and elder abuse.**

Regression coefficients *(b)* showed that social support at baseline (SOCSUP10) was negatively associated with elder abuse at baseline (MVASS10) and positively associated with mental health at baseline (MH10), while mental health at baseline (MH10) was negatively associated with elder abuse at baseline (MVASS10). Mental health at baseline (MH10) played a mediating role in the relationship between social support (SOCSUP10) and elder abuse (MVASS10) at baseline (*b* = -.008, *CI* = -.010 to -.006). The direct effect of social support at baseline (SOCSUP10) on elder abuse at baseline (MVASS10) remained significant when controlling for mental health at baseline (MH10), thus indicating partial mediation. This means that low social support at baseline (SOCSUP10) was related to reduced mental health at baseline (MH10) which in turn was related to higher levels of elder abuse at baseline (MVASS10). However, there may have been other mechanisms (not included in the model) in addition to mental health (MH10) by which social support (SOCSUP10) exerted an influence on elder abuse at baseline (MVASS10). These findings support Hypothesis 6. See Table 22 and Figure 5 for mental health as a mediating variable on the relationship between social support and elder abuse.

Table 22

Mental Health (MH10) as a Mediating Variable on the Relationship between Social Support (SOCSUP10) and Elder Abuse (MVASS10)

Analyses	*b*
Analysis one:	
MVASS10 on SOCSUP10	-.016*
Analysis two:	
MH10 on SOCSUP10	.310*
Analysis three:	
Step 1: MVASS10 on MH10	-.027*
Step 2: MVASS10 on SOCSUP10	-.024*

Note: * = $p < .0001$, 3 D.P. has been used due to the small effect size

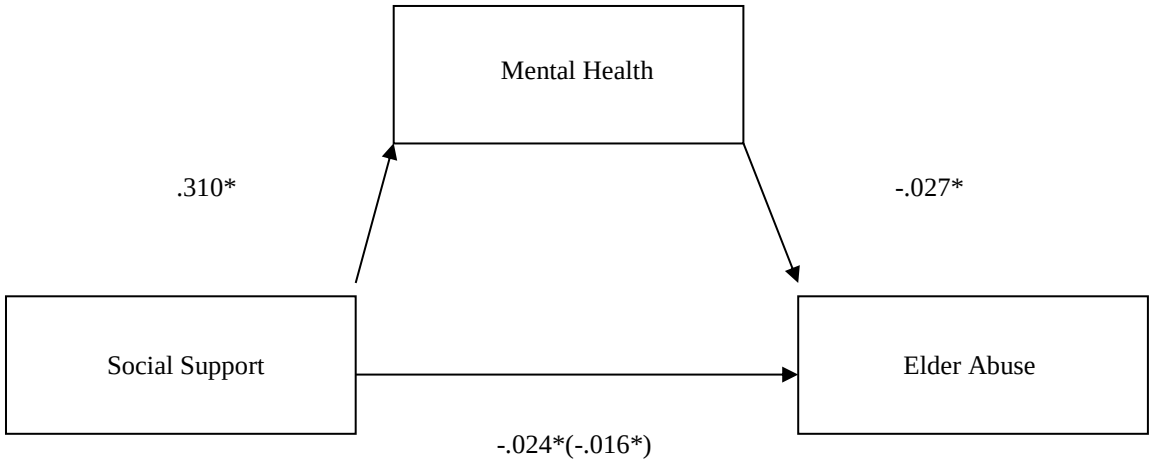


Figure 5. Unstandardised regression coefficients for the relationship between social support and elder abuse as mediated by mental health. The regression coefficient between social support and elder abuse, controlling for mental health, is inside the parentheses.

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

The mediating value of MH10 on the relationship between SOCSUP10 and MVASS12 was not analysed, due to non-significant findings of this relationship (see results for research hypothesis 2).

Hypothesis 7: Loneliness will mediate the relationship between physical health and elder abuse.

Regression coefficients *(b)* showed that physical health at baseline (PH10) was negatively associated with elder abuse (MVASS10) and loneliness (LON10) at baseline, while loneliness at baseline (LON10) was positively associated with elder abuse at baseline (MVASS10). Loneliness at baseline (LON10) played a mediating role in the relationship between physical health (PH10) and elder abuse (MVASS10) at baseline (*b* = -.004, *CI* = -.005 to -.003). The direct effect of physical health at baseline (PH10) on elder abuse at baseline (MVASS10) remained significant when controlling for loneliness at baseline (LON10), thus indicating partial mediation. This means that low physical health at baseline (PH10) was related to increased loneliness at baseline (LON10) which in turn was related to higher levels of elder abuse at baseline (MVASS10). However, there may have been other mechanisms (not included in the model) in addition to loneliness (LON10) by which physical health (PH10) exerted an influence on elder abuse at baseline (MVASS10). These findings support Hypothesis 7. See Table 23 and Figure 6 for loneliness as a mediating variable on the relationship between physical health and elder abuse.

Table 23

Loneliness (LON10) as a Mediating Variable on the Relationship between Physical Health (PH10) and Elder Abuse (MVASS10)

Analyses	*b*
Analysis one:	
MVASS10 on PH10	-.008*
Analysis two:	
LON10 on PH10	-.023
Analysis three:	
Step 1: MVASS10 on LON10	.175*
Step 2: MVASS10 on PH10	-.012*

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

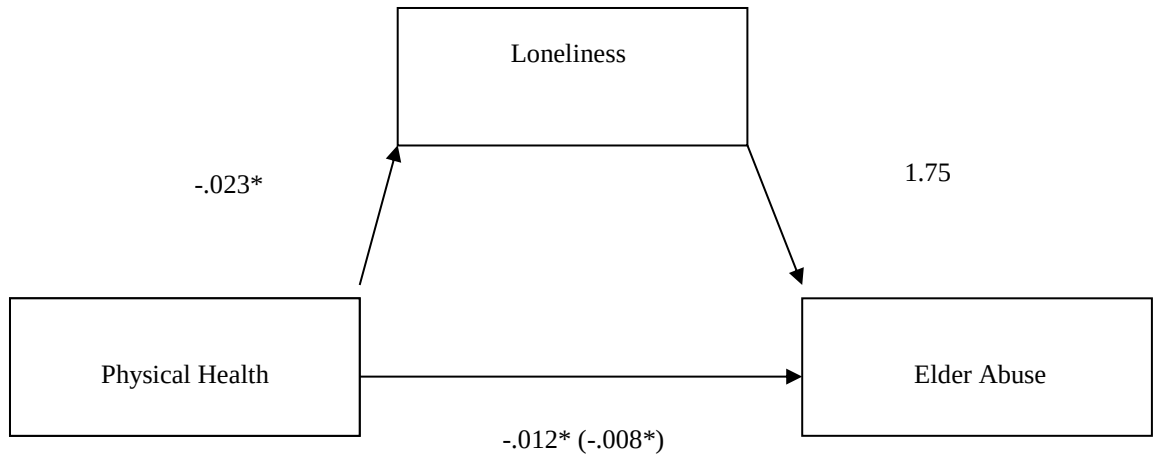


Figure 6. Unstandardised regression coefficients for the relationship between physical health and elder abuse as mediated by loneliness. The regression coefficient between physical health and elder abuse, controlling for loneliness, is inside the parentheses.

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

The same process was followed to analyse the mediating value of loneliness at baseline (LON10) on the relationship between physical health at baseline (PH10) and elder abuse two years later (MVASS12). Physical health at baseline (PH10) was negatively associated with elder abuse two years later (MVASS12) and loneliness at baseline (LON10), while loneliness at baseline (LON10) was positively associated with elder abuse two years later (MVASS12). LON10 played a mediating role in the relationship between physical health at baseline (PH10) and elder abuse two years later (MVASS12) (b = -.003, CI = -.004 to -.002). The direct effect of physical health (PH10) on elder abuse two years later (MVASS12) remained significant when controlling for loneliness at baseline (LON10), thus indicating partial mediation. This means that low physical health at baseline (PH10) was related to increased loneliness at baseline (LON10) which in turn was related to higher levels of elder abuse two years later (MVASS12). However, there may have been other mechanisms (not included in the model) in addition to loneliness (LON10) by which physical health (PH10) exerted an influence on elder abuse two years later (MVASS12). These findings support Hypothesis 7. See Table 24 and Figure 6 for loneliness as a mediating variable on the relationship between physical health and elder abuse.

Table 24

Loneliness (LON10) as a Mediating Variable on the Relationship between Physical Health (PH10) and Elder Abuse (MVASS12)

Analyses	*b*
Analysis one:	
MVASS12 on PH10	-.006**
Analysis two:	
LON10 on PH10	-.022*
Analysis three:	
Step 1: MVASS12 on LON10	.119*
Step 2: MVASS12 on PH10	-.009*

Note. * = $p < .0001$, ** = $p < .001$, 3 D.P. has been used due to the small effect size

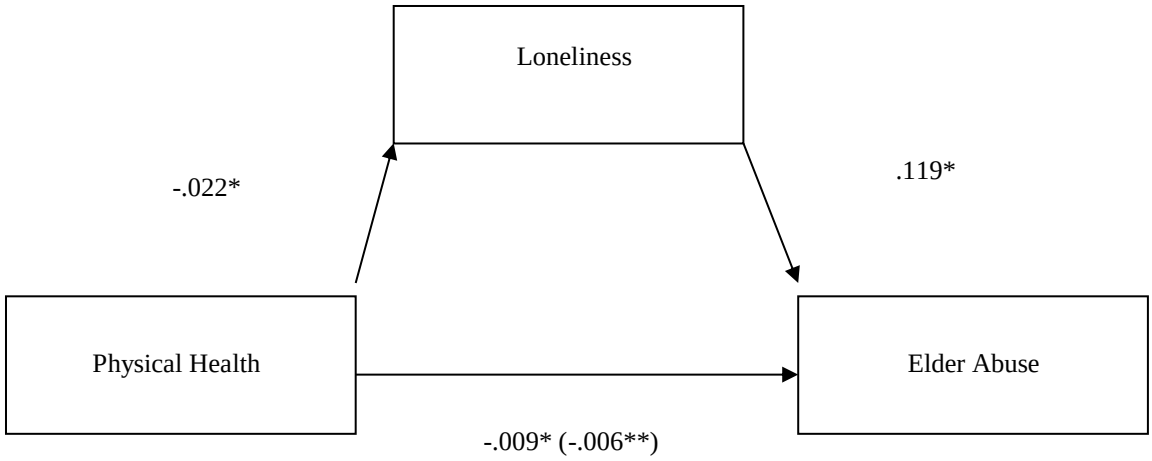


Figure 7. Unstandardised regression coefficients for the relationship between physical health and elder abuse (measured at two year follow up) as mediated by loneliness. The regression coefficient between physical health and elder abuse, controlling for loneliness, is inside the parentheses.

Note. * = $p < .0001$, ** = $p < .001$, 3 D.P. has been used due to the small effect size

Hypothesis 8: Loneliness will mediate the relationship between mental health and elder abuse.

Regression coefficients *(b)* also showed that mental health at baseline (MH10) was negatively associated with elder abuse at baseline (MVASS10) and loneliness at baseline (LON10), while LON10 was positively associated with elder abuse at baseline (MVASS10). Loneliness at baseline (LON10) played a mediating role in the relationship between mental health (MH10) and elder abuse (MVASS10) at baseline (*b* = -.014, *CI* = -.014 to -.008). The direct effect of mental health at baseline (MH10) on elder abuse at baseline (MVASS10) remained significant when controlling for loneliness at baseline (LON10), thus indicating partial mediation. This means that low mental health at baseline (MH10) was related to increased loneliness at baseline (LON10) which in turn was related to higher levels of elder abuse at baseline (MVASS10). However, there may have been other mechanisms (not included in the model) in addition to loneliness (LON10) by which mental health (MH10) exerted an influence on elder abuse (MVASS10). These findings support Hypothesis 8. See Table 25 and Figure 7 for loneliness as a mediating variable on the relationship between mental health and elder abuse.

Table 25

Loneliness (LON10) as a Mediating Variable on the Relationship between Mental Health (MH10) and Elder Abuse (MVASS10)

Analyses	*b*
Analysis one:	
MVASS10 on MH10	-.024*
Analysis two:	
LON10 on MH10	-.085*
Analysis three:	
Step 1: MVASS10 on LON10	.133*
Step 2: MVASS10 on MH10	-.035*

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

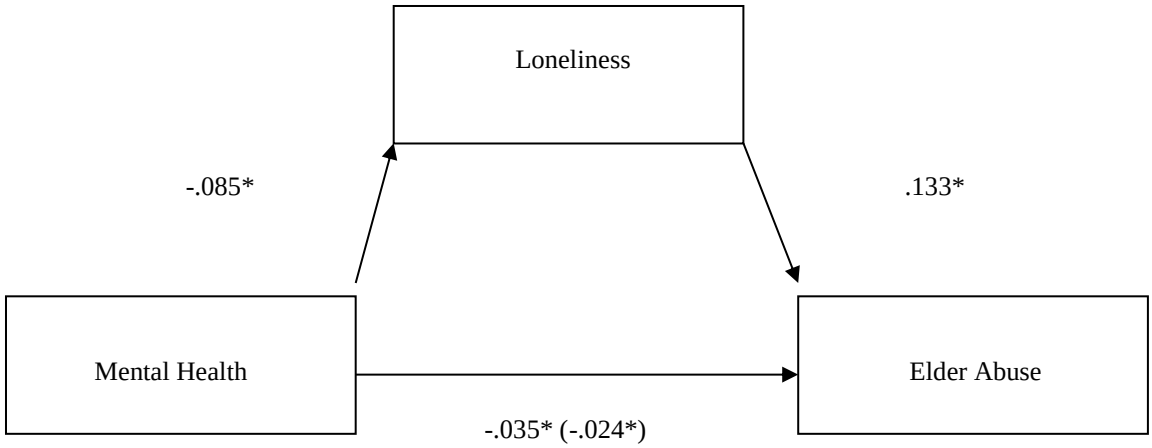


Figure 8. Unstandardised regression coefficients for the relationship between mental health and elder abuse as mediated by loneliness. The regression coefficient between mental health and elder abuse, controlling for loneliness, is inside the parentheses.

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

The same process was followed to analyse the mediating value of loneliness at baseline (LON10) on the relationship between mental health at baseline (MH10) and elder abuse two years later (MVASS12). Mental health at baseline (MH10) was negatively associated with elder abuse two years later (MVASS12) and loneliness at baseline (LON10), while loneliness (LON10) was positively associated with elder abuse two years later (MVASS12). Loneliness at baseline (LON10) played a mediating role in the relationship between mental health at baseline (MH10) and elder abuse two years later (MVASS12) (*b* = -.007, *CI* = -.009 to -.004). The direct effect of mental health at baseline (MH10) on elder abuse two years later (MVASS12) remained significant when controlling for loneliness at baseline (LON10), thus indicating partial mediation. This means that low mental health at baseline (MH10) was related to increased loneliness at baseline (LON10) which in turn was related to higher levels of elder abuse two years later (MVASS12). However, there may have been other mechanisms (not included in the model) in addition to loneliness LON10 by which mental health MH10 exerted an influence on elder abuse two years later MVASS12. These findings support Hypothesis 8. See Table 26 and Figure 8 for loneliness as a mediating variable on the relationship between mental health and elder abuse.

Table 26

Loneliness (LON10) as a Mediating Variable on the Relationship between Mental Health (MH10) and Elder Abuse (MVASS12)

Analyses	*b*
Analysis one:	
MVASS12 on MH10	-.023*
Analysis two:	
LON10 on MH10	-.088*
Analysis three:	
Step 1: MVASS12 on LON10	.077*
Step 2: MVASS12 on MH10	-.030*

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

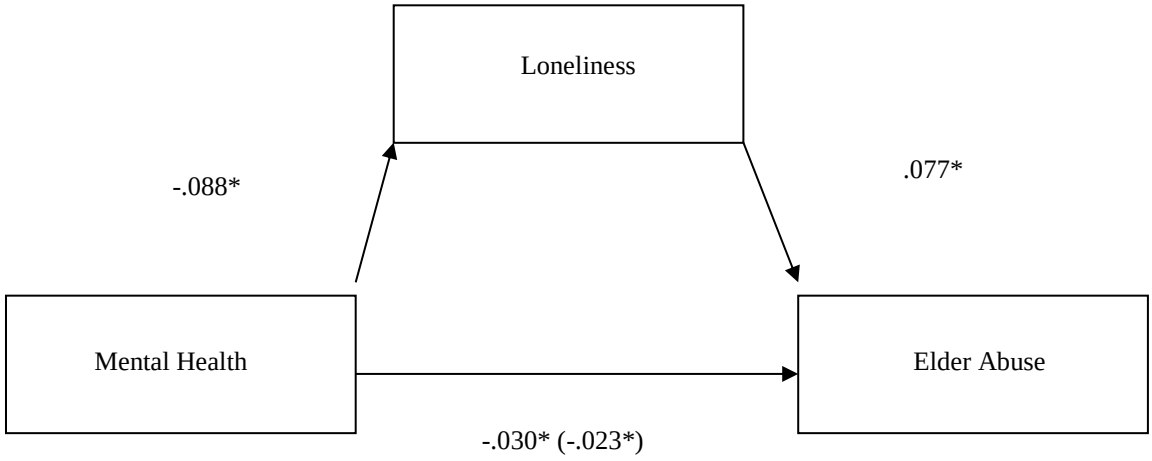


Figure 9. Unstandardised regression coefficients for the relationship between mental health and elder abuse (measured at two year follow up) as mediated by loneliness. The regression coefficient between mental health and elder abuse, controlling for loneliness, is inside the parentheses.

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

Hypothesis 9: Loneliness will mediate the relationship between age and elder abuse.

Regression coefficients *(b)* showed that Age10 was negatively associated with elder abuse at baseline (MVASS10) and loneliness at baseline (LON10), while loneliness at baseline (LON10) was positively associated with elder abuse at baseline (MVASS10). Loneliness at baseline (LON10) played a mediating role in the relationship between Age10 and elder abuse at baseline (MVASS10) (*b* = -.003, *CI* = -.005 to -.002). The direct effect of Age10 on elder abuse at baseline (MVASS10) remained significant when controlling for loneliness at baseline (LON10), thus indicating partial mediation. This means that lower Age10 was related to increased loneliness at baseline (LON10) which in turn was related to higher levels of elder abuse at baseline (MVASS10). However, there may have been other mechanisms (not included in the model) in addition to loneliness LON10 by which Age10 exerted an influence on elder abuse at baseline MVASS10. These findings support Hypothesis 9. See Table 27 and Figure 9 for loneliness as a mediating variable on the relationship between age and elder abuse.

Table 27

Loneliness (LON10) as a Mediating Variable on the Relationship between Age (Age10) and Elder Abuse (MVASS10)

Analyses	*b*
Analysis one:	
MVASS10 on Age10	-.010*
Analysis two:	
LON10 on Age10	-.016*
Analysis three:	
Step 1: MVASS10 on LON10	.194*
Step 2: MVASS10 on Age10	-.013*

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

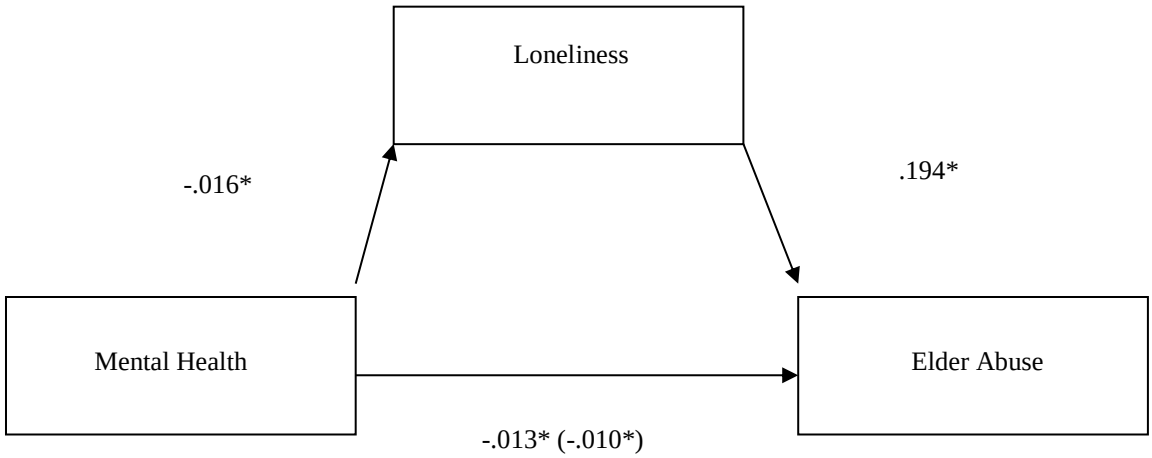


Figure 10. Unstandardised regression coefficients for the relationship between age and elder abuse as mediated by loneliness. The regression coefficient between age and elder abuse, controlling for loneliness, is inside the parentheses.

Note. * = $p < .0001$, 3 D.P. has been used due to the small effect size

The same process was followed to analyse the mediating value of loneliness at baseline (LON10) on the relationship between Age10 and elder abuse two years later (MVASS12). Age10 was negatively associated with MVASS12 and loneliness at baseline (LON10), while loneliness at baseline (LON10) was positively associated with elder abuse two years later (MVASS12). Loneliness at baseline (LON10) played a mediating role in the relationship between Age10 and elder abuse two years later (MVASS12) (*b* = -.002, *CI* = -.003 to -.001). The direct effect of Age10 on elder abuse two years later (MVASS12) remained significant when controlling for loneliness at baseline (LON10), thus indicating partial mediation. This means that lower Age10 was related to increased loneliness at baseline (LON10) which in turn was related to higher levels of elder abuse two years later (MVASS12). However, there may have been other mechanisms (not included in the model) in addition to loneliness (LON10) by which Age10 exerted an influence on elder abuse two years later (MVASS12). These findings support Hypothesis 9. See Table 28 and Figure 10 for loneliness as a mediating variable on the relationship between age and elder abuse.

Table 28

Loneliness (LON10) as a Mediating Variable on the Relationship between Age (Age10) and Elder Abuse (MVASS12)

Analyses	*b*
Analysis one:	
MVASS12 on Age10	-.010*
Analysis two:	
LON10 on Age10	-.014**
Analysis three:	
Step 1: MVASS12 on LON10	.126*
Step 2: MVASS12 on Age10	-.012*

Note. * = $p < .0001$, *** = $p < .01$, 3 D.P. has been used due to the small effect size

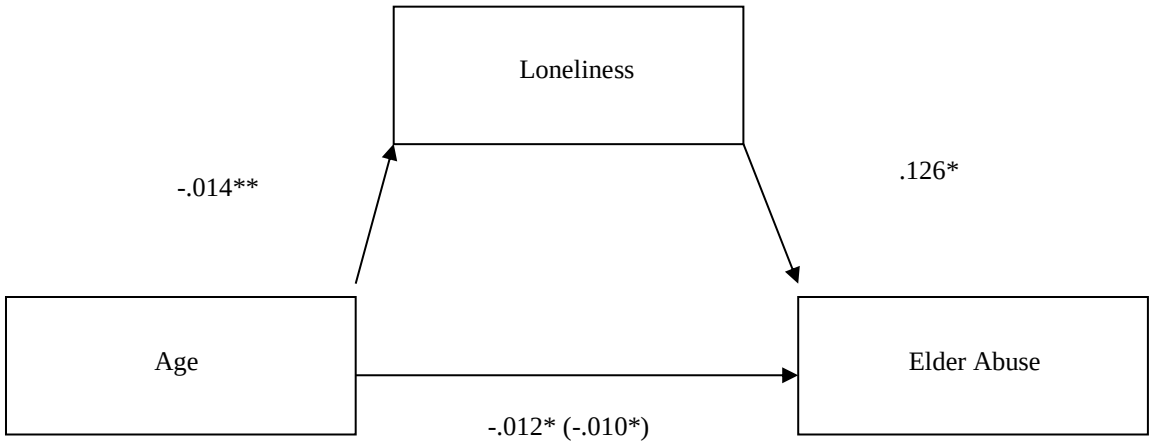


Figure 11. Unstandardised regression coefficients for the relationship between age and elder abuse (measured at two year follow up) as mediated by loneliness. The regression coefficient between age and elder abuse, controlling for loneliness, is inside the parentheses.

Note. * = $p < .0001$; ** = $p < .001$, 3 D.P. has been used due to the small effect size

8.3 Summary of Results

Hypothesis 1: Hypothesis 1 was supported by the findings. Elder abuse at baseline (MVASS10) was significantly but weakly related to lower physical health both at baseline (PH10) and two years later (PH12), mental health both at baseline (MH10) and two years later (MH12) as well as higher depression both at baseline (DEP10) and two years later (DEP12).

Hypothesis 2: Hypothesis 2 was partially supported by the findings. Loneliness at baseline (LON10) was significantly weakly related to elder abuse at baseline (MVASS10) and two years later (MVASS12) after controlling for individual level variables Age10, ELS10, PH10 and MH10. Social support at baseline (SOCSUP10) was significantly weakly related to elder abuse at baseline (MVASS10), after controlling for individual level variables.

Hypothesis 3: Hypothesis 3 was partially supported by the findings. Social support at baseline (SOCSUP10) moderated the relationship between loneliness at baseline (LON10) and elder abuse at baseline (MVASS10) but not between loneliness at baseline (LON10) and two years later (MVASS12).

Hypothesis 4: There was no statistically significant moderating effect of Gender10 on the relationship between LON10 and MVASS10.

Hypothesis 5: Hypothesis 5 was partially supported by the findings. Gender at baseline (GEN10) moderated the relationship between social support at baseline (SOCSUP10) and elder

abuse at baseline (MVASS10) but not between social support at baseline (SOCSUP10) and two years later (MVASS12).

Hypothesis 6: Hypothesis 6 was partially supported by the findings. Mental health at baseline (MH10) partially mediated the relationship between social support at baseline (SOCSUP10) and elder abuse at baseline (MVASS10).

Hypothesis 7: Hypothesis 7 was partially supported by the findings. Loneliness at baseline (LON10) partially mediated the relationship between physical health at baseline (PH10) and elder abuse at baseline (MVASS10) as well as the relationship between physical health at baseline (PH10) and elder abuse two years later (MVASS12).

Hypothesis 8: Hypothesis 8 was partially supported by the findings. Loneliness at baseline (LON10) partially mediated the relationship between mental health at baseline (MH10) and elder abuse at baseline (MVASS10) as well as the relationship between mental health at baseline (MH10) and elder abuse two years later (MVASS12).

Hypothesis 9: Hypothesis 9 was partially supported by the findings. Loneliness at baseline (LON10) partially mediated the relationship between Age at 2010 (Age10) and elder abuse at baseline (MVASS10) as well as the relationship between Age at 2010 (Age10) and elder abuse two years later (MVASS12).

8.4 Binary Logistic Regression Results

Binary logistic regression analyses were also completed on the data in regard to Hypothesis 2 to confirm the multiple regression results. The reason for this additional analysis was to ensure that the results could be relied upon, given ongoing concerns about the wording of the modified VASS measure. These doubts mainly centred on whether or not, due to the

wording of the questions, the modified VASS questions adequately reflected elder abuse itself rather than other possible associated factors or alternative explanations. Specifically, there were concerns about questions such as 'Has anyone taken things that belong to you without your OK?' and 'Do you feel uncomfortable with anyone in your family?' and whether or not a 'Yes' response to these questions should contribute towards a higher elder abuse score.

Predicting Elder Abuse: Loneliness. Logistic regression analyses were conducted to assess the impact of loneliness on the likelihood that respondents reported having experienced elder abuse. Age, economic living standards, physical health and mental health were all correlated with the dependent variable. These covariates were entered in Block 1 of the analysis as control variables. Loneliness was entered in Block 2. The dependent variable was the modified VASS as measured at baseline. In Block 0 the constant was included in the equation. The percentage of correct classifications was 72.8%. This percentage reflects a chance prediction, as calculated by SPSS. In Block 1 the -2LL value was 2634.43. This block containing only the four control variables made a statistically significant contribution to the model, $X^2(4, 3267) = 242.8$, $p < 0.001$. The model explained 13.6% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 74.6% of cases. Loneliness was entered at Block 2 resulting in a reduced -2LL value of 2600.15. The model remained statistically significant, $X^2(5, 3267) = 277.08$, $p < 0.001$. The model explained 15.5% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 75.5% of cases. Further examination of the covariates in the equation revealed that age (wald = 17.49, p = .00), economic living standards (wald = 39.03, p = .00), physical health (wald = 4.69, p = 0.03) and mental health (wald = 20.74, p = .00) were significant predictors of elder abuse within this model. According to this model, a one unit increase in loneliness increases the odds of experiencing elder abuse by 10% (odds ratio of 1.1). However, an issue with the goodness of fit of this model was flagged by the Hosmer and Lemeshow Test: $X^2(8) = 16.28$, $p < 0.05$. A significant result on this test indicates the observed

data in this model are significantly different from the expected data. This final model should therefore be interpreted with caution. See Table 29 for loneliness predicting elder abuse at baseline using logistic regression.

Table 29

Logistic Regression Analysis: Loneliness Predicting Elder Abuse at Baseline after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3267)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.03	.01	17.49	1	.00	.97	.96	.99
ELS	-.05	.01	39.03	1	.00	.95	.93	.96
PH	-.01	.01	4.69	1	.03	.99	.98	1
MH	-.03	.01	20.74	1	.00	.97	.96	.98
Lon	.1*	.02	34.4	1	.00	1.1	1.07	1.14
Constant	3.72	.63	34.7	1	.00	41.08		

Note: -2LL = 2600.15, X^2 (5) = 277.08, p<.001. Cox and Snell R^2=.107, Nagelkerke R^2=.155. Hosmer and Lemeshow Test: $X^2(8) = 16.28$, p=.04.

The same steps were repeated to measure the impact of loneliness on the likelihood that respondents at two year follow up would score themselves as having experienced elder abuse. The dependent variable was the modified VASS as measured at two year follow up. In Block 0 the constant was included in the equation. The percentage of correct classifications was 79.4%. In Block 1 the -2LL value was 1882.09. This block containing only the four control variables made a statistically significant contribution to the model, $X^2(4, 3264) = 206.48$, $p < 0.001$. The model explained 15% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.4% of cases. Loneliness was entered at Block 2 resulting in a reduced -2LL value

of 1869.99. The model remained statistically significant, $X^2(5, 3264) = 218.58$, $p < 0.001$. The model explained 15.8% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.3% of cases. Further examination of the covariates in the equation revealed that age (wald = 16.21, p = .00), economic living standards (wald = 30.48, p = .00), physical health (wald = 7.15, p = .01) and mental health (wald = 29.33, p = .00) were significant predictors of elder abuse within this model. According to this model, a one unit increase in loneliness increases the odds of experiencing elder abuse by 7% (odds ratio of 1.07). The model was a good fit according to the Hosmer and Lemeshow Test: $X^2(8) = 16.28$, $p < .05$, indicating the observed data in this model were not significantly different from the expected data. See Table 30 for loneliness predicting elder abuse at two year follow up using logistic regression.

Table 30

Logistic Regression Analysis: Loneliness Predicting Elder Abuse at Two Year Follow Up after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3264)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.03	.01	16.21	1	.00	.97	.95	.98
ELS	-.06	.01	30.48	1	.00	.95	.93	.97
PH	-.02	.01	7.15	1	.01	.98	.97	1
MH	-.05	.01	29.33	1	.00	.96	.94	.97
Lon	.07*	.02	12.23	1	.00	1.07	1.03	1.11
Constant	4.73	.76	38.20	1	.00	113.67		

Note: -2LL = 1869.99, X^2 (5) = 218.58, p<.001. Cox and Snell R^2=.101, Nagelkerke R^2=.158. Hosmer and Lemeshow Test: $X^2(8) = 9.41$, p=.31.

Predicting Elder Abuse: Social Support. Logistic regression analyses were conducted to assess the impact of social support on the likelihood that respondents would score themselves as having experienced elder abuse. Age, economic living standards, physical health and mental health were all correlated with the dependent variable. These covariates were entered in Block 1 of the analysis as control variables. Social support was entered in Block 2. The dependent variable was the modified VASS as measured at baseline. In Block 0 the constant was included in the equation. The percentage of correct classifications was 72.9%. This percentage reflects a chance prediction, as calculated by SPSS. In Block 1 the -2LL value was 2701.01. This block containing only the four control variables made a statistically significant contribution to the model, $X^2(4, 3263) = 252.79$, $p < 0.001$. The model explained 13.8% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 74.9% of cases. Social support was entered at Block 2 resulting in a reduced -2LL value of 2678.58. The model remained statistically significant, $X^2(5, 3263) = 275.22$, $p < 0.001$. The model explained 15% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 74.7% of cases. Further examination of the covariates in the equation revealed that age (wald = 24.16, p = .00), economic living standards (wald = 42.56, p = .00) and mental health (wald = 28.44, p = .00) were significant predictors of elder abuse within this model. According to this model, a one unit increase in social support decreases the odds of experiencing elder abuse by 3% (odds ratio of .97). The model was a good fit according to the Hosmer and Lemeshow Test: $X^2(8) = 11.23$, p = .19, indicating the observed data in this model were not significantly different from the expected data. See Table 31 for social support predicting elder abuse at baseline using logistic regression.

Table 31

Logistic Regression Analysis: Social Support Predicting Elder Abuse at Baseline after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3263)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.03	.01	24.16	1	.00	.97	.96	.98
ELS	-.06	.01	42.56	1	.00	.95	.93	.96
PH	-.01	.01	3.85	1	.05	.99	.98	1
MH	-.04	.01	28.44	1	.00	.97	.95	.98
SS	-.03*	.01	22.30	1	.00	.97	.96	.99
Constant	6.60	.67	97.48	1	.00	732.68		

Note: -2LL = 2678.58, X^2 (5) = 275.22, p<.001. Cox and Snell R^2=.103, Nagelkerke R^2=.15. Hosmer and Lemeshow Test: X^2(8) = 11.23, p=.19.

The same steps were repeated to measure the impact of social support on the likelihood that respondents at two year follow up would score themselves as having experienced elder abuse. The dependent variable was the modified VASS as measured at two year follow up. In Block 0 the constant was included in the equation. The percentage of correct classifications was 79.4%. In Block 1 the -2LL value was 1927.78. This block containing only the four control variables made a statistically significant contribution to the model, X^2(4, 3256) = 219.00, p<0.001. The model explained 15.4% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.6% of cases. Social support was entered at Block 2 resulting in a reduced -2LL value of 1923.23. The model remained statistically significant, X^2(5, 3256) = 223.55, p<0.001. The model explained 15.7% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.6% of cases. Further examination of the covariates in the equation

revealed that age (wald = 22.35, p = .00), economic living standards (wald = 29.75, p = .00), physical health (wald = 8.41, p=.00) and mental health (wald = 40.71, p = .00) were significant predictors of elder abuse within this model. According to this model, a one unit increase in social support decreases the odds of experiencing elder abuse by 1% (odds ratio of .99). However, an issue with the goodness of fit of this model was flagged by the Hosmer and Lemeshow Test: $X^2(8) = 15.70$, $p < 0.05$. A significant result on this test indicates the observed data in this model are significantly different from the expected data. This final model should therefore be interpreted with caution. See Table 32 for social support predicting elder abuse at two year follow up using logistic regression.

Table 32

Logistic Regression Analysis: Social Support Predicting Elder Abuse at Two Year Follow Up after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3256)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.04	.01	22.35	1	.00	.96	.95	.98
ELS	-.06	.01	29.75	1	.00	.95	.93	.97
PH	-.02	.01	8.41	1	.00	.98	.97	1
MH	-.05	.01	40.71	1	.00	.95	.94	.97
SS	-.01	.01	4.55	1	.03	.99	.97	1
Constant	6.84	.81	71.27	1	.00	934.68		

Note: -2LL = 1923.23, X^2 (5) = 223.55, p<.001. Cox and Snell R^2=.101, Nagelkerke R^2=.157. Hosmer and Lemeshow Test: $X^2(8) = 15.7$, p=.047.

Predicting Elder Abuse: Family Dependent Social Network Type. Logistic regression analyses were conducted to assess the impact of the family dependent SNT on the likelihood that respondents would score themselves as having experienced elder abuse. Age, economic living standards, physical health and mental health were all correlated with the dependent variable. These covariates were entered in Block 1 of the analysis as control variables. The family dependent SNT was entered in Block 2. The dependent variable was the modified VASS as measured at baseline. In Block 0 the constant was included in the equation. The percentage of correct classifications was 72.8%. This percentage reflects a chance prediction, as calculated by SPSS. In Block 1 the -2LL value was 2726.48. This block containing only the four control variables made a statistically significant contribution to the model, $X^2(4, 3269) = 253.81$, $p < 0.001$. The model explained 13.8% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 74.8% of cases. Family dependent SNT was entered at Block 2 resulting in a reduced -2LL value of 2726.24. The model remained statistically significant, $X^2(5, 3269) = 254.05$, $p < 0.001$. The model explained 13.8% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 74.8% of cases. Further examination of the covariates in the equation revealed that age (wald = 16.26, p = .00), economic living standards (wald = 62.99, p = .00), physical health (wald = 5.05, p = .03) and mental health (wald = 52.2, p = .00) were significant predictors of elder abuse within this model. According to this model, the family dependent SNT was not a significant predictor of elder abuse. The model was a good fit according to the Hosmer and Lemeshow Test: $X^2(8) = 14.42$, $p = .07$, indicating the observed data in this model were not significantly different from the expected data. See Table 33 for the family dependent social network type predicting elder abuse at baseline using logistic regression.

Table 33

Logistic Regression Analysis: Family Dependent SNT Predicting Elder Abuse at Baseline after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3269)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.03	.01	16.26	1	.00	.97	.96	.99
ELS	-.06	.01	62.99	1	.00	.94	.92	.95
PH	-.01	.01	5.05	1	.03	.99	.98	1
MH	-.05	.01	52.2	1	.00	.96	.94	.97
FamDep	.02	.03	.24	1	.63	1.02	.96	1.08
Constant	4.9	.61	64.94	1	.00	134.38		

Note: -2LL = 2726.24, X^2 (5) = 254.05, p<.001. Cox and Snell R^2=.095, Nagelkerke R^2=.138. Hosmer and Lemeshow Test: $X^2(8) = 14.42$, p=.072.

The same steps were repeated to measure the impact of the family dependent SNT on the likelihood that respondents at two year follow up would score themselves as having experienced elder abuse. The dependent variable was the modified VASS as measured at two year follow up. In Block 0 the constant was included in the equation. The percentage of correct classifications was 79.3%. In Block 1 the -2LL value was 1949.17. This block containing only the four control variables made a statistically significant contribution to the model, $X^2(4, 3264) = 220.8$, $p < 0.001$. The model explained 15.4% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.3% of cases. Family dependent SNT was entered at Block 2 resulting in a reduced -2LL value of 1948.96. The model remained statistically significant, $X^2(5, 3264) = 221.00$, $p < 0.001$. The model explained 15.4% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.5% of cases. Further examination of the covariates in

the equation revealed that age (wald = 16.52, p = .00), economic living standards (wald = 42.74, p = .00), physical health (wald = 8.61, p = .00) and mental health (wald = 54.34, p = .00) were significant predictors of elder abuse within this model. According to this model, the family dependent SNT was not a significant predictor of elder abuse at two year follow up. The model was a good fit according to the Hosmer and Lemeshow Test: $X^2(8) = 12.31$, p = .14, indicating the observed data in this model were not significantly different from the expected data. See Table 34 for the family dependent social network type predicting elder abuse at two year follow up using logistic regression.

Table 34

Logistic Regression Analysis: Family Dependent SNT Predicting Elder Abuse at Two Year Follow Up after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3264)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.04	.01	16.52	1	.00	.97	.95	.98
ELS	-.06	.01	42.74	1	.00	.94	.92	.96
PH	-.02	.01	8.61	1	.00	.98	.97	.99
MH	-.06	.01	54.34	1	.00	.95	.93	.96
LocInt	.02	.04	.21	1	.65	1.02	.95	1.1
Constant	5.73	.74	59.35	1	.00	307.67		

Note: -2LL = 1948.96, X^2 (5) = 221.00, p<.001. Cox and Snell R^2=.099, Nagelkerke R^2=.154. Hosmer and Lemeshow Test: $X^2(8) = 12.31$, p=.138.

Predicting Elder Abuse: Locally Integrated Social Network Type. Logistic regression analyses were conducted to assess the impact of the family dependent SNT on the likelihood that respondents would score themselves as having experienced elder abuse. Age, economic living standards, physical health and mental health were all correlated with the dependent variable. These covariates were entered in Block 1 of the analysis as control variables. The locally integrated SNT was entered in Block 2. The dependent variable was the modified VASS as measured at baseline. In Block 0 the constant was included in the equation. The percentage of correct classifications was 72.8%. This percentage reflects a chance prediction, as calculated by SPSS. In Block 1 the -2LL value was 2725.68. This block containing only the four control variables made a statistically significant contribution to the model, $X^2(4, 3268) = 253.98$, $p < 0.001$. The model explained 13.8% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 74.8% of cases. Locally integrated SNT was entered at Block 2 resulting in a reduced -2LL value of 2725.46. The model remained statistically significant, $X^2(5, 3268) = 254.2$, $p < 0.001$. The model explained 13.8% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 74.8% of cases. Further examination of the covariates in the equation revealed that age (wald = 18.82, p = .00), economic living standards (wald = 63.06, p = .00), physical health (wald = 5.94, p = .02) and mental health (wald = 53.2, p = .00) were significant predictors of elder abuse within this model. According to this model, the locally integrated SNT was not a significant predictor of elder abuse. However, an issue with the goodness of fit of this model was flagged by the Hosmer and Lemeshow Test: $X^2(8) = 19.56$, $p < 0.05$. A significant result on this test indicates the observed data in this model are significantly different from the expected data. This final model should therefore be interpreted with caution. Goodness of fit was not an issue during the previous steps of the model. See Table 35 for the locally integrated social network type predicting elder abuse at baseline using logistic regression.

Table 35

Logistic Regression Analysis: Locally Integrated SNT Predicting Elder Abuse at Baseline after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3268)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.03	.01	18.82	1	.00	.97	.96	.98
ELS	-.06	.01	63.06	1	.00	.94	.92	.95
PH	-.01	.01	5.94	1	.02	.99	.98	1
MH	-.05	.01	53.2	1	.00	.96	.94	.97
LocInt	.01	.03	.22	1	.64	1.01	.96	1.08
Constant	5.05	.57	78.3	1	.00	156.44		

Note: -2LL = 2725.46, X^2 (5) = 254.2, p<.001. Cox and Snell R^2=.095, Nagelkerke R^2=.138. Hosmer and Lemeshow Test: $X^2(8) = 19.56$, p=.012.

The same steps were repeated to measure the impact of the locally integrated SNT on the likelihood that respondents at two year follow up would score themselves as having experienced elder abuse. The dependent variable was the modified VASS as measured at two year follow up. In Block 0 the constant was included in the equation. The percentage of correct classifications was 79.4%. In Block 1 the -2LL value was 1948.11. This block containing only the four control variables made a statistically significant contribution to the model, $X^2(4, 3265) = 218.69$, $p < 0.001$. The model explained 15.3% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.3% of cases. Locally integrated SNT was entered at Block 2 resulting in a reduced -2LL value of 1947.94. The model remained statistically significant, $X^2(5, 3265) = 218.87$, $p < 0.001$. The model explained 15.3% (Nagelkerke R^2) of the variance in elder abuse and correctly classified 80.2% of cases. Further examination of the covariates in

the equation revealed that age (wald = 19.7, p = .00), economic living standards (wald = 44.22, p = .00), physical health (wald = 9.22, p = .00) and mental health (wald = 51.42, p = .00) were significant predictors of elder abuse within this model. According to this model, the locally integrated SNT was not a significant predictor of elder abuse at two year follow up. The model was a good fit according to the Hosmer and Lemeshow Test: $X^2(8) = 12.22$, p = .14, indicating the observed data in this model were not significantly different from the expected data. See Table 36 for the locally integrated social network type predicting elder abuse at two year follow up using logistic regression.

Table 36

Logistic Regression Analysis: Locally Integrated SNT Predicting Elder Abuse at Two Year Follow Up after Controlling for Age, Economic Living Standards, Physical Health and Mental Health (N=3265)

Predictors	B	SE	Wald(W)	df	p-value	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Age	-.04	.01	19.7	1	.00	.96	.95	.98
ELS	-.06	.01	44.22	1	.00	.94	.92	.96
PH	-.02	.01	9.22	1	.00	.98	.97	.99
MH	-.06	.01	51.42	1	.00	.95	.93	.96
FamDep	.02	.04	.18	1	.67	1.02	.95	1.09
Constant	5.86	.7	70.58	1	.00	351.19		

Note: -2LL = 1947.94, X^2 (5) = 218.87, p<.001. Cox and Snell R^2=.098, Nagelkerke R^2=.153. Hosmer and Lemeshow Test: $X^2(8) = 12.22$, p=.142.

Summary

The results in regard to Hypothesis 2 from logistic regression analyses were similar to those found from completion of multiple regression analyses. The logistic regression results demonstrated that a one-point increase in loneliness increases the odds of experiencing elder abuse by 10% at baseline and by 7% two years later. A one-point increase in social support decreases the odds of experiencing elder abuse by 3% at baseline and by 1% two years later. However, due to poor goodness-of-fit indications, it is only the results of the two equations concerning effect of loneliness on elder abuse two years later and the effect of social support at baseline which can be reliably interpreted. These two findings are consistent with those found by the multiple regression results.

For ease of reference, the equivalent multiple regression results were that loneliness at baseline (LON10) was significantly weakly related to elder abuse two years later (MVASS12) after controlling for individual level variables Age10, ELS10, PH10 and MH10. Social support at baseline (SOCSUP10) was significantly weakly related to elder abuse at baseline (MVASS10), after controlling for individual level variables. The family dependent and locally integrated SNT variables were not related to elder abuse either at baseline or two years later.

CHAPTER NINE

Discussion

9.1 Overview

As New Zealand's population continues to age and the proportion of older adults continues to increase, elder abuse is increasingly becoming recognised as a serious and adverse phenomenon. Elder abuse results in significant health, social justice and economic costs to its victims, the government and the taxpayer. Developing effective policies and intervention strategies to prevent and reduce the occurrence of elder abuse is progressively becoming more and more important.

Elder abuse is a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, that causes harm or distress to older people (ACNZ, 2007, p.13; Glasgow & Fanslow, 2006, p.78; Sethi et al., 2011, p.1). Theories of elder abuse vary, and include the stressed caregiver hypothesis, psychopathology, dependency and life course theories and ecological model. Mandatory reporting policies and screening tools are recognised to be limited, and instead a risk factor approach has been taken to understand elder abuse in the present study.

The research questions the present study aimed to answer are as follows.

Research Question 1:

Are there health consequences of elder abuse for those community-dwelling older adults who report abuse in New Zealand?

Research Question 2:

What roles do loneliness, social support and social network type have in relation to risk of elder abuse for community-dwelling older adults in New Zealand?

Research Question 3:

Are loneliness, social support and social network type related to each other/do they interact with each other in regard to the risk they pose for elder abuse for community-dwelling older adults in New Zealand?

This chapter will discuss the results from the present study in light of the existing research literature. The limitations of the study, contributions to clinical practice and areas for further research will also be discussed.

9.2 Primary Findings

The data revealed a rate of 21.1% (2012 wave) to 28.5% (2010 wave) occurrence of elder abuse reported by the community-dwelling New Zealand older adults surveyed (abuse determined by an endorsement of 1 or more MVASS items). This rate of elder abuse is higher than the three to ten percent estimated to be present in the community-dwelling New Zealand population (ACNZ, 2015; Pillemer et al., 2016; Yeung et al., 2015). There are a number of reasons for this higher-than-expected finding. First, the NZLSA survey may have presented older adult individuals with a safe opportunity, perhaps their first opportunity, to disclose their experiences of abuse. As the surveys were completed on the basis that responses would be reported anonymously, the usual reasons for underreporting (such as fear, shame, nobody to disclose to, lack of knowledge or mistrust of agencies) will not have been a barrier and therefore provided a forum for less threatening, more open disclosure. Secondly, this finding may reveal

something of the true state of elder abuse in New Zealand. The finding may indicate that the actual rate of elder abuse is much higher than that initially anticipated. Alternatively, the finding may be the result of a poor elder abuse measure. For reasons which will be discussed in more detail below, endorsement of 1 or more MVASS items may not in reality represent actual elder abuse. Therefore, the finding of 21.1% to 28.5% may actually contain a number of false positives for elder abuse and the true rate of abuse may be far less. Lastly, this rate could reflect the younger age group of the sample. Younger age was identified as a possible risk factor for elder abuse in the research literature. The average age of 64 years in 2010 and 66 years in 2012 could potentially support the literature that argues that younger age is a risk factor for elder abuse.

Given continued uncertainty about the true rate of elder abuse in New Zealand, other statistical findings in New Zealand related to risk and protective factors of elder abuse according to the literature are also important to consider. Relevant statistics include the finding that around half of those aged 65 years and older live in couple-only households (Statistics New Zealand, 2013c) and that lower levels of loneliness are reported by older adults living in two-people households. Given that the literature promotes loneliness as a risk factor for elder abuse, the finding that the majority of older adults live in circumstances supportive of reduced loneliness suggests at least one factor possibly protective against elder abuse in New Zealand (Statistics New Zealand, 2013a). Another relevant statistic is that 71% of older people aged 65 years or older in New Zealand affiliate themselves with a religious group (of those, 96.5% Christian and 3.7% non-Christian, meaning some are affiliated with both Christian and non-Christian religious groups; Statistics New Zealand, 2013c). Additionally, 22.1% individuals 65 years and older were in full-time or part-time employment, 18.7% were involved in voluntary work and 12.7% looked after a child from a separate household (Statistics New Zealand,

2013c). This regular level of face-to-face contact with others in the community also suggests protective factors which lower the risk of elder abuse in New Zealand.

The data revealed that elder abuse is related to poorer physical and mental health, both at baseline and two years later in the community-dwelling New Zealand older adults surveyed. Although the relationship was weak, the direction of the relationships between elder abuse, mental health, physical health and depression still provide findings that are consistent with the research literature on the health consequences of elder abuse. Continued longitudinal data collection and analysis of these relationships would further benefit and potentially strengthen conclusions about the health consequences of elder abuse in the New Zealand context.

Of the three variables hypothesised to influence risk of elder abuse, the data revealed that only loneliness and social support are related to elder abuse in the community-dwelling New Zealand older adults surveyed. There was stronger evidence for loneliness as a risk factor, this variable and not social support being related to the occurrence of elder abuse two years later. These findings are consistent with what has been stated in some of the research literature; that there is a strong evidence base for social isolation in the literature (loneliness, the subjective concept, used in the present study) as a risk factor for elder abuse and mixed evidence for social support (Sethi et al., 2011). However, continued longitudinal data collection and analysis of these relationships would further benefit conclusions about how loneliness and social support are related to elder abuse in the New Zealand context. It is possible that stronger relationships are seen with time or with a stronger elder abuse measure. Social support has been found by other researchers to be one of the strongest correlates of elder abuse, associated with a threefold likelihood of elder abuse in Acierno et al. (2010) for example.

The data revealed that social support moderates the relationship between loneliness and elder abuse. Specifically, the finding was that older adults with the lowest levels of social

support experienced a stronger relationship between elder abuse and loneliness than older adults with the highest levels of social support. The moderating influence of social support was effective at baseline, suggesting that social support may reduce the influence of loneliness in regard to elder abuse. This finding is consistent with the research literature that suggests social support removes the effects of loneliness as a predictor of elder abuse (Dong et al., 2009). Again, continued longitudinal data collection and analysis of these relationships would further benefit conclusions about the moderating effect of social support on loneliness and elder abuse in the New Zealand context.

The data suggests that social support also has an important role to play in improving mental health and therefore reducing risk of elder abuse. Specifically, the finding was that low levels of social support increased mental health problems. This reduced mental health in turn was related to increased elder abuse. This relationship was only measured in regard to the effect on elder abuse at baseline due to the absence of a significant relationship between social support and long term elder abuse found during multiple regression analyses. The role of social support in regard to mental health found in the data is consistent with the research literature. Low social support is recognised to have a role in developing, maintaining and exacerbating mental health problems and therefore has been said to be indirectly predictive of elder abuse (Amstadter et al., 2011; Dong & Simon, 2008). Continued longitudinal data collection and analysis of the role of social support would further benefit conclusions regarding its relationship to elder abuse in the New Zealand context. Although social support was not found to be significantly related to elder abuse at Time 2, this would not rule out its possible significance at a proposed Time 3 (e.g. four years later). Potential reasons for this could include the possibility of measurement issues in the sample at Time 2, improved confidence in anonymity in the study and/or reporting of abuse at Time 3, possible delays in the effect that social support has relevant to experiencing

elder abuse longitudinally, or increased risk due to increased ageing and effects of ageing on access to social support.

The mechanism(s) underlying the relationship between social support and elder abuse have not been well explored (Dong & Simon, 2008). However, it is likely that there are individual differences in response. Firstly, it has been proposed that older adults with a strong internal locus of control may be reluctant about receiving social support (Wenger, 1997). Secondly, although no relationship was found in the sample between gender and elder abuse, there is some thought in the research literature to suggest that women need greater social support as they are more likely to be financially dependent on others due to their social position and earning capacity in society (Dong et al., 2010). There is also suggestion that social support may influence women's risk of elder abuse more because they are more sensitive to poor relationship quality and functioning (Guedes et al., 2015). Lastly, another suggestion for the relationship between social support and elder abuse includes the effect of the individual's frame of mind, given their situation. For instance, individuals with low social support or lower social control may be more inclined to make more negative, harm-focused appraisals of unpleasant situations (Dong & Simon, 2008; Luo & Waite, 2011). Conversely, individuals experiencing elder abuse may be more likely to perceive low social support (Acierno et al., 2010).

Another interesting finding in the data was that loneliness played a partial mediating role in the relationships between poor physical health and elder abuse, poor mental health and elder abuse as well as age and elder abuse. Specifically, the finding was that each of poor physical health, poor mental health and age contribute (along with other mechanisms not included in the model) to increased loneliness, and this increased loneliness in turn was associated with increased elder abuse. These mediating relationships were found both at baseline and in the long term (two years later). These findings are consistent with the research

literature which states that individuals with physical and/or mental health problems may socially isolate themselves to hide their health status (Holmen & Furukawa, 2002) and that older age is associated with life changes which contribute to loneliness (Amstadter et al., 2011). Such life changes include retirement, loss of driving privileges and loss of loved ones which can reduce opportunities for social experiences and facilitate loneliness (Amstadter et al., 2011; Holmen & Furukawa, 2002). Continued longitudinal data collection and analysis of the role of loneliness and the factors which contribute to loneliness would further benefit conclusions regarding its relationship to elder abuse in the New Zealand context. As the sample continues to age, the effects on their levels of loneliness and social support may result in stronger relationships with elder abuse.

The mechanism(s) underlying the relationship between loneliness and elder abuse have also not been well explored. Some have suggested a bi-directional relationship, which is support by cross-sectional studies (Dong et al., 2007; Von Heydrich et al., 2012). What would benefit the knowledge base is a prospective study in this regard, to determine how each affects changes in the other. An explanation of the bi-directional relationship is stated by Heravi-Karimooi et al. (2011) and Amstadter et al. (2011), who suggest that older adults who experience elder abuse may withdraw from others and isolate themselves for reasons of fear or shame. Loneliness is also thought to indirectly be related to elder abuse because it reflects other factors which are conducive to elder abuse. These factors are aspects like dependency (Dong et al., 2007; Peri et al., 2008) and deteriorating health, mobility and loss of relationships associated with age which reduce ability to engage in social interactions (Amstadter et al., 2011). The partial mediating role of loneliness revealed in the current study's findings would seem to support the indirect explanation for the relationship between loneliness and elder abuse.

Gender was initially found not to be related to elder abuse in the sample (see Table 14). This finding is not inconsistent with the research literature which has found mixed results for gender as a risk factor (Sethi et al., 2011). In the present study, potential reasons for this finding include the younger age of the cohort and generational differences which lend themselves to reducing gender as a risk factor (less financial dependence, fewer patriarchal beliefs, less tolerance of relational abuse in this cohort. Later analyses found that gender moderated the relationship between social support and elder abuse. This finding too, is consistent with the research literature in the sense that there is mixed evidence supporting the influence of gender in regard to elder abuse (Sethi et al., 2011). This finding suggests that social support is more important for females, and that lower social support has a greater impact on females' risk of elder abuse. This was also suggested to be the case by Dong et al. (2010) and Guedes et al. (2015).

9.3 Limitations

Elder abuse experiences of ethnic minority communities underrepresented. What is evidently lacking from the data presented in the study is an understanding of the experiences of elder abuse amongst different ethnic groups. This is despite New Zealand's diverse ethnic composition. The 2013 Census in New Zealand identified 53 different European ethnic groups, 19 Pacific Peoples ethnic groups, 34 different Asian ethnic groups, 32 different Middle Eastern/Latin American and African ethnic groups, 3 'Other' ethnic groups as well as 'New Zealander' and 'Māori' ethnic groups (Statistics NZ, 2013). Yet, ethnic groups apart from Māori and New Zealand European were vastly underrepresented in the study.

One reason for this may be that people aged 65 years and older were recognised in the same 2013 Census in New Zealand to be less ethnically diverse than the general population, with nearly 9 in 10 people (87.8%) identifying with one or more European ethnicities. Māori

older adults made up 5.6 %, Asian older adults made up 4.7% and Pacific Peoples older adults made up 2.4% of the 65 years and older population group (Statistics NZ, 2013). However, the study itself was focused on adults of a slightly younger age range (those aged 50 years and older) and it is likely the ethnic distribution would have been slightly less skewed when inclusive of adults between 50 and 64 years. For instance, 71.7% those aged under 65 years old identified as European (Statistics NZ, 2013). It is possible also that language barriers meant that of those from different ethnic groups who received a survey and the information sheet explaining the study, few were able to read, sufficiently understand and complete the form. Future studies might benefit from providing the opportunity to use interpreters to aid with the creation of translated survey and information sheets and later analysis of completed surveys.

It is clear from New Zealand's increasing multiculturalism that research for future policy development and intervention strategies needs to better account for clear ethnic diversity in New Zealand's future older population. Failure to do so will mean that current Eurocentric focused research will be less relevant and less applicable for future older generations. Without culturally focused research, it will be impossible to determine for example, if the risk factors of elder abuse vary for Māori or Asian or Latin American peoples living in New Zealand and therefore if the intervention strategies should also vary. Any resulting one-sized-fits-all approach may be inappropriately applied in some situations to individuals of different cultures, resulting in potentially dangerous and culturally disrespectful outcomes.

Cultural considerations relevant to understanding elder abuse in Asian ethnic groups include the concept of filial piety in intergenerational relationships, patriarchal gender roles and its unique social structure. Filial piety demands that adult children, in return for their own care when they were growing up, obey, respect and support (emotionally and financially) their older adult parents. This reciprocal care is generally expected by older parents and accepted by

their children, although in modern times there is more recognition of the influence of life circumstances on actual delivery of filial duties (Yan & Fang, 2017). Filial piety in particular places obligations on the eldest son and daughter-in-law to provide care for aging parents, which is consistent with collectivist notions of kinship and intergenerational harmony. Family resources are generally shared. However, modern western, urban and industrialised influences have reduced the adequacy of family care and intergenerational support due to geographical segregation amongst generations and increased female participation in the labour force (Yan & Fang, 2017).

Utilising culturally sensitive instruments to assess for abuse is also important to allow for accurate comparisons between cultures. Cultural sensitivity is important to account for, as different cultures define elder abuse differently based on different cultural values and expectations. Likewise, using culturally appropriate intervention strategies is also important to ensure effective delivery. Older Asian adults are often reluctant to disclose abusive experiences and therefore community focused interventions to raise awareness and educate about reporting and support of victims is likely to be of use. Obtaining reports indirectly is likely to be more effective than relying on first-hand disclosures in this population, due to the taboo nature of elder abuse across Asia (Yan & Fang, 2017).

Asian cultures vary greatly, both between and within specific Asian cultures. Urban and rural groups within the same specific ethnic group may vary for example, due to their difference in exposure to modern western influences (Yan & Fang, 2017). At pains of not wanting to overgeneralise, yet due to the need to limit overly elaborate discourse on this topic, please see Yan & Fang (2017) for more detailed information on cultural considerations for specific ethnic groups of interest; Chinese, South Korea, Japan, India, Singapore, Bangladesh, Israel, Turkey, Iran and Nepal.

Information about the abuse of older Latin European and Latin American adults is even more lacking than that of Asian ethnic groups in the elder abuse literature. Yet, this information is also important to analyse for future policy development and intervention strategizing due to New Zealand's increasing multiculturalism. Elder abuse from the viewpoint of Latino communities is thought to be due to an increasingly consumerist, individualist society's view of older adults as being unproductive and 'socially terminal'; a burden on society who contribute little but demand much. These communities also recognise the loss of caregiving roles left unfilled due to female participation in the labour force. Traditionally, older adults in Latino culture understood that each successive generation was to be responsible to the next and previous generation. However, the current view is that this unspoken contract has been eroded by modern beliefs such that one generation is only prepared to look after its children and young. Abandonment, exploitation of 'free labour', economic exploitation, removal/lack of welcome (e.g. in the form of forcing the older adult to spend large amounts of time outside the home, or not letting them watch their TV program), shame, or unpleasant treatment are also considered to be a lesser form of abuse with less severe consequences, but nevertheless distressing (Perez-Carceles, 2017).

Given the underrepresentation of the experiences of elder abuse amongst New Zealand's ethnic minority groups, the results from the present study may not be appropriately generalised and applied to accurately draw conclusions about elder abuse of all New Zealanders.

Institutionalised older adults. Preliminary evidence suggests that rates of elder abuse are higher for older adults in institutional care than for community dwelling older adults (Pillemer et al., 2016). There was purposeful exclusion from the present study of institutionalised individuals due to the focus on a community-dwelling population. There was

also likely (although not explicitly intended) exclusion of community-dwelling older adults unable to participate due to lack of competence (i.e. cognitive impairment or other functional impairments) or freedom to communicate with external others (i.e. prohibited from participation by abusers). Information gleaned from these groups would have been informative and helpful in gaining an understanding about the circumstances of older adults who experience elder abuse. As with the non-applicability to all ethnic minority groups, the results from the present study is also not appropriately applied to accurately draw conclusions about older adult New Zealanders residing in institutions.

Problems with the VASS measure of elder abuse. As Cohen (2011) stated, screening tools are not without their limitations. Screening tools that require direct questioning (such as the VASS) are only suitable for use with cognitively intact older adults (Cohen, 2011). The VASS in the present study was administered by self-report questionnaire format, and therefore, in addition to the need for good cognitive functioning, limitations of self-report measures are also relevant. These limitations include the possibility of discrepant perceptions, faulty recall and unwillingness to report abuse due to social desirability motivations (Schofield et al., 2002).

The VASS was developed for the purposes of a different study which focused solely on the consequences of elder abuse for women aged 73 to 78 years, whereas the present study included both men and women in its sample with a younger average age of 64 to 67 years and a total age range of 50 to 90 years. This difference in age groups between VASS and present study samples and the likely different life circumstances of each sample meant that the VASS items may not have accurately reflected the situations encountered by participants in the present study. There were therefore potential limitations to the applicability of the VASS to the present study from the outset.

For this reason, as well as due to concerns about the VASS reported by Schofield et al. (2002), the VASS was analysed to determine its appropriateness for use in the present study. In attempt to strengthen the VASS as much as possible, only two subscales from the original VASS were used. In addition, these subscales were composed of a different subscale distribution of items than the original VASS (see Table 7, p.99).

However, further concerns about the measure remain. The primary concern is that the wording of the seven MVASS items may not accurately reflect or measure elder abuse. Do the items 'Has anyone taken things that belong to you without your OK?', 'Has anyone close to you called you names or put you down or made you feel bad recently?' and 'Do you feel uncomfortable with anyone in your family?' really reflect elder abuse in the sense of the ACNZ and WHO definition? These are vague items which could be interpreted more negatively by those living in unhappy circumstances or experiencing a negative frame of mind. It is likely that in most New Zealand households, it is a regular occurrence that individuals take things belonging to someone else without the express permission of the owner. This may be innocent taking, for their own temporary use or because of implicit assumptions that the owner would consent if they had been expressly asked anyway. Due to the broad framing of the question, there is room for interpreting the question either in a non-malicious or malicious way. The same can be said of the other items; it is likely that individual members call each other names and make each other feel uncomfortable at some point in the course of daily living. Humans are unique and complex, each with their own likes and dislikes and different senses of humour. Again, due to the broad way in which the questions are worded, it would have been open to survey respondents to interpret the items differently.

In the present study's sample, the highest response rate was from older adults who felt uncomfortable with someone in their family, had been called names/put down/made to feel bad

by someone close to them, or had had their belongings taken without their consent. There were a smaller number of older adults who endorsed more concerning items and specifically worded items, such as being forced to do things they didn't want to do or having someone close to them attempt to hurt or harm them. It would be beneficial to see what the elder abuse rate would have been, had all items of the elder abuse measure been worded in ways more specifically relevant to elder abuse.

The second area of uncertainty in relation to the MVASS measure was the number of items required to deem that there was elder abuse. If a participant responded 'Yes' to just one item on the MVASS, and that one item was one that was an arguably weaker indication of elder abuse (such as 'Has anyone taken things that belong to you without your OK?'), would that be enough to determine presence of elder abuse? Or, would a 'Yes' response to a further item more strongly indicative of elder abuse (such as 'Has anyone close to you tried to hurt you or harm you recently?') lend more support for a case of elder abuse? Whilst more of a difficulty in practice when performing logistic regression analyses, these questions are nevertheless conceptually important to consider when interpreting the results of the present study. This is especially so given the skewness of the elder abuse variable towards the low end of the MVASS scores (see Table 1, p.70).

Despite these limitations, the VASS came closest to meeting the requirements of the present study due to difficulty with obtaining more objective measures of elder abuse given the context of the study. Obtaining objective information from third party sources could have produced equally inaccurate data about elder abuse given the potential for bias recall, dishonest reporting to conceal abuse and uncertainty or lack of understanding about what defines elder abuse. Furthermore, the two alternative forms of screening tools identified by Cohen (2011) which require either consideration of signs of abuse (using skilled interviewing techniques) or

consideration of risk factors (only indirectly identifying elder abuse) were not considered to be practical or sufficient for the present study.

In terms of future directions, there is scope for further refinement to develop an elder abuse measure which more accurately reflects elder abuse in terms of more specific and relevant wording as well as a scoring system which more accurately delineates the line between definite, potential and unlikely abuse categories. One means of doing this could be to develop a measure of elder abuse that has core universal indicators as well as additional sub-indicators that may be appropriate for certain situations (Momtaz, Hamid & Ibrahim, 2013). An example of how this could work in practice is the Elder Abuse Suspicion Index (EASI) which also has a recently developed version for use in institutionalised settings (the EASI for long term care; EASI-ltc).

Questions from the EASI-ltc which are similar to those in the EASI include 'Have you been upset because someone treated you unfairly or talked to you in a way that made you feel shamed, insulted or manipulated?', 'Has anyone tried to force you to sign papers or to take, use or spend your money against your will?' and 'Has anyone hurt you or physically touched you in ways that you did not want?'. These questions are mentioned here because of their specific wording, more strongly indicative of elder abuse than most of the items from the VASS. Items such as these could be used as a guide to the development of a more effective, accurate elder abuse scale in future studies.

The modified use of the EASI is important to consider because it is commonly known that were elder abuse prevalence measures to include measures of abuse of individuals in institutionalised care arrangements, the statistics reported would be far greater. The EASI-ltc scale has three additional questions to further address neglect and psychological abuse, as well as instructions for administration of the scale in institutionalised settings. Additional questions

for the EASI-ltc include ‘Has anyone prevented you from visiting with family or friends here?’ and ‘Have you had a situation where you felt that someone was not taking your needs or concerns seriously?’.

Cohen (2011), Phelan and Treacy (2011) and Schofield (2017) identified screening tools worthy of inclusion in their studies. Guidance from wording of the items in these noted screening tools may also benefit further development of an appropriate elder abuse measure.

Comment on effect size. Given the large sample size alone, it was hoped that analysis of relationships between the variables would produce statistically significant results. However, human beings and human behaviour are complex and often unpredictable, more often than not affected by a large number of various factors at the same time. There is rarely a linear relationship between thoughts, emotions and behaviour. Aspects of human life cannot necessarily be neatly divided up into different categories and this is also recognised by overlap and interplay of the factors at different layers of the ecological model. Given the context of the very sensitive and subjectively assessed subject matter of elder abuse, the small effect sizes found in the present study should be less concerning. The direction of the relationships, even if not of strong statistical significance, may still be of practical and clinical significance to public education campaigns, health professional, communities, families and older adults themselves.

9.4 Clinical Implications

Elder abuse is a pervasive phenomenon which results in significant adverse health, social justice and financial consequences for its victims. Difficulties with defining the concept of elder abuse as well as difficulties with underreporting of abuse have resulted in uncertainty about its true causes and prevalence. As an alternative to mandatory reporting policies, which

have been unsuccessfully trialled in various countries overseas, and the limitations of screening tools, the present study used a risk factor approach to studying elder abuse.

In terms of utility in practice, the findings from the present study can be used to educate and raise awareness about risk factors which make older adults more vulnerable to experiencing elder abuse. Potential observers or sources of support include individuals in regular face-to-face contact with older adults. This group includes professionals such as counsellors and psychologists, social workers, dentists, general practitioners, gerontologists and other health professionals. It also includes public servants from government agencies, lawyers, bankers, neighbours, religious group elders/leaders and other community organisation leaders.

As Johannesen and Logiudice (2013) state, health practitioners are privy to the most intimate details of patients' lives and are therefore in a unique position to identify high-risk situations. Their limited knowledge of risk factors can result in poor detection of elder abuse. The findings from the present study may potentially be used by care professionals who are regularly in contact with older adults to assess for elder abuse risk. Care professionals in regular contact with older adults often have some idea of their patients' living and social situations. Awareness of these social aspects of their patients' lives may be one way to discretely assess for potential elder abuse, which is important given the problem of underreporting by victims, and to encourage and facilitate social lifestyle changes which may reduce the risk of elder abuse.

There is a tension between the profession's ethical obligations to report suspected abuse to the appropriate agencies/authorities and the bulk of the elder abuse research literature which warns against mandatory reporting approaches due to its unintended adverse consequences (Harbison et al., 2012; Payne, 2008). Mandatory reporting problems for health professionals

include potential damage to rapport, potential backlash from suspected victims and/or their abusers, risk of liability and conflicts of interest between maintaining patient confidentiality and advocating for their wellbeing (Payne, 2008; Schmeidel, Daly, Rosenbaum, Schmuch & Jogerst, 2012). There may also be problems with time restraints, inadequate reporting procedures, unwillingness to interfere with private family matters and scepticism about being able to effect helpful changes (Cohen, 2011) which mean that mandatory reporting is not sufficient to address elder abuse.

The Code of Ethics, adopted by both the New Zealand Psychological Society and the New Zealand College of Clinical Psychologists in 2002, guides those working in the profession to give due regard to the ethical principle of 'responsible caring' and its associated value of 'promotion of wellbeing'. Subsumed under this ethical principle is the explicit practice implication 2.1.12 which charges psychologists to

> do everything reasonable to stop or offset the consequences of actions by others when these actions are likely to result in serious physical harm or death. This may include reporting to appropriate authorities (e.g. the police) or an intended victim or other relevant people, and would be done even when a confidential relationship is involved.

While not mandatory in the sense of being a legal obligation, abiding by the Code of Ethics is strongly encouraged by the profession and taught at the outset of most postgraduate psychology professional training courses in New Zealand. Further evidence of the importance placed on the Code's ethics and practice guidelines is its incorporation into many workplace codes of conduct. Such workplaces include many District Health Board community mental health services in New Zealand.

The findings of the present study suggest that enquiring about loneliness and social support in particular, is important for identifying vulnerability to elder abuse. This is consistent with the research literature (Schiamberg & Gans, 2000; Pillemer et al., 2016). Enquiring about these contextual factors as well as other elder abuse correlates, in a sensitive and respectful manner, is an important component to include during the assessment stage of therapy. Identifying the likelihood of victimhood to elder abuse provides a background context within which psychological disorders or their symptoms are experienced, providing valuable insight about reasons for emotional distress and informing appropriateness of approach to therapeutic intervention. It is also a necessary component to assess the individual's risk of harm to self, to others or from others.

Making the assessment of elder abuse more commonplace or even necessary in assessment 'checklists' enables community care providers to take a preventative approach to ensuring good health outcomes for their clients; to check for potential elder abuse and to take measures to intervene if necessary. Such interventions might include providing contact details of helplines or helpful agencies as well as basic psychoeducation for the client (and/or their families), enabling the older adult to strengthen their financial/living/social circumstances to reduce their vulnerability to elder abuse. However, it is acknowledged that in reality, issues such as patient workload and limited availability of professional time are often obstacles to conducting thorough assessment. It may be more practical to include one or two main questions about elder abuse and to continue further questioning if any red flags are raised.

9.5 Future Directions

Legally, some have called for a comprehensive and binding international treaty to protect older people. Under it, national governments would be held accountable for ensuring safety in institutionalised care and safeguarding their human rights, addressing specific needs

and education of the public and professionals (Dong, 2017). In practice, it has also been suggested that the priority focus should be on strategies that can be used in healthcare settings to educate professionals about elder abuse prevalence and severity, to teach professionals about how to assess for and manage suspected elder abuse, to provide proper training to care providers so that they can effectively manage the specific and sometimes challenging health care needs of ageing patients, and to enable coordination between different professions and organisations (Dong, 2017).

Given that society stopped turning a blind eye to child abuse and intimate partner violence from the 1960s, attitudes relevant to elder abuse are comparatively lagging behind. A similar shift towards an attitude of non-tolerance of elder abuse is needed to motivate interventions such as those developed against child abuse in the 1960s (Child Welfare Information Gateway, 2011; Kempe, Silverman, Steele, Droegemueller & Silver 1962) and against intimate partner violence in the 1970s (the battered women's syndrome movement; Mallicoat, 2011 as cited in Dong, 2017). Although Wallace and Crabb (2017) recognise the value in borrowing from the more developed child abuse and intimate partner violence fields in the development of the elder abuse field, this does not solve the issue of lack of theoretical consensus on the causes of elder abuse. Many of the elder abuse theories discussed earlier are flawed in the sense that they fail to be applicable to various situations, various cultures, across various disciplines and in relation to the various forms of elder abuse. The more holistic ecological model is becoming increasingly accepted, but in reality has only been used in a small number of studies. However, the ecological model is also flawed in the sense that it was actually intended to model child abuse (Roberto & Teaster, 2017).

Future research focused on the causes of elder abuse and that contributes to a sense of a prevailing, dominant theory of elder abuse will be useful for the development of effective

policies, assessment measures and intervention strategies. For non-tolerance and aid of elder abuse victims, first what is necessary is to determine the course of action most beneficial and effective. Of the current interventions that exist (education campaigns, advocacy, counselling, support groups, legal protections, clinical screening), none to date are effective long term strategies to reduce or prevent elder abuse (Dong, 2017).

Representative, longitudinal studies with large sample sizes in both community and institutionalised settings are required to gain a comprehensive understanding of the different forms and contributing factors of elder abuse. The use of a sound assessment measure of elder abuse is needed which is applicable across all cultures and can be modified to be appropriate for different cognitive, language and literacy abilities (Dong, 2017). Ideally, elder abuse data collection should be corroborated and multiple informants should be asked for their view in relation to the contributing factors of abuse. The best modes of administration for those particular measures and for the particular population should also be studied to ensure the best possible chance of obtaining honest information from participants. Analysing causes of elder abuse both in the short term and long term is also important to ensure effective intervention strategies are developed (Dong, 2017). These intervention strategies themselves should be rigorously tested to ensure they are helpful and not harmful to older adults. An intimate partner violence screening tools was found to be ineffective and harmful in a study by MacMillan et al. (2009), yet was recommended by the US Preventive Services Taskforce. Ideally, causality relationships using experimental randomised controlled trial designs rather than correlation analyses will be used (Dong, 2017).

9.6 Conclusions

The present study found a number of significant relationships based on a sample of 3277 community-dwelling older adults in New Zealand aged between 50 and 90 years. First,

this study found that elder abuse is significantly associated with lower physical and mental health. Specifically, this study found that elder abuse was associated with lower physical and mental health at baseline and lower physical and mental health when measured two years later.

Second, the present study found that elder abuse is significantly related to social support and loneliness. The relationship between elder abuse and loneliness was also present when elder abuse was measured two years later. No such longitudinal relationship was found between elder abuse and social support.

Additionally, this study found that social support had a moderating effect on the relationship between elder abuse and loneliness and that gender had a moderating effect on the relationship between elder abuse and social support. Specifically, social support appeared to alleviate the effect that loneliness presents with as a risk factor for elder abuse and appears to have a greater contribution towards the risk of elder abuse for females (than males). These relationships were found at baseline.

Furthermore, the present study found that social support partially mediates the relationship between elder abuse and mental health. Specifically, social support appeared to play a protective role (amongst other unidentified factors) against lower mental health, with lower mental health being related to increased risk of elder abuse.

Finally, the study found that loneliness partially mediates the relationships between elder abuse and lower physical/mental health and increased age. Specifically, each of these variables appeared to contribute (in addition to other unidentified factors) to greater loneliness, with greater loneliness being related to elder abuse. These mediating relationships were found both at baseline and again when elder abuse was measured two years later.

In summary, these findings indicate that health, age, loneliness and low social support are key risk factors of elder abuse. Loneliness and social support were found to be related to elder abuse after controlling for sociodemographic and health variables using multiple regression analyses. In addition, low physical and mental health as well as increased age were found to be partial contributors to loneliness. This suggests that health, age, loneliness and low social support are important factors to consider in elder abuse research, policy development and intervention planning.

These findings are intended to provide supporting evidence that loneliness and social support are key factors to consider as correlates of elder abuse, and to inform health professionals researchers and policy makers about social lifestyle choices likely to reduce risk of elder abuse. Public education campaigns raising awareness about risk factors for elder abuse might also choose to use these findings to encourage older adults to invest into strong relationships in order to ensure social support and reduced loneliness in later life.

Although the locally integrated social network was not found in this study to be statistically significantly related to elder abuse, the diversification of social groups characteristic of this social network type may nevertheless be of utility to older adult individuals. This is because diversifying social groups theoretically allows older adults to source all six of their social support needs from different individuals/groups, as defined as being necessary by Weiss (1974). These six forms include guidance, reliable alliance, social integration, opportunity for nurturance, reassurance of worth and attachment. Adults may benefit from beginning to develop these social supports earlier rather than later, investing into social relationships before reaching older adulthood in order to build goodwill and hopefully secure support in later life. Social support is frequently based on long-standing social connections, explaining continued receipt of social support in later life stages despite inability

during these later stages to reciprocate (Berkman & Glass, 2000). Age Concern New Zealand encourages older adults to volunteer their skills and time in the community as well as involvement in groups such as Menzsheds, as a way for older adults to meet new people.

Family, friends and community members may also use the information from the present study by making more of an effort to reduce the loneliness of the older adults in their lives. This may take the form of spending more time with older adults and checking to see they are not feeling lonely. Similar schemes to Big Brothers Big Sisters, a voluntary mentoring service for young people which exists in New Zealand, could be implemented by community or governmental organisations for older adults. This could take the form of volunteers spending their time with older adults on a regular, routine basis. Age Concern New Zealand encourages volunteering to spend time with older adults in rest homes, helping community older adults with driving and house maintenance, and have an accredited visiting service to encourage spending time with older adults in the community.

The protectiveness of reducing loneliness and increasing social support in relation to elder abuse risk in New Zealand is indicated by the present study. It is hoped that health professionals, policymakers, the families and communities who love and care for older adults, as well as older adult individuals themselves, will be able to use this information to the benefit of their health and wellbeing.

REFERENCES

Acierno, R., Hernandez, M. A., Amstadter, A. B., Resnick, H. S., Steve, K., Muzzy, W., & Kilpatrick, D. G. (2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: the National Elder Mistreatment Study. *American Journal of Public Health, 100*(2), 292-297. doi: 10.2105/AJPH.2009.163089

Action on Elder Abuse. (2004). *Hidden voices: Older people's experience of abuse.* London: Help the Aged.

Age Concern New Zealand. (2002). *An Analysis of Referrals for the period 1 July 1998 to 30 June 2001*. Wellington: Age Concern New Zealand Inc.

Age Concern New Zealand. (2004). *Elder abuse and Enduring Power of Attorney: A special report from the Age Concern New Zealand database covering the period 1 July 2002 to 31 December 2003*. Wellington: Age Concern New Zealand Inc.

Age Concern New Zealand. (2005). *Age Concern New Zealand Elder abuse and Neglect Prevention Services: An analysis of referrals for the period 1 July 2002 to 30 June 2004.* Wellington: Age Concern New Zealand Inc.

Age Concern New Zealand. (2007). Elder abuse and neglect prevention: Challenges for the future. New Zealand: Age Concern New Zealand Inc.

Age Concern. (2015). *Elder abuse and neglect prevention.* Retrieved from https://www.ageconcern.org.nz/ACNZPublic/Services/EANP/ACNZ_Public/Elder_Abuse_and_Neglect.aspx

Aiken, L., & West, S. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.

Alpass, F., Towers, A., Stephens, C., Fitzgerald, E., Stevenson, B., & Davey, J. (2007). Independence, well-being, and social participation in an aging population. *Annals of the New York Academy of Sciences, 1114*, 241-250. doi: 10.1196/annals.1396.009

Alpass, F., Pond, R., Stephens, C., Stevenson, B., Keeling, S., & Towers, A. (2013). The influence of ethnicity and gender on caregiver health in older New Zealanders. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 68*(5), 783-793. doi: 10.1093/geronb/gbt060

Amstadter, A. B., Zajac, K., Strachan, M., Hernandez, M. A., Kilpatrick, D. G., & Acierno, R. (2011). Prevalence and correlates of elder mistreatment in South Carolina: The South Carolina Elder Mistreatment Study. *Journal of Interpersonal Violence, 26*(15), 2947-2972. doi: 10.1177/0886260510390959

Antonucci, T. C., Ajrouch, K. J., & Birditt, K. S. (2014). The Convoy Model: Explaining social relations from a multidisciplinary perspective. *The Gerontologist, 54*(1), 82-92 doi: 10.1093/geront/gnt118

Bagshaw, D., Wendt, S., Zannettino, L., & Adams, V. (2013). Financial abuse of older people by family members: Views and experiences of older Australians and their family members. *Australian Social Work, 66*(1), 86-103. doi: 10.1080/0312407X.2012.708762

Baillie, L. (2007). Family caregiving when relationships are poor. In I. Paoletti (Ed.), *Family Caregiving for Older Disabled People* (pp. 127-149). New York: Nova Science Publishers.

Baker, T. (2014). Legal protections and remedies for elder abuse, neglect and exploitation. In K. Diesfeld & I. McIntosh (Eds.), *Elder Law in New Zealand* (pp. 477-508). New Zealand: Thomson Reuters.

Band-Winterstein, T. & Eisikovits Z. (2009). "Aging out" of violence: the multiple faces of intimate violence over the life span. *Qualitative Health Research, 19*(2):164–80. doi:10.1177/1049732308329305.

Barnes HM. 2000. Kaupapa Māori: Explaining the ordinary. *Pacific Health Dialog 7*(1):13-16.

Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Barrera, M. J. (1986). Distinctions between social support concepts, measures and models. *American Journal of Community Psychology, 14*(1), 413-445.

Beach, S., Shulz, R., & Sneed, R. (2016). Associations between social support, social networks, and financial exploitation in older adults. *Journal of Applied Gerontology*, 1-22. doi: 10.1177/0733464816642584

Benbow, S. M. & Beeston, D. Sexuality, aging and dementia. *International Psychogeriatrics, 24*(7), 1026-1033.

Berkman, L. F. (1984). Assessing the physical health effects of social networks and social support. *Annual Review of Public Health, 5*(1), 413-432.

Berkman, L., & Glass, T. (2000). Social integration, social networks, social support, and health. In L. F. Berkman & I. Kawachi (Eds.), *Social Epidemiology* (pp. 137-173). United States: Oxford University Press.

Biggs, S., & Haapala, I. (2013). Elder mistreatment, ageism, and human rights. *International Psychogeriatrics, 25*(8), 1299-1306. doi: 10.1017/S1041610212002372

Biggs, S., Manthorpe, J., Tinker, A., Doyle, M., & Erens, B. (2009). Mistreatment of older people in the United Kingdom: Findings from the first National Prevalence Study. *Journal of Elder Abuse & Neglect, 21*(1), 1-14. doi: 10.1080/08946560802571870

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: research perspectives. *Developmental Psychology, 22*, 723–742. doi:10.1037/0012-1649.22.6.723.

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

Butler, L. (1975). *Why survive? Being old in America*. New York: Harper and Row.

Cacioppo, J. T., Hawkley, L. C., & Thisted, R. A. (2010). Perceived social isolation makes me sad: 5-year cross-lagged analyses of loneliness and depressive symptomatology in the Chicago Health, Aging, and Social Relations Study. *Psychology and Aging, 25*(2), 453-463. doi: 10.1037/a0017216

Cannon, M. L. (2015). What is aging? *Disease-a-Month, 61*, 454-459.

Caplan, G. (1974). *Support systems and community mental health: Lectures on concept development*. New York, NY: Behavioural Publications.

Cassidy, T. M. (2004). Identifying and preventing elder abuse. In L. M. Tepper & T. M. Cassidy (Eds.), *Multidisciplinary Perspectives on Aging* (pp. 245-257). New York: Springer Publishing Company.

Center on Elder Abuse. (2015). *Conceptual definitions and operational frameworks for five types of perpetrated elder mistreatment.* Retrieved from http://www.centeronelderabuse.org/files/elder_ mistreatment_terms.pdf.

Cheak-Zamora, N., Wyrwich, K., & McBride, T. (2009). Reliability and validity of the SF-12v2 in the medical expenditure panel survey. *Quality of Life Research, 18,* 727–735. doi:10.1007/s11136-009-9483-1

Chen, W., Wu, C., & Yeh, K. (2016). How parenting and filial piety influence happiness, parent-child relationships and quality of family life in Taiwanese adult children. *Journal of Family Studies, 22*(1), 80-96. doi: 10.1080/13229400.2015.1027154

Chen, R. & Dong, X. (2017). In X. Dong. *Elder abuse: Research, practice and policy*. (pp. 93-108). (n.p.): Springer International Publishing.

Child Welfare Information Gateway. (2011). *Child maltreatment prevention: Past, present, and future*. Retrieved from https://www.childwelfare.gov/pubPDFs/cm_prevention.pdf

Choi, N. G., & Mayer, J. (2000). Elder abuse, neglect, and exploitation: Risk factors and prevention strategies. *Journal of Gerontological Social Work, 33*(2), 5-25. doi: 10.1300/J083v33n02_02

Chrisler, J. C., Barney, A., & Palatino, B. (2016). Ageism can be hazardous to women's health: Ageism, sexism, and stereotypes of older women in the healthcare system. *Journal of Social Issues, 72*(1), 86-104. doi:10.1111/josi.12157

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38*(5), 300-314.

Cohen, S., Gottlieb, B. H., & Underwood, L. G. (2000). Social relations and health. In S. Cohen, L. G. Underwood, & G. B. H. (Eds.), *Social support measurement and intervention: a guide for health and social scientists* (pp. 3-25). Oxford, England: Oxford University Press.

Cohen, M. (2011). Screening tools for the identification of elder abuse. *Journal of Clinical Outcomes Management, 18*(6), 261-270.

Collins, L. (2014). Elder abuse and neglect prevention. In K. Diesfeld & I. McIntosh (Eds.), *Elder Law in New Zealand* (pp. 509 – 532). New Zealand: Thomson Reuters.

Cutrona, C. E., & Russell, D. (1987). The provisions of social relationships and adaptation to stress. *Advances in Personal Relationships, 1*(1), 37-67.

Dawson K. (2002). *Development Process 1997-2002: Evaluation report.* Auckland: Te Oranga Kaumatua Kuia.

De Jong Gierveld, J., & Van Tilburg, T. (2010). The De Jong Gierveld short scales for emotional and social loneliness: Tested on data from 7 countries in the UN generations and gender surveys. *European Journal of Ageing, 7*, 121-130. doi: 10.1007/s10433-010-0144-6

Dong, X. (2012). Consequences of elder abuse: The needs for social justice and policy implications. In D. M. Patel & R. M. Taylor (Eds.), *Social and economic costs of violence: Workshop summary* (pp. 51-60). Washington, D. C.: The National Academies Press.

Dong, X. (2017). Elder Abuse: Research, Practice and Policy. (n.p.): Springer International Publishing

Dong, X., Beck, T., & Simon, M. A. (2009). Loneliness and mistreatment of older Chinese women: Does social support matter? *Journal of Women and Aging, 21*(4), 293-302. doi: 10.1080/08952840903285252

Dong, X., Beck, T., & Simon, M. A. (2010). The associations of gender, depression and elder mistreatment in a community-dwelling Chinese population: The modifying effect of social support. *Archives of Gerontology and Geriatrics, 50*, 202-208. doi: 10.1016/j.archger.2009.03.011

Dong, X., Chang, E. S., Wong, E., & Simon, M. A. (2012). Perception and negative effect of loneliness in a Chicago Chinese population of older adults. *Archives of Gerontology and Geriatrics, 54*(1), 151-159. doi: 10.1016/j.archger.2011.04.022

Dong, X., Chen, R., Wu, B., Zhang, N. J., Mui, A., Chan, Y.-S., & Chi, I. (2016). Association between elder mistreatment and suicidal ideation among community-dwelling Chinese older adults in the USA. *Gerontology, 62*(1), 71. doi: 10.1159/000437420

Dong, X., & Simon, M. A. (2008). Is greater social support a protective factor against elder mistreatment? *Gerontology*, *54*(6), 381-388. doi: 10.1159/000143228

Dong, X., & Simon, M. A. (2010). Gender variations in the levels of social support and risk of elder mistreatment in a Chinese community population. *Journal of Applied Gerontology, 29*(6), 720-739. doi: 10.1177/0733464809348057

Dong, X., & Simon, M. A. (2014). Vulnerability risk index profile for elder abuse in a community-dwelling population. *Journal of the American Geriatrics Society, 62*(1), 10-15. doi: 10.1111/jgs.12621

Dong, X., Simon, M. A., & Evans, D. (2012). Decline in physical function and risk of elder abuse reported to social services in a community-dwelling population of older adults. *Journal of the American Geriatrics Society, 60*(10), 1922-1928. doi: 10.1111/j.1532-5415.2012.04147.x

Dong, X., Simon, M. A., Gorbien, M., Percak, J., & Golden, R. (2007). Loneliness in older chinese adults: A risk factor for elder mistreatment. *Journal of the American Geriatrics Society, 55*(11), 1831-1835. doi: 10.1111/j.1532-5415.2007.01429.x

Durie, M. H. 1999. Kaumatuatanga reciprocity: Māori elderly and whanau. *NZ Journal of Psychology* 28(2):102-6.

Enguidanos, S., DeLiema, M., Aguilar, I., Lambrinos, J., & Wilber, K. (2014). Multicultural voices: Attitudes of older adults in the United States about elder mistreatment. *Ageing And Society, 34*(5), 877-903. doi: 10.1017/S0144686X12001389

Eng, J., & Chan. (2013). Center for Epidemiological Studies Depression Scale (CES-D and CES-D-10). Retrieved from http://www.scireproject.com/outcome-measures-new/center-epidemiological-studies-depression-scale-ces-d-and-ces-d-10

Gomez, R., & McLaren, S. (2015). The Center for Epidemiological Studies Depression Scale: Measurement and structural invariance across ratings of older adult men and women. *Personality and Individual Differences, 75*, 130-134.

Falk, E., Flores, M., & Cole, P. (2014). Preventing elder abuse and neglect. In D. Yee-Melichar, C. Flores, & E. P. Cabiago (Eds.), *Long-term Care Administration and Management: Effective Practices and Quality Programs in Eldercare* (pp. 145-162). New York: Springer.

Featherstone, M., & Hepworth, M. (2005). Images of ageing: Cultural representations of later life. In M. L. Johnson (Ed.), *The Cambridge Handbook of Age and Ageing* (pp. 354-362). Cambridge: Cambridge University Press.

Fiori, K. L., Antonucci, T. C., & Cortina, K. S. (2006). Social network typologies and mental health among older adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *61*(1), 25-32. doi: 10.1093/geronb/61.1.P25

Fiori, K. L., Smith, J. E., & Antonucci, T. C. (2007). Social network types among older adults: A multidimensional approach. *Journals of Gerontology B: Psychological and Social Sciences, 62*: 322-330.

Glasgow, K. & Fanslow, J. L. (2006). Family Violence Intervention Guidelines: Elder abuse and neglect. Wellington, NZ: Ministry of Health

Goergen, T., & Beaulieu, M. (2013). Critical concepts in elder abuse research. *International Psychogeriatrics, 25*(8):1217–28.

Gordon, R. M. & Brill, D. (2001). The abuse and neglect of the elderly. *International Journal of Law and Psychiatry, 24*, 183-197.

Gruenewald, T. L., Karlamangla, A. S., Greendale, G. A., Singer, B. H., & Seeman, T. E. (2007). Feelings of usefulness to others, disability, and mortality in older adults: The MacArthur Study of Successful Aging. *The Journals of Gerontology, Series B*(1), 28-38.

Harbison, J., Coughlan, S., Beaulieu, M., Karabanow, J., VanderPlaat, M., Wildeman, S., & Wexler, E. (2012). Understanding 'elder abuse and neglect': a critique of assumptions underpinning responses to the mistreatment and neglect of older people. *Journal of Elder Abuse & Neglect*(2), 88. doi: 10.1080/08946566.2011.644086

Hayes, A. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* Retrieved from http://afhayes.com/introduction-to-mediation-moderation-and-conditional-process-analysis.html

Heravi-Karimooi, M., Rejeh, N., Foroughan, M., & Vaismoradi, M. (2011). Experience of loneliness in Iranian abused elders. *International Nursing Review, 59*(1), 139-145. doi: 10.1111/j.1466-7657.2011.00932.x

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science, 10*(2), 227-237. doi: 10.1177/1745691614568352

Holmén, K., & Furukawa, H. (2002). Loneliness, health and social network among elderly people—a follow-up study. *Archives of Gerontology and Geriatrics, 35*(3), 261-274. doi: 10.1016/S0167-4943(02)00049-3

Huakau G, Bray A. 2000. 'Talking disabilities' from a Pacific perspective. Dunedin: Donald Beasley Institute Inc.

Hussey. (2013). *Rehab Measures: Short Form 12 item (version 2) Health Survey.* Retrieved from http://www.rehabmeasures.org/Lists/RehabMeasures/DispForm.aspx?ID=1149

Iborra, I. (2008). *Elder maltreatment within families in Spain*. Valencia: (n.p.).

Idler, E. L., & Benyamini, Y. (1997). Self-Rated Health and Mortality: A Review of Twenty-Seven Community Studies. *Journal of Health and Social Behaviour, 38*(1), 21-37.

Jackson, S. L., & Hafemeister, T.L. (2012). Pure financial exploitation versus hybrid financial exploitation co-occurring with physical abuse and/or neglect of elderly persons. *Psychology of Violence, 2*, 285-296. doi:10.1037/a0027273.

Jackson, S. L., & Hafemeister, T.L. (2013). Understanding elder abuse: new directions for developing theories of elder abuse occurring in domestic settings. Retrieved from https://www.ncjrs.gov/pdffiles1/nij/241731.pdf

Jensen, J., Spittal, M., & Krishnan, V. (2005). *ELSI Short Form: User manual for a direct measure of living standards*. Retrieved from http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/living-standards/elsi-short-form.html

Jensen, J., Spittal, M., Crichton, S., Sathiyandra, S., & Krishnan, V. (2002). *Direct measurement of living standards: The New Zealand ELSI scale*. Retrieved from https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/monitoring/direct-measurement-of-living-standards-ch1.pdf:

Jervis, L. L. (2014). Native elder mistreatment: Elder abuse and its prevention. Washington, DC: The National Academies Press.

Johannesen, M., & Logiudice, D. (2013). Elder abuse: A systematic review of risk factors in community-dwelling elders. *Age And Ageing, 42*(3), 292-298. doi: 10.1093/ageing/afs195

Jorgest, G. L., Daly, J.M., Galloway, B.A., Zheng S. &, Xu, Y. (2012). Substance abuse associated with elder abuse in the United States. American Journal of Drug and Alcohol Abuse, 38(1), 63-69. doi:10.3109/00952990.2011.600390

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

Keating, N., Otfinowski, P., Wenger, C., Fast, J., & Derksen, L. (2003). Understanding the caring capacity of informal networks of frail seniors: A case for care networks. *Ageing And Society, 23*(1), 115-127. doi: 10.1017/S0144686X02008954

Kempe, C. H., Silverman, F., Steele, B., Droegemueller, W., & Silver, H. (1962). The battered child syndrome. *Journal of the American Medical Association, 181*(17-24).

Kissal, A., & Beser, A. (2011). Elder abuse and neglect in a population offering care by a primary health care center in Izmir, Turkey. *Social Work in Health Care, 50*, 158-175.

Koenig, T. S., Rinfrette, E.S., & Lutz, W.A. (2006). Female caregivers' reflections on ethical decision-making: the intersection of domestic violence and elder care. Clinical Social Work Journal, 34, 361-372. doi:10.1016/S0197-4556(01)00122-8.

Koopman-Boyden, P., & Waldegrave, C. (2009). Introduction. In P. Koopman-Boyden & C. Waldegrave (Eds.), *Enhancing wellbeing in an ageing society: 65-84 year old New Zealanders in 2007* (pp. 1-7). Retrieved from http://www.ewas.net.nz/Publications/filesEWAS/EWAS_M1.pdf.

Korbin, J.E., Anetzberger, G.J. & Austin, C. (1995). The intergenerational cycle of violence in child and elder abuse. *Journal of Elder Abuse and Neglect, 7*(1), 1–15. doi:10.1300/J084v07n01_01.

Kosberg, J. I. (1998). The abuse of elderly men. *Journal of Elder Abuse & Neglect, 9*(3), 69-88. doi: 10.1300/J084v09n03_04

Krug, E. D., Mercy, L. L., Zwi, J. A., & Lozano, R. (2002). *Abuse of the elderly*. Retrieved from http://www.who.int/violence_injury_prevention/violence/world_report/chapters/en/

Lachs, M. S., & Pillemer, K. (2004). Elder abuse. *The Lancet, 364*(9441), 1263-1272. doi: 10.1016/S0140-6736(04)17144-4

Lachs, M. S., Williams, C. S., O'Brien, S., Pillemer, K. A. & Charlson, M. E. (1998). The mortality of elder mistreatment. *Journal of the American Medical Association, 280(5)*, 428-432.

Lee, Y.S., Kaplan, C. P., & Perez-Stable, E. J. (2014). Elder mistreatment among Chinese and Korean immigrants: The roles of sociocultural contexts on perceptions and help-seeking behaviors. *Journal of Elder Abuse & Neglect, 26*(3), 244-269. doi: 10.1080/10926771.2014.864741

Lev-Wiesel, R. & Kleinberg, B. (2002). Elderly battered wives' perceptions of the spousal relationship as reflected in the drawings of the couple. *The Arts in Psychotherapy, 29*, 13-17. doi:10.1016/S0197-4556(01)00122-8.

Lin, N., Ensel, W. M., Simeone, R. S., & Kuo, W. (1979). Social support, stressful life events, and illness: A model and an empirical test. *Journal of Health and Social Behaviour, 20*(2), 108-119.

Lindenberg, J., Westendorp, R. G. J., Kurrle, S., & Biggs, S. (2013). Elder abuse an international perspective: Exploring the context of elder abuse. *International Psychogeriatrics, 25*(8), 1213-1215. doi:10.1017/S1041610213000926

Lingler, J. H. (2003). Ethical issues in distinguishing sexual activity from sexual maltreatment among women with dementia. *Journal of Elder Abuse and Neglect, 15*(2), 85-102.

Litwin, H., & Landau, R. (2000). Social network type and social support among the old-old. *Journal of Aging Studies, 14*(2), 213. doi: 10.1016/S0890-4065(00)80012-2

Litwin, H., & Zoabi, S. (2004). A multivariate examination of explanations for the occurrence of elder abuse. *Social Work Research, 28*(3), 133-142. doi: 10.1093/swr/28.3.133

Lowenstein, A., Eiskovits, Z., Winterstein, T. (2009). Is elder abuse and englect a social phonemenon? Data from the first national prevalence survey in Israel. *Journal of Elder Abuse and Neglect, 21*, 253-277.

Luo, Y., & Waite, L. J. (2011). Mistreatment and psychological well-being among older adults: Exploring the role of psychosocial resources and deficits. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 66*(2), 217-229. doi: 10.1093/geronb/gbq096

MacMillan, H.L., Wathen, N., Jamieson, E., Boyle, M.H., Shannon, H.S., Ford-Gilboe, M., Worster, A., Lent, B., Coben, J. H., Campbell J. C., & McNutt, L.A. (2009). Screening for intimate partner violence in health care settings: a randomized trial. *Journal of the American Medical Association, 302*(5):493–501. doi:10.1001/jama.2009.1089.

Mallicoat, S. (2011). Women and victimization: Intimate partner abuse. In S. Mallicoat (Ed.), *Women and Crime: A Text/Reader* (pp. 135-190). Fullerton, CA: Sage Publishing.

Marin, R. A. (2013). *Global pension crisis: Unfunded liabilities and how we can fill the gap*. New Jersey: John Wiley & Sons Inc.

Martins, R., Neto, M. J., Andrade, A., & Albuquerque, C. (2014). Abuse and maltreatment in the elderly. *Atencion Primaria, 46*(Supplement 5), 206-209. doi: 10.1016/S0212-6567(14)70093-9

Massey University. (2015). *Surveys and data.* Retrieved from http://www.massey.ac.nz/massey/learning/departments/school-of-psychology/research/hart/surveys.cfm

New Zealand Association of Gerontology. (2015). *New Zealand Longitudinal Study of Ageing.* Retrieved from http://gerontology.org.nz/new-zealand-longitudinal-study-of-ageing-nzlsa

McDonald, L., & Thomas, C. (2013). Elder abuse through a life course lens. *International Psychogeriatrics, 25*(8), 235–43. doi:10.1017/ S104161021300015X.

Melchiorre, M. G., Chiatti, C., Lamura, G., Torres-Gonzales, F., Stankunas, M., Lindert, J., Ioannidi-Kapolou, E., Barros, H., Macassa, G., & Soares, J. (2013). Social support, socio-economic status, health and abuse among older people in seven European countries. *Public Library of Science ONE, 8*(1), e54856. doi: 10.1371/journal.pone.0054856

Mihaljcic, T., & Lowndes, G. (2013). Individual and community attitudes toward financial elder abuse. *Journal of Elder Abuse & Neglect, 25*(2), 183-203. doi: 10.1080/08946566.2012.712867

Miller, W., Anton, H., & Townson, A. (2008). Measurement properties of the CESD scale among individuals with spinal cord injury. *Spinal Cord, 46*(4), 287-292.

Ministry of Social Development. (2001). *New Zealand Positive Ageing Strategy.* Retrieved from https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/planning-strategy/positive-ageing/index.html

Mitchell, K.J., & Finkelhor, D. (2001). Risk of crime victimisation among youth exposed to domestic violence. *Journal of Interpersonal Violence, 16*, 944–964.

Momtaz, Y. A., Hamid, T. A., & Ibrahim, R. (2013). Theories and measures of elder abuse.

Psychogeriatrics, 13(3). doi: 10.1111/psychg.12009

Montepare, J. M. (2009). Subjective age: Toward a guiding lifespan framework. *International Journal of Behavioral Development, 33*(1), 42-46. doi:10.1177/0165025408095551

Mukherjee, D. (2013). Financial exploitation of older adults in rural settings: a family perspective. *Journal of Elder Abuse & Neglect, 25*(5), 425-437. doi: 10.1080/08946566.2012.751828

Mysyuk, Y., Westendorp, R. G. J., & Lindenberg, J. (2013). Framing abuse: explaining the incidence, perpetuation, and intervention in elder abuse. *International Psychogeriatrics, 25*(8), 1267-1274. doi: 10.1017/S1041610212002281

National Center on Elder Abuse. (1998). The national elder abuse incidence study. New York: (n.p.).

National Center on Elder Abuse. (2015). National Center on Elder Abuse administration on aging department of health and human services: Types of abuse. Retrieved from http://www.ncea.aoa.gov/FAQ/Type_Abuse/index.aspx.

Naughton, C., Drennan, J., & Treacy, M. P. (2010). Abuse and neglect of older people in Ireland: Report on the national study of elder abuse and neglect. Dublin: National Centre for the Protection of Older People.

Newsom, J. T., Mahan, T. L., Rook, K. S., & Krause, N. (2008). Stable negative social exchanges and health. *Health Psychology, 27*(1), 78-86. doi: 10.1037/0278-6133.27.1.78

New Zealand Longitudinal Study of Ageing. (2010). NZLSA Survey 2010. Retrieved from http://www.massey.ac.nz/massey/learning/departments/school-of-psychology/research/hart/new-zealand-health-work-and-retirement-study/health-work-and-retirement-questionnaires.cfm

Ng, S. H. (2002). Will families support their elders? Answers from across cultures. In T. D. Nelson (Ed.), *Ageism: Stereotyping and prejudice against older adults* (pp. 295-309). Cambridge, MA: MIT Press.

O'Keeffe, M., Hills, A., Doyle, M., McCreadie, C., Scholes, S., Constantine, A., Manthorpe, J., Biggs, S. & Erens, B. (2007). UK Study of abuse and neglect of older people: Prevalence survey report. London: Department of Health.

Patel, D. M., Simon, M. A. & Taylor, R. M. (2013). Contagion of violence: Workshop summary. National Academies Press. Retrieved from http:// www.nap.edu/catalog/13489/contagion-of-violence-workshop- summary.

Payne, B. K. (2008). Elder physical abuse and failure to report cases: Similarities and differences in case type and the justice system's response. *Crime & Delinquency, 59*(5), 697-717. doi: 10.1177/0011128708317940

Pearlin, L. I., Mullan, J. T., Semple, S. J., & Skaff, M. M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *The Gerontologist, 30*(5), 583-594.

Penhale, B. (1993). The abuse of elderly people: Considerations for practice. British Journal of Social Work.

Perez-Carceles, M. D. (2017). Elder abuse and culture: Latino anthropological and ethnographic experiences. In X. Dong. *Elder abuse: Research, practice and policy*. (pp. 495-522). (n.p.): Springer International Publishing.

Peri, K., Fanslow, J., Hand, J., & Parsons, J. (2008). *Elder abuse and neglect: Exploration of risk and protective factors: A report for the Families Commission*. Retrieved from https://www.ageconcern.org.nz/files/EANP/Elder%20Abuse%20and%20Neglect,%20Exploration%20of%20Risk%20and%20Protectvie%20Factors,%20Families%20Commission,%202008.pdf

Pescosolido, B., & Levy, J. (2002). The role of social networks in health illness and disease and healing. In J. A. Levy & B. A. Pesocosolido (Eds.), *Social Networks and Health*. Oxford: Elsevier Science.

Phelan, A., & Treacy, M. (2011). *A review of elder abuse screening tools for use in the Irish context*. Retrieved from http://www.ncpop.ie/userfiles/file/ncpop%20reports/538_NCPOP-proof7.pdf

Phillipson, C., Bernard, M., Phillips, J., & Ogg, J. (2001). *The family and community life of older people: Social networks and social support in three urban areas*. London: Routledge.

Phillipson, C. (2013). *Ageing*. Cambridge, England: Polity Press.

Pillemer, K., Burnes, D., Riffin, C., & Lachs, M. S. (2016). Elder abuse: Global situation, risk factors, and prevent strategies. *The Gerontologist, 56*(S2), S194-S205. doi: doi:10.1093/geront/gnw004

Pillemer, K., Connolly, M.T., Breckman, R., Spreng, N., & Lachs, M. S. (2015). Elder mistreatment: Priorities for consideration by the White House Conference on Aging. *The Gerontologist, 55*(2), 320-327. doi: 10.1093/geront/gnu180

Pillemer K. & Finkelhor D. (1989). Causes of elder abuse: caregiver stress versus problem relatives. *American Journal of Orthopsychiatry, 59*(20), 1790187. doi:10.1111/j.1939-0025.1989.tb01649.x.

Pillemer K. A. & Wolf, R.S. (1986). Elder abuse: Conflict in the family. Santa Barbara: Greenwood Publishing Group.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891. doi: 10.3758/brm.40.3.879

Radloff, L. (1977). The CES-D scale: A self report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.

Raynor, B. (2015). Ageism In Action? Ageism Inaction! *Generations, 39*(3), 58-63.

Rizzo, V. M., Burnes, D., & Chalfy, A. (2015). A systematic evaluation of a multidisciplinary social work–lawyer elder mistreatment intervention model. *Journal of Elder Abuse & Neglect, 27*(1), 1-18. doi: 10.1080/08946566.2013.792104

Roberto, K. A. & Teaster, P. B. (2017). Theorising elder abuse. In X. Dong. *Elder abuse: Research, practice and policy*. (pp. 21-44). (n.p.): Springer International Publishing.

Rook, K. S. (1984). The negative side of social interaction: Impact on psychological well-being. *Journal of Personality and Social Psychology, 46*(5), 1097-1108. doi: 10.1037/0022-3514.46.5.1097

Rook, K. S. (2000). The evolution of social relationships in later adulthood. In S. H. Qualls & N. Abeles (Eds.), *Psychology and the Aging Revolution: How We Adapt to Longer Life.* (pp. 173-191). Washington, D. C.: American Psychological Association.

Rook, K. S. (2009). Gaps in social support resources in later life: An adaptational challenge in need of further research. *Journal of Social and Personal Relationships, 26*(1), 103-112. doi: 10.1177/0265407509105525

Rook, K. S. (2014). The health effects of negative social exchanges in later life. *Generations, 38*(1), 15-23.

Rook, K. S., Luong, G., Sorkin, D. H., Newsom, J. T., & Krause, N. (2012). Ambivalent versus problematic social ties: Implications for psychological health, functional health, and interpersonal coping. *Psychology and Aging, 27*(4), 912-923. doi: 10.1037/a0029246

Russell, D., Altwater, E., & Van Velzen, D. (1984). Job related stress, social support, and burnout among teachers. *Journal of Applied Psychology, 72*(2), 269-274.

Schafer, M. H., & Koltai, J. (2015). Does embeddedness protect? Personal network density and vulnerability to mistreatment among older American adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 70*(4), 597-606. doi: 10.1093/geronb/gbu071

Schmeidel, A. N., Daly, J. M., Rosenbaum, M. E., Schmuch, G. A., & Jogerst, G. J. (2012). Healthcare professionals' perspectives on barriers to elder abuse detection and reporting in primary care settings. *Journal of Elder Abuse & Neglect, 24*(1), 17-36. doi: 10.1080/08946566.2011.608044

Schofield, M. (2017). Screening for elder abuse: Tools and effectiveness. In X. Dong. *Elder abuse: Research, practice and policy*. (pp. 161-200). (n.p.): Springer International Publishing.

Schofield, Reynolds, R., Mishra, G. D., Powers, J. R., & Dobson, A. J. (2002). Screening for vulnerability to abuse among older women: Women's Health Australia Study. *The Journal of Applied Gerontology, 21*(1), 110-120.

Schofield, & Mishra, G. D. (2003). Validity of self-report screening scale for elder abuse: Women's Health Australia study. *Gerontologist, 43*(1), 110-120.

Schofield, & Mishra, G. D. (2004). Three year health outcomes among older women at risk of elder abuse: Women's Health Australia. *Quality of Life Research, 13*, 1043-1052.

Schofield, Powers, J. R., & Loxton, D. (2013). Mortality and disability outcomes of self-reported elder abuse: A 12-year prospective investigation. *Journal of the American Geriatrics Society, 61*(5), 679-685. doi: 10.1111/jgs.12212

Senturia, K., Sullivan, M., Ciske, S. & Shiu-Thornton, S. (2000). Cultural issues affecting domestic violence service utilization in ethnic and hard to reach populations: Final report. (n.p.): U.S. Department of Justice.

Sethi, D., Wood, S., Mitis, F., Bellis, M., Penhale, B., Marmolejo, I. I., Lowenstein, A., Manthorpe, G. & Karki, F. U. (Eds.). (2011). *European report on preventing elder maltreatment.* Denmark: World Health Organisation Regional Office for Europe

Shugarman, L. R., Fries, B. E., Wolf, R. S., & Morris, J. N. (2003). Identifying older people at risk of abuse during routine screening practices. *Journal of the American Geriatrics Society, 51*(1), 24-31. doi: 10.1034/j.1601-5215.2002.51005.x

Smith, L. (2011). Elder abuse: Understanding pathways and processes. In P. Ryan & B. J. Coughlan. (Eds.), *Ageing and Older Adult Mental Health: Issues and Implications for Practice* (pp. 143-158). New York: Routledge.

Smith, L., & Long, N. M. (2011). Elder abuse: What works and does not work to prevent it? . In P. Ryan & B. J. Coughlan (Eds.), *Ageing and Older Adult Mental Health: Issues and Implications for Practice* (pp. 159-175). New York: Routledge.

Soares, J. J. F., Barros, H., Torres-Gonzales, F., Ioannidi-Kapolou, E., Lamura, G., Lindert, J., di Dios Luna, J., Macassa, G., Melchiorre, M. G. & Stankunas, M. (2010). *Abuse and health in Europe*. Kaunas: Lithuanian University of Health Sciences Press.

Song, L., Son, J., & Lin, N. (2014). Social support. In J. Scott & P. J. Carrington (Eds.), *The Sage Handbook of Social Network Analysis* (pp. 116-128). doi:10.4135/9781446294413

Sorkin, D. H., & Rook, K. S. (2004). Interpersonal control strivings and vulnerability to negative social exchanges in later life. *Psychology and Aging, 19*(4), 555-564. doi: 10.1037/0882-7974.19.4.555

Statistics New Zealand. (2000). *Population ageing in New Zealand*. Retrieved from http://www.stats.govt.nz/browse_for_stats/people_and_communities/older_people/pop-ageing-in-nz.aspx

Statistics New Zealand. (2006). *Demographic aspects of New Zealand's ageing population*. Retrieved from Retrieved from http://www.stats.govt.nz/browse_for_stats/people_and_communities/older_people/demographic-aspects-nz-ageing-population.aspx:

Statistics New Zealand. (2013a). Loneliness in New Zealand: Findings from the 2010 NZ General Social Survey. Retrieved from

http://archive.stats.govt.nz/browse_for_stats/people_and_communities/older_people/loneliness-in-nz-2010-NZGSS.aspx

Statistics New Zealand. (2013b). 2013 Census Quick Stats About Māori. Retrieved from

http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-Māori-english.aspx

Statistics New Zealand. (2013c). Quick Stats about people aged 65 and over. Retrieved from http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-65-plus.aspx

Statistics New Zealand. (2014). National population projects: 2011 (base) – 2061. Retrieved from http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalPopulationProjections_HOTP2011.aspx

Statistics New Zealand. (2015). New Zealand Period Life Tables: 2012 – 2014 Media Release. Retrieved from http://www.stats.govt.nz/browse_for_stats/health/life_expectancy/NZLifeTables_MR12-14.aspx

Statistics New Zealand. (2017a). National population estimates: At 30 June 2017. Retrieved from https://statsunleashed.cwp.govt.nz/information-releases/national-population-estimates-at-30-june-2017

Statistics New Zealand. (2017b). Māori population estimates: At 30 June 2017. Retrieved from https://www.stats.govt.nz/information-releases/Māori-population-estimates-at-30-june-2017

Stevenson, B. (2014). The New Zealand Longitudinal Study of Ageing: Summary Report: Measures. Retrieved from Stroebe, W. (2011). Social psychology and health (2nd ed). Buckingham: Open University Press.

Szabo, A., Stephens, C., Allen, J., & Alpass, F. (2016). Construct Validation of Wenger's Support Network Typology. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 71*(6). doi: 10.1093/geronb/gbw126

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.).* New York: Pearson Education Inc.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics (6th ed.).* Boston, MA: Pearson.

Teitelman, J. (2006). Sexual abuse of older adults: Appropriate responses for health and human services providers. *Journal of Health and Human Services Administration, 29*(2), 209-227.

Thane, P. (2000). *Old age in English history: Past experiences, present issues*. Oxford, England: Oxford University Press.

Thobaben, M. (2012). Elder abuse is a crime that home health nurses can help prevent from occurring. *Home Health Care Management and Practice, 24*(2), 107-109. doi: 10.1177/1084822311429823

Thompson C, Atkins D. 1996. US Preventive Services Task Force. *Screening for Family Violence: Guide to clinical preventive services* (2nd ed.). URL: http://cpmcnet.columbia.edu/texts/gcps/gcps0061.html

Towers, A., & Noone, J. (2007). *Health, Work, and Retirement Study: Summary report for the 2006 data wave.* Retrieved from http://www.massey.ac.nz/massey/fms/Colleges/College%20of%20Humanities%20and%20Social%20Sciences/Psychology/HART/surveys/Chapter%202_Our%20Sample.pdf?1B81FFAB8DA124A54DAE03216116D923

Trevitt, C., & Gallagher, E. (1996). Elder abuse in Canada and Australia: Implications for nurses. *International Journal of Nursing Studies, 33*(6), 651-659. doi: 10.1016/S0020-7489(96)00022-3

Trocme, N., Fallon, B., MacLaurin, B., Chamberland, C., Chabot, M. & Esposito, T.. (2011). Shifting definitions of emotional maltreatment: An analysis child welfare investigaton laws and practices in Canada. *Child Abuse and Neglect, 35*(10), 831-840. doi: 10.1016/j.chiabu.2011.05.015

Uchino, B. (2004). *Social support and physical health: Understanding the health and consequences of relationships*. London: Yale University Press.

United Nations. (2012). *Resolution adopted by the General Assembly on 19 December 2011*. Retrieved from http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/66/127

U. S. Department of Health & Human Services. (2015). White House Conference on Ageing.

Von Heydrich, L., Schiamberg, L. B., & Chee, G. (2012). Social-relational risk factors for predicting elder physical abuse: An ecological bi-focal model. *International Journal of Aging & Human Development, 75*(1), 71-94. doi: 10.2190/AG.75.1.f

Wallace, R. B. & Crabb, V. L. (2017). Toward definitions of elder mistreatment. In X. Dong. *Elder abuse: Research, practice and policy*. (pp. 3-20). (n.p.): Springer International Publishing.

Waite, X., & Das, A. (2010). Families, social life, and well-being at older ages. *Demography, 47*(SUPPL.1), S87-S109. doi: 10.1353/dem.2010.0009

Weiss. (1973). *Loneliness: The experience of emotional and social isolation*. Cambridge, MA: The MIT Press.

Weiss, R. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others: Joining, molding, conforming, helping, loving* (pp. 17-26). Englewood Cliffs, NJ: Prentice Hall.

Wenger, C. (1984). *The supportive network: Coping with old age* (Vol. 5). London: George Allen & Unwin.

Wenger, C. (1994a). *Support networks of older people: A guide for practitioners*. Bangor, Wales: Centre for Social Policy Research and Development.

Wenger, C. (1994b). *Understanding support networks and community care: Network assessment for elderly people*. Aldershot, United Kingdom: Avebury.

Wenger, C. (1996). Social networks and gerontology. *Reviews in Clinical Gerontology, 63*(3), 285-293. doi: 10.1017/S0959259800004780

Wenger, C. (1997). Social networks and the prediction of elderly people at risk. *Aging & Mental Health, 1*(4), 311-320. doi: 10.1080/13607869757001

Wenger, C., & Keating, N. (2008). The evolution of networks of rural older adults. In N. Keating (Ed.), *Rural Ageing: A Good Place to Grow Old?* (pp. 33-42). Bristol, United Kingdom: Policy Press.

Wenger, C., & Tucker, I. (2002). Using network variation in practice: Identification of support network type. *Health & Social Care in the Community, 10*(1), 28-35. doi: 10.1046/j.0966-0410.2001.00339.x

Williams, J. L., Davis, M., & Acierno, R. (2017). Global prevalence of elder abuse in the community. In X. Dong. *Elder abuse: Research, practice and policy*. (pp. 45-66). (n.p.): Springer International Publishing.

Williams, M., Grajales, C., & Kurkiewicz, D. (2013). Assumptions of multiple regression: Correcting two misconceptions. *Practical Assessment, Research & Evaluation, 18*(11), 1-14.

Wilson, G. (2000). *An ageing world Understanding old age: Critical and global perspectives.* doi:10.4135/9781446218495

Wood, S., Rakela, B. Liu, P. J., Navarro, A E., Bernatz, S., Wilber, K. H., Allen, R., & homeier, D. (2014). Neuropsychological profiles of victims of financial elder exploitation at the Los

Angeles county of elder abuse forensic center. *Journal of Elder Abuse and Neglect, 26*(4), 414-423. Doi: 10.1080/08946566.2014.881270

Work and Income New Zealand. (2017). New Zealand Superannuation (NZ Super). Retrieved from https://www.workandincome.govt.nz/eligibility/seniors/superannuation/index.html

World Health Organisation. (2007). Preventing injuries and violence: A guide for ministries of health. Retrieved from http://www.who.int/violence_injury_prevention/publications/injury_policy_planning/prevention_moh/en/

World Health Organisation. (2011). Elder abuse. Retrieved from http://www.who.int/mediacentre/factsheets/fs357/en/

Yan, E. (2015). Elder abuse and help-seeking behavior in elderly Chinese. *Journal of Interpersonal Violence, 30*(15), 2683-2708. doi: 10.1177/0886260514553628

Yan, E. & Fang, G. (2017). In X. Dong. *Elder abuse: Research, practice and policy*. (pp. 477-494). (n.p.): Springer International Publishing.

Yeung, P., Cooper, L., & Dale, M. (2015). Prevalence and associated factors of elder abuse in a community-dwelling population of Aotearoa New Zealand: A cross-sectional study. *Aotearoa New Zealand Social Work Review, 27*(3), 29-43.

Yon, Y., Mikton, C., Gassoumis, Z. & Wilber, K. (2017). Elder abuse prevalence in community settings: A systematic review and meta-analyses. *The Lancet Global Health, 5*(2), e147-e156. http://dx.doi.org/10.1016/S2214-109X(17)30006-2

Zhan, H. J., & Rhonda, J. V. M. (2003). Gender and elder care in China: The influence of filial piety and structural constraints. *Global Perspectives on Gender and Carework, 17*(2), 209-229. doi: 10.1177/0891243202250714

Zettel, L. A., & Rook, K. S. (2004). Substitution and compensation in the social networks of older widowed women. *Psychology and Aging, 19*(3), 433-443. doi: 10.1037/0882-7974.19.3.433

APPENDICES

Appendix 1. New Zealand Longitudinal Study of Ageing Survey 2010

YOUR HEALTH, WELL-BEING, & QUALITY OF LIFE

1) In general, would you say your health is: (Please tick ONE circle)

Excellent	Very good	Good	Fair	Poor
1	2	3	4	5

2) 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?

(Tick ONE circle on each line)

	Yes, limited a lot	Yes, limited a little	No, not limited at all
Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
Climbing several flights of stairs	1	2	3

3) During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(Tick ONE circle on each line)

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Accomplished less than you would like	1	2	3	4	5
Were limited in the kind of work or other activities	1	2	3	4	5

4) During the past 4 weeks, how much of the time 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)?

(Tick ONE circle on each line)

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Accomplished less than you would like	1	2	3	4	5
Did work or activities less carefully than usual	1	2	3	4	5

5) 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 time during the past 4 weeks…

(Tick ONE circle on each line)

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Have you felt calm and peaceful?	1	2	3	4	5
Did you have a lot of energy?	1	2	3	4	5
Have you felt downhearted and depressed?	1	2	3	4	5

6) During the <u>past 4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)? (Please tick ONE circle)

Not at all	A little bit	Moderately	Quite a bit	Extremely
1	2	3	4	5

7) During the past 4 weeks, how much of the time has your <u>physical health or emotional problems</u> interfered with your social activities (like visiting friends, relatives, etc.)?
(Please tick ONE circle)

All of the time	Most of the time	Some of the time	A little of the time	None of the time
1	2	3	4	5

8) Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the <u>past week</u>.
(Tick ONE circle on each line)

	Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of time	All of the time
I was bothered by things that usually don't bother me	1	2	3	4
I had trouble keeping my mind on what I was doing	1	2	3	4
I felt depressed	1	2	3	4
I felt that everything I did was an effort	1	2	3	4
I felt hopeful about the future	1	2	3	4
I felt fearful	1	2	3	4
My sleep was restless	1	2	3	4
I was happy	1	2	3	4
I felt lonely	1	2	3	4
I could not "get going"	1	2	3	4

9) (a) How often do you have a drink containing alcohol? (Please tick ONE circle)

Never	Monthly or less	Two to four times per month	Two to three times per week	Four or more times a week
1	2	3	4	5

(b) Have you ever drunk alcohol in the past? (Please tick ONE circle)

Yes	No	
1	2	→ (If you ticked 'No' please go to Q.10)

(c) How many drinks containing alcohol do you have on a typical day when drinking?
(Please tick ONE circle)

1 or 2	3 or 4	5 or 6	7 to 9	10 or more
1	2	3	4	5

(d) How often do you have six or more drinks on one occasion? (Please tick ONE circle)

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
1	2	3	4	5

10) We would like to know the type and amount of physical activity involved in your daily life. How often do you take part in sports or activities that are...

(Tick ONE circle on each line)	More than once a week	Once a week	One to three times a month	Hardly ever or never
...vigorous (e.g., running or jogging, swimming, aerobics)	1	2	3	4
...moderately energetic (e.g., gardening, brisk walking)	1	2	3	4
...mildly energetic (e.g., vacuuming, laundry/washing)	1	2	3	4

11) Please tick 'Yes' to indicate if a health professional has told you that you have any of the following conditions. If possible, please also indicate your age when this condition was diagnosed or recognised.

	Yes	Approximate age	
Anaemia (low iron)?	1 →		
Arthritis or rheumatism?	1 →		
Asthma?	1 →		
Bowel disorders (e.g., colitis or polyps)?	1 →		
Cancer? Please specify type (e.g. lung, leukaemia, melanoma): _____	1 →		
Chronic kidney or urinary tract conditions?	1 →		
Chronic liver trouble (e.g., cirrhosis)?	1 →		
Chronic skin conditions (e.g., dermatitis or psoriasis)?	1 →		
Diabetes?	1 →		
Epilepsy?	1 →		
Hearing impairment?	1 →		
Heart trouble (e.g., angina or heart attack)?	1 →		
Hepatitis?	1 →		
Hernia or rupture?	1 →		
High blood pressure or hypertension?	1 →		
Intellectual disability/handicap?	1 →		
Leg ulcers?	1 →		
Mental illness?	1 →		
Other respiratory conditions (e.g., bronchitis)?	1 →		
Physical disability/handicap?	1 →		
Sight impairment (that cannot be corrected by glasses)?	1 →		
Sleep disorder?	1 →		
Stomach ulcer or duodenal ulcer?	1 →		
Stroke?	1 →		
Other? Please specify below: _____	1 →		

12) (a) Have you, at any stage of your life, <u>ever been</u> a *regular* smoker?

Yes	No	
1	2 →	(If you ticked 'No' please go to Q.13)

(b) If you <u>currently</u> consider yourself a regular smoker, how many do you think you would smoke on an average day? (Please tick ONE circle)

1 to 10 a day	11 to 20 a day	21 to 30 a day	31 or more a day	*OR*	Not a regular smoker
1	2	3	4		5

13) Here is a list of statements that people have used to describe their lives or how they feel. We would like to know how often, if at all, you think this applies to you.

(Tick ONE circle on each line)

	Often	Some-times	Not often	Never
My age prevents me from doing the things I would like to	1	2	3	4
I feel that what happens to me is out of my control	1	2	3	4
I feel left out of things	1	2	3	4
I can do the things that I want to do	1	2	3	4
I feel that I can please myself what I do	1	2	3	4
Shortage of money stops me from doing things I want to do	1	2	3	4
I look forward to each day	1	2	3	4
I feel that my life has meaning	1	2	3	4
I enjoy the things that I do	1	2	3	4
I feel full of energy these days	1	2	3	4
I feel that life is full of opportunities	1	2	3	4
I feel that the future looks good for me	1	2	3	4

14) The following questions are about your quality of life and health. Please think about your life in the <u>last four weeks</u>.

(Tick ONE circle on each line)

	Very poor	Poor	Neither good nor poor	Good	Very good
How would you rate your quality of life?	1	2	3	4	5

	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
How satisfied are you with your health?	1	2	3	4	5
How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
How satisfied are you with yourself?	1	2	3	4	5
How satisfied are you with your personal relationships?	1	2	3	4	5
How satisfied are you with the conditions of your living place?	1	2	3	4	5

	Not at all	A little	Moderately	Mostly	Completely
Do you have enough energy for everyday life?	1	2	3	4	5
Have you enough money to meet your needs?	1	2	3	4	5

15) Think about your current relationships with friends, family members, co-workers, community members and so on. To what extent do you agree that each statement describes your current relationships with other people?

(Tick ONE circle on each line)

	Strongly Disagree	Disagree	Agree	Strongly agree
There are people I can depend on to help me if I really need it	1	2	3	4
I feel that I do not have close personal relationships with other people	1	2	3	4
There is no one I can turn to for guidance in times of stress	1	2	3	4
There are people who depend on me for help	1	2	3	4
There are people who enjoy the same social activities I do	1	2	3	4
Other people do not view me as competent	1	2	3	4
I feel personally responsible for the well-being of another person	1	2	3	4
I feel part of a group of people who share my attitudes and beliefs	1	2	3	4
I do not think other people respect my skills and abilities	1	2	3	4
If something went wrong, no one would come to my assistance	1	2	3	4
I have close relationships that provide me with a sense of emotional security and well-being	1	2	3	4
There is someone I could talk to about important decisions in my life	1	2	3	4
I have relationships where my competence and skills are recognized	1	2	3	4
There is no one who shares my interests and concerns	1	2	3	4
There is no one who really relies on me for their well-being	1	2	3	4
There is a trustworthy person I could turn to for advice if I were having problems	1	2	3	4
I feel a strong emotional bond with another person	1	2	3	4
There is no one I can depend on for aid if I really need it	1	2	3	4
There is no one I feel comfortable talking about problems with	1	2	3	4
There are people who admire my talents and abilities	1	2	3	4
I lack a feeling of intimacy with another person	1	2	3	4
There is no one who likes to do the things I do	1	2	3	4
There are people I can count on in an emergency	1	2	3	4
No one needs me to care for them	1	2	3	4

16) How far away, in distance, does your nearest:

(Tick ONE circle on each line)

	Same house/ within 1 kilometre	1-5 kilometres	6-15 kilometres	16-50 kilometres	50+ kilometres/ overseas	*Not applicable or none living*
child live?	1	2	3	4	5	6
brother or sister live?	1	2	3	4	5	6
relative live (not including your spouse/child/siblings)?	1	2	3	4	5	6

17) Do you attend any of the following:

(Tick ONE circle on each line)

	Yes, regularly	Yes, on occasion	No
Religious meetings	1	2	3
Meetings of any community/neighbourhood or social groups	1	2	3

18) How often do you speak or do something with:
(Tick ONE circle on each line)

	Daily	2-3 times a week	At least weekly	At least monthly	Less often	*Never / I have none*
any of your children or other relatives?	1	2	3	4	5	6
any friends in your community/neighbourhood?	1	2	3	4	5	6
any of your neighbours?	1	2	3	4	5	6

19) These questions are about your feelings of being supported. Please tell us who provides different types of support for you by ticking the appropriate circle below. You can tick more than one circle if <u>more than one person</u> provides this support. Tick the circle labelled 'No-one' if no-one offers this support to you.

	Sources of social support									
	Partner	**Child or Grandchild**	**Parent or Grandparent**	**Extended Family**	**Close Friends**	**Colleagues**	**Acquaintances**	**Doctor/ Psychologist**	**Other (s)**	**No-one**
Who can you call on when you need to talk or discuss something?	1	1	1	1	1	1	1	1	1	1
Who would you be able to rely on for help if you were sick?	1	1	1	1	1	1	1	1	1	1
Who would you be able to rely on if you had financial problems?	1	1	1	1	1	1	1	1	1	1
Suppose that you would like to go out for the day tomorrow and you don't want to go alone. Who do you think is very likely to want to go with you?	1	1	1	1	1	1	1	1	1	1
Suppose that someone very close to you passes away. Who could you call on immediately – without making any sort of arrangement - for comfort?	1	1	1	1	1	1	1	1	1	1

20) Please indicate for each of the statements below the extent to which they apply to the way you feel now. (Tick ONE circle on each line)

	Yes	More or less	No
There is always someone I can talk to about my day-to-day problems	1	2	3
I miss having a really close friend	1	2	3
I experience a general sense of emptiness	1	2	3
There are plenty of people I can lean on when I have problems	1	2	3
I miss the pleasure of the company of others	1	2	3
I find my circle of friends and acquaintances too limited	1	2	3
There are many people I can trust completely	1	2	3
There are enough people I feel close to	1	2	3
I miss having people around	1	2	3
I often feel rejected	1	2	3
I can call on my friends whenever I need them	1	2	3

21) The following questions are about getting along with people and how you feel you are treated in your own home. These people may be family members or others who come to visit you. (Tick ONE circle on each line)

	Yes	No
Are you afraid of anyone in your family?	1	2
Has anyone close to you tried to hurt you or harm you recently?	1	2
Has anyone close to you called you names or put you down or made you feel bad recently?	1	2
Do you have enough privacy at home?	1	2
Do you trust most of the people in your family?	1	2
Can you take your own medication and get around by yourself?	1	2
Are you sad or lonely often?	1	2
Do you feel that nobody wants you around?	1	2
Do you feel uncomfortable with anyone in your family?	1	2
Does someone in your family make you stay in bed or tell you you're sick when you know you're not?	1	2
Has anyone forced you to do things you didn't want to do?	1	2
Has anyone taken things that belong to you without your OK?	1	2

22) The following questions concern <u>your</u> feelings of <u>being discriminated against by others</u>. How often in your day to day life has any of the following happened to you?
(Tick ONE circle on each line).

	Almost daily	At least once a week	A few times a month	A few times a year	Less than once a year	Never
You are treated with less courtesy and respect than other people	1	2	3	4	5	6
You receive poorer service than other people at restaurants and stores	1	2	3	4	5	6
People act as if they think you are not smart	1	2	3	4	5	6
People act as though they are afraid of you	1	2	3	4	5	6
You are called names or insulted	1	2	3	4	5	6
You are threatened or harassed	1	2	3	4	5	6

23) What would you say is the <u>*single*</u> most important reason for any of these things above happening to you? Was it your: (Please tick ONE circle)

Race or ethnicity?	1	2	Sexual orientation?
Gender?	3	4	Disability?
Age?	5	6	Religion?
Weight?	7	8	Health?
Not applicable: I am not discriminated against	9	10	Other (Please specify):

_____

24) What is your religion? (Please tick ONE circle)

Christianity	Islam	Hinduism	Sikh	Judaism
1	2	3	4	5
Buddhism	**Taoism**	**Ratana**	**Other**	***No religion***
6	7	8	9	10

25) Is faith important to you?

Yes (1) | No (2) → (If you ticked 'No' please go to Q.26)

If you ticked 'Yes' above, how important is your faith to you? (Please tick ONE circle)

A little important (1) | Reasonably important (2) | Very important (3)

26) How often do you practice religion, attend services or otherwise participate in religious activities? (Please tick ONE circle)

Daily (1) | Several times a week (2) | Once a week (3) | Once a month (4) | Seldom or never (5) | *Not practicing* (6)

27) The next three questions concern personal matters and they are important from a research point of view to understand people's sense of happiness and experience. We hope you don't mind us asking them. Remember that <u>you are not obliged to answer</u>, so if there is a question that you cannot answer then please feel free to move straight on.

(a) Are you interested in sex? (Please tick ONE circle)

Not at all (1) | A little (2) | Quite a bit (3) | Very much (4)

(b) How often do you have sexual contact? (Please tick ONE circle)

Never (1) | Occasionally (2) | Often (3) | Very often (4)

(c) How would you describe your sexual orientation? (Please tick ONE circle)

Opposite sex attraction (1) | Same sex attraction (2)

Great effort! You've done well. Take a break if you like, get a cup of tea, and get ready for the next part.

28) The following questions ask about childcare.

(a) Do you provide unpaid care for your grandchildren? (Please tick ONE circle)

Yes, daily	Yes, weekly	Yes, occasionally	No, never	No, don't have grandchildren
1	2	3	4	5

(b) Do you provide unpaid childcare for other people's children? (Please tick ONE circle)

Yes, daily	Yes, weekly	Yes, occasionally	No, never
1	2	3	4

29) Please indicate if <u>you personally</u> receive any home-based care and/or support for the following jobs or chores. If possible, please also indicate who pays for this care or support.

	Yes, I receive support for this	Who pays for this support? You or your family	A government agency (e.g., ACC, DHB)	Other	Don't know
Preparing your meals	1 →	1	2	3	4
Shopping for groceries and other things	1 →	1	2	3	4
Normal everyday housework (e.g., laundry)	1 →	1	2	3	4
Heavy household work (e.g., gardening)	1 →	1	2	3	4
Looking after your personal finances (e.g., paying bills)	1 →	1	2	3	4
Your personal care (e.g., bathing)	1 →	1	2	3	4
Communicating with other people (e.g., at the doctor)	1 →	1	2	3	4

30) These questions are about providing care for someone with a long-term illness, disability or frailty. By 'providing care' we mean practical assistance for at least 3 hours a week. Which of the following statements best applies to you? (Please tick ONE)

I currently provide care for someone with a long-term illness, disability or frailty (1)	If you ticked one of these please go to **question 31** below
I have been caring for someone with a long-term illness, disability or frailty who has passed away or moved into a nursing home or hospital in the last 12 months (2)	
I used to provide care for someone with a long-term illness, disability or frailty more than 12 months ago but do not actively care for them now (3)	If you ticked one of these please go to **question 33** on **page 14**
I have not provided cared for someone with a long-term illness, disability or frailty (4)	
I currently provide care for someone with a long-term illness, disability or frailty as part of my paid work (5)	

31) If you ticked '1' or '2' above, how many people with a long-term illness, disability or frailty do/did you regularly provide care for? (Please tick ONE circle)

One person	Two people	More than two people
1	2	3

32) Please select the person you have cared for the longest. Tell us about that person and their circumstances <u>at the time of care.</u>

(a) Approximately how old is/was the person you care(d) for? Years ☐☐

(b) How long have/had you been caring for this person? Years ☐☐ Months ☐☐

(c) How often on average do (did) you provide this care or assistance?
(Please tick ONE circle)

Every day	Several times per week	Once a week	Once every few weeks	Less often
①	②	③	④	⑤

(d) How much time on average do (did) you usually spend providing such care or assistance on each occasion? (Please tick ONE circle)

All day and night	All day	All night	Several hours	About an hour
①	②	③	④	⑤

(e) Is the person you care(d) for your: (Please tick ONE circle)

Spouse or partner? ① ② Mother-in-law or father-in-law?
Mother or father? ③ ④ Other relative?
Son or daughter? ⑤ ⑥ Friend?
Brother or sister? ⑦ ⑧ Other? (Please specify)

_____

(f) Does/did the person you care(d) for: (Please tick ONE circle)

Live with you? ① ② Live alone?
Live with their family? ③ ④ Live in a nursing home of care facility?
Live with their friends? ⑤ ⑥ Other? (Please specify)

_____

(g) Does/did the person you care(d) for have any of the following major medical conditions or disabilities? (Please tick ALL that apply)

Frailty in old age ①
Stroke ①
Alzheimer's disease / dementia ①
Autoimmune disorder ①
Intellectual disability or handicap ①
Cerebral palsy ①
Developmental disorder (e.g., Autism) ①
Mental health problem (e.g., depression) ①
Substance abuse / addiction ①
Other neurological disorder (e.g., multiple sclerosis, motor neuron disease) ①

① Cancer
① Infectious disease
① Major injury (e.g., head or spinal)
① Respiratory condition (e.g., asthma, emphysema)
① Paralysis
① Musculoskeletal condition (e.g., break / fracture)
① Severe arthritis / rheumatism
① Visual impairment
① Other? (please specify)

_____

33) Please indicate your CURRENT employment status:

Full-time paid employment, including self employment (35 or more hours per week)	1
Part-time paid work, including self employment (less than 35 hours per week)	2
Retired, no paid work	3
Full-time homemaker	4
Full-time student	5
Unable to work due to health or disability issue	6
Unemployed and seeking work	7
Other: (Please specify)	8

_____

34) Is your spouse/partner:

Employed Full-time	Employed Part-time	Not employed	Not applicable
1	2	3	4

35) Which of the following best describes:

(a) Your current occupation?
(b) Your main occupation between the ages of 30-65?

	(A) Your current occupation	**(B) Your main occupation between 30-65**
Not in Paid Employment OR Retired	1	1
Labourer (e.g., Cleaner, food packer, farm worker)	2	2
Machinery Operator / Driver (e.g., Machine operator, store person)	3	3
Sales worker (e.g., Insurance agent, sales assistant, cashier)	4	4
Clerical / Administrative Worker (e.g., Administrator, personal assistant)	5	5
Community or Personal Service Worker (e.g., Teacher aide, armed forces, hospitality worker, carer)	6	6
Technician / Trades Worker (e.g., Engineer, carpenter, hairdresser)	7	7
Professional (e.g., Accountant, doctor, nurse, teacher)	8	8
Manager (e.g., General manager, farm manager)	9	9

If you are CURRENTLY EMPLOYED in either part-time or full-time work (including self-employment) please go to question 36 on the next page

If you are NOT currently employed please go straight to question 42 on page 17.

For Those People Currently in Paid Work

36) How many hours do you currently work in paid employment per week?

Hours per week ☐☐☐

37) Please indicate how much you agree or disagree with the following statements.

(Tick ONE circle on each line)

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My job is usually interesting enough to stop me getting bored	1	2	3	4	5
It seems that my friends are more interested in their jobs	1	2	3	4	5
I consider my job rather unpleasant	1	2	3	4	5
I am often bored with my job	1	2	3	4	5
I feel fairly well satisfied with my present job	1	2	3	4	5
Most of the time I have to force myself to go to work	1	2	3	4	5
I feel that my job is just as interesting as any others I could get	1	2	3	4	5
I definitely dislike my work	1	2	3	4	5
I feel like I am happier in my work than most people	1	2	3	4	5
Most days I am enthusiastic about work	1	2	3	4	5
Each day of work feels like it will never end	1	2	3	4	5
I like my job better than the average worker does	1	2	3	4	5
My job is pretty uninteresting	1	2	3	4	5
I find real enjoyment in my work	1	2	3	4	5
I am disappointed that I ever took this job	1	2	3	4	5

38) Please indicate how much you agree or disagree with the following statements.

(Tick ONE circle on each line)

	Strongly disagree	Somewhat disagree	Moderately disagree	Neither agree nor disagree	Moderately agree	Somewhat agree	Strongly agree
I can financially afford to retire now	1	2	3	4	5	6	7
One reason I continue to work is because I cannot afford to retire	1	2	3	4	5	6	7
I worry about the standard of living I will have in retirement	1	2	3	4	5	6	7
I worry about having enough income in retirement	1	2	3	4	5	6	7
I am satisfied with what my family income will be in retirement	1	2	3	4	5	6	7
I feel secure that the government will financially support me in retirement	1	2	3	4	5	6	7
I feel pressure to retire	1	2	3	4	5	6	7

39) The following statements refer to your current occupation. Please indicate the extent to which you disagree or agree with each statement.

(Tick ONE circle on each line)

	Strongly Disagree	Disagree	Agree	Strongly agree
I have constant time pressure due to a heavy work load	1	2	3	4
I have many interruptions and disturbances while performing my job	1	2	3	4
Over the past few years, my job has become more and more demanding	1	2	3	4
I receive the respect I deserve from my superior or a respective relevant person	1	2	3	4
My job promotion prospects are poor	1	2	3	4
I have experienced or I expect to experience an undesirable change in my work situation	1	2	3	4
My job security is poor	1	2	3	4
Considering all my efforts and achievements, I receive the respect and prestige I deserve at work	1	2	3	4
Considering all my efforts and achievements, my job promotion prospects are adequate	1	2	3	4
Considering all my efforts and achievements, my salary/income is adequate	1	2	3	4
I get easily overwhelmed by time pressures at work	1	2	3	4
As soon as I get up in the morning I start thinking about work problems	1	2	3	4
When I get home, I can easily relax and 'switch off' work	1	2	3	4
People close to me say I sacrifice too much for my job	1	2	3	4
Work rarely lets me go, it is still on my mind when I go to bed	1	2	3	4
If I postpone something that I was supposed to do today I'll have trouble sleeping at night	1	2	3	4

40) At what age do you think you will retire completely?

I think I will retire at age [ ][ ][ ]

41) Do you expect your spouse/partner to retire at about the same time as you?

(Please tick ONE circle)

Yes	No	Spouse/partner not working	Not applicable
1	2	3	4

For Those People Who Are Currently Retired

Please answer the next questions if you are CURRENTLY RETIRED (either partly or completely). If you are NOT currently retired then please go to page 18.

42) What was your MAIN reason for stopping or reducing work? (Please tick ONE circle)

Forced due to poor health	1	2	Wanted to do other things
Forced due to disability or injury	3	4	Don't need to work
Forced by employer	5	6	Felt it was time to retire
Made redundant	7	8	Had care-giving responsibilities
Lacked skills to continue	9	10	I relocated
Was unhappy at work	11	12	Business was sold
Became eligible for New Zealand Superannuation	13	14	Other? (please specify) _____

43) If you consider yourself completely retired:

(a) How long have you been retired?

☐☐ Years ☐☐ Months OR Tick if 'Not completely retired yet' ◯

(b) How satisfying did you find your previous work? (Please tick ONE circle)

Extremely unsatisfying	Unsatisfying	Somewhat unsatisfying	Neither satisfying nor unsatisfying	Somewhat satisfying	Satisfying	Extremely satisfying
1	2	3	4	5	6	7

(c) How long did it take you to get used to retirement? (Please tick ONE circle)

Less than one month	Six months	Nine months	One year	Two years	I'm not used to retirement yet
1	2	3	4	5	6

(d) How difficult has it been for you to adjust to retirement? (Please tick ONE circle)

Very difficult ← 1 2 3 4 5 → Not difficult at all

(e) All in all, would you say that your retirement has turned out to be: (Please tick ONE circle)

Very satisfying	Somewhat satisfying	Not at all satisfying
1	2	3

44) What are ALL the ways you PERSONALLY got income in the last 12 months?

Wages, salary, commissions, bonuses…etc, paid by my employer	1
Self-employment, or business I own and work in	1
Interest, dividends, rent, other investments	1
Regular payments from ACC or a private work accident insurer	1
New Zealand Superannuation or Veterans Pension	1
Transitional Retirement Benefit	1
Other superannuation, pensions, annuities (other than NZ Superannuation, Veterans Pension or War Pension)	1
Unemployment Benefit	1
Working for Families Tax Credits	1
Accommodation supplement	1
Domestic Purposes Benefit	1
Invalids Benefit	1
Student Allowance	1
Unsupported Child Benefit	1
Other government benefits, income support payments, or war pensions	1
Other sources of income, counting support payments from people who do not live in my household	1
No source of income during that time	1

45) What are ALL the ways your HOUSEHOLD got income in the last 12 months?
You may not know your household's exact income or all the sources of this income, but please give us your best estimate as this will be important information for us.

Wages, salary, commissions, bonuses…etc, paid by employer	1
Self-employment	1
Interest, dividends, rent, other investments	1
Regular payments from ACC or a private work accident insurer	1
New Zealand Superannuation or Veterans Pension	1
Transitional Retirement Benefit	1
Other superannuation, pensions, annuities (other than NZ Superannuation, Veterans Pension or War Pension)	1
Unemployment Benefit	1
Working for Families Tax Credits	1
Accommodation supplement	1
Domestic Purposes Benefit	1
Invalids Benefit	1
Student Allowance	1
Unsupported Child Benefit	1
Other government benefits, income support payments, or war pensions	1
Other sources of income, counting support payments from people who do not live in my household	1
No source of income during that time	1

The next few questions refer to your estimated personal and household income, and your current housing costs. We want to know about:

1. the range of incomes received by people in the study and how adequate they are to meet essential costs; and
2. housing costs because it is one of the biggest expenses people pay.

We would really appreciate it if you would agree to answer the next few questions. Please be assured that your answers to these questions are completely confidential.

46) From all the sources you listed on the previous page, what is your total PERSONAL income? Complete ONE box only. Use either the before tax or after tax amount, and choose just one of the time periods (e.g., weekly or annually).

(Complete ONE box only)

***BEFORE* TAX PERSONAL INCOME**		**OR**	***AFTER* TAX PERSONAL INCOME**	
Weekly	$		Weekly	$
Fortnightly	$		Fortnightly	$
Monthly	$		Monthly	$
Annually	$		Annually	$

47) What is your total HOUSEHOLD income? Complete ONE box only. Use either the before tax or after tax amount, and choose just one of the time periods (e.g., weekly or annually).

(Complete ONE box only)

***BEFORE* TAX HOUSEHOLD INCOME**		**OR**	***AFTER* TAX HOUSEHOLD INCOME**	
Weekly	$		Weekly	$
Fortnightly	$		Fortnightly	$
Monthly	$		Monthly	$
Annually	$		Annually	$

48) Please indicate below how much your current housing costs are and how frequently you pay this amount.

HOME OWNERS	If you own (freehold, leasehold, or under a "licence to occupy") your current residence, please include mortgage repayments, rates, insurance, lease costs and retirement village or body corporate fees.
RENTERS or BOARDERS	Please consider just your regular rental/board payments.

I pay $_____ in housing costs.

I pay this amount every...(Please tick ONE circle below)

Week (1) Fortnight (2) Month (3) Quarter (4) Year (5) Other (6) (Please specify below) _____

49) For the following questions, please indicate whether or not you have (or have access to) the item: (Tick ONE circle on each line)

	Yes, I have it	No, because I don't want it	No, because of the cost	No, for some other reason
Telephone	1	2	3	4
Washing machine	1	2	3	4
At least two pair of good shoes	1	2	3	4
Suitable clothes for important or special occasions	1	2	3	4
Personal computer	1	2	3	4
Home contents insurance	1	2	3	4
Enough room for family to stay the night	1	2	3	4

50) For the following questions, please indicate whether or not you do the activity:
(Tick ONE circle on each line)

	Yes, I do it	No, because I don't want to	No, because of the cost	No, for some other reason
Keep the main rooms of your home adequately warm	1	2	3	4
Give presents to family or friends on birthdays, Christmas or other special occasions	1	2	3	4
Visit the hairdresser at least once every three months	1	2	3	4
Have holidays away from home for at least a week every year	1	2	3	4
Have a holiday overseas at least every three years	1	2	3	4
Have a night out for entertainment or socialising at least once a fortnight	1	2	3	4
Have family or friends over for a meal at least once every few months	1	2	3	4

51) In the last 12 months, have you done any of these things not at all, a little, or a lot?
(Tick ONE circle on each line)

	Not at all	A little	A lot
Gone without or cut back on fresh fruit and vegetables to help keep down costs	1	2	3
Continued wearing clothing that was worn out because you couldn't afford a replacement	1	2	3
Put off buying clothes for as long as possible to help keep down costs	1	2	3
Stayed in bed longer to save on heating costs	1	2	3
Postponed or put off visits to the doctor to help keep down costs	1	2	3
NOT picked up a prescription to help keep down costs	1	2	3
Spent less time on hobbies than you would like to help keep down costs	1	2	3
Done without or cut back on trips to the shops or other local places to help keep down costs	1	2	3

52) The following questions are about your material standard of living – the things that money can buy. Your material standard of living does NOT include your capacity to enjoy life. You should NOT take your health into account.

(a) Generally, how would you rate your material standard of living? (Please tick ONE circle)

High	Fairly high	Medium	Fairly low	Low
1	2	3	4	5

(b) Generally, how satisfied are you with your current material standard of living?

Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
1	2	3	4	5

(c) How well does your total income meet your everyday needs for such things as accommodation, food, clothing and other necessities? (Please tick ONE circle)

Not enough	Just enough	Enough	More than enough
1	2	3	4

53) What assets do you and/or your partner own? (Tick ALL that apply)

No assets	1	1	Any bank deposits or savings
Estate and trust funds	1	1	Any managed funds
A motor vehicle or vehicles	1	1	Any shares
Your own home	1	1	A rental property or properties
A holiday home	1	1	Other major assets (please specify below):
A business or businesses	1		
A farm or farms	1		_____

54) Could you tell us the Government/Capital Valuation of your dwelling (including land), that is on your rates bill?

Value **$** | | | | | | | | |

55) Overall, and not counting the value of your family home, what do you think these assets would be worth after subtracting mortgages owing, loans and unpaid bills? (Please tick ONE circle)

Loss	1	2	$0
$1 to $5,000	3	4	$5,001 to $10,000
$10,001 to $25,000	5	6	$25,001 to $50,000
$50,001 to $100,000	7	8	$100,001 to $250,000
$250,001 to $500,000	9	10	$500,001 to $1,000,000
$1,000,001 to $1,500,000	11	12	$1,500,001 to $2,000,000
$2,000,000 or more	13		

56) Do you currently have a student loan? (Please tick ONE circle)

No (1) Yes (2) → If yes, please indicate the amount of the loan below:

Value **$** | | | | | | | | |

57) How many people inside and beyond your household, <u>excluding yourself</u>, are dependent on you for their financial support?

Total number of people ☐☐ **OR** 'I have no dependents' ◯

58) At what age did you, or others on your behalf, start saving for your retirement?

Age ☐☐ **AND/OR** 'I'm not currently saving for retirement' ◯

59) Other than New Zealand Superannuation, please indicate what sources of financial support <u>you</u> and <u>your partner</u> (if applicable) currently have which will support you in your retirement years: (Tick ALL that apply)

	Yourself	**Your partner** (if applicable)
None	1	1
Kiwisaver	1	1
Other employer sponsored superannuation	1	1
Overseas superannuation or pension	1	1
Other pension or superannuation	1	1
Personal savings	1	1
Personal investments	1	1

60) Please answer the next set of questions about your feelings of safety.

(Tick ONE circle on each line)

	Yes	No
Do you ever walk alone in your neighbourhood during the day?	1	2
Do you ever walk alone in your neighbourhood at night?	1	2
Over the last 12 months, have you been in a situation in your neighbourhood when your safety was threatened by someone else?	1	2
Over the last 12 months, have you been in a situation in your home when your safety was threatened by someone else?	1	2

61) Is getting to the shops difficult for you? Why is this? (Please tick ALL that apply)

Yes → Because

- 1 The footpaths are inadequate
- 1 I do not feel safe
- 1 There is no public transport
- 1 There is public transport but the timetable is inappropriate
- 1 My health/disability makes walking or catching public transport difficult
- 1 Other reason (please specify):

_____

No → Because

- 1 I can walk comfortably
- 1 I have my own transport
- 1 I can use public transport
- 1 Someone else takes me
- 1 Other reason (please specify):

_____

62) Which other types of places do you have difficulty getting to: (Tick ALL that apply)

N/A (I do not have difficulties)	1	1	Leisure activity
Medical centres	1	1	Friend's place
Church/Temple	1	1	Family member's place
Library	1	1	Other (Please specify):

_____

Whew! That was the hardest part! Thanks so much for helping with this information. Give yourself another break. We are nearly at the finish. We think you will enjoy our final questions.

63) When were you born?

Day	Month	19 Year

64) Are you (Please tick ONE circle)

Male	Female
1	2

65) Which one of these statements is true about you? (Please tick ONE circle)
(Please answer for your most recent marriage or partnership)

I am legally married	1
I am in a civil union/de facto/partnered/opposite sex relationship	2
I am in a civil union/de facto/partnered/same sex relationship	3
I am divorced or permanently separated from my legal husband or wife	4
I am a widow or widower	5
I am single (but not a widow or widower)	6

66) What age is your partner?

Years old OR Tick if question not applicable ◯

67) What is your highest educational qualification? (Please tick ONE circle)

No qualifications	1
Secondary school qualifications (e.g., School Certificate, University entrance, NCEA)	1
Post-secondary certificate, diploma, or trade diploma	1
University degree	1

68) (a) Which of the following best describes the type of residence that you live in?

House or townhouse – detached or 'stand alone'	1
House, townhouse, unit or apartment joined to one or more other houses, townhouses, units or apartments	2
Unit, villa or apartment in Retirement Village (licence to occupy)	3
Moveable dwelling (e.g., caravan, motor home, boat, tent)	4
Rest home or continuing care hospital	5
Other (Please specify below):	6

_____

(b) Please indicate whether the residence that you live in is: (Please tick ONE circle)

Owned by yourself and/or spouse/partner with a mortgage	1
Owned by yourself or spouse/partner without a mortgage	2
Owned by a family trust	3
Rented	4
None of the above – you are a boarder	5
Other (Please specify below):	6

_____

69) (a) In what year did you move to your current location of residence?

Year | | | | |

(b) Where did you move from (e.g., name of city, town or overseas country)?

_____

(c) What was your <u>main</u> reason for moving to your current residence? (Please tick ONE circle)

To be near or with children	1	2	To be near or with other relatives or friends
Change in marital status	3	4	Health problems or to be closer to health
Returning to family lands	5	6	Work or retirement related
To free up equity	7	8	Larger home
Smaller home	9	10	Easier maintenance of house and/or gardens
Leisure activities	11	12	Climate or weather
Other (please specify):	13		

_____

70) Please tick as many circles as you need to show all the people who live in the same household as you. Please also put in the NUMBERS of each category that you tick.

		Number
My legal husband or wife	1	
My partner or de facto, boyfriend or girlfriend	1	
My son(s) and/or daughter(s)	1 →	
My parent(s) and/or parent(s)-in-law	1 →	
My sister(s) and/or brother(s)	1 →	
My flatmate(s)	1 →	
My grandchild(ren)	1 →	
My friend(s)	1 →	
My boarder(s)	1 →	
Other(s) (please specify):_____	1 →	
None of the above – I live alone.	1	

71) We would like to know whether you participate in other recreational activities. Please indicate below how often you have:

(Tick ONE circle on each line)

	Never	Once a year	Twice a year	4 times a year	Monthly	Weekly
Been a spectator at a sports event	1	2	3	4	5	6
Gone to a concert, movie, play or other cultural event	1	2	3	4	5	6
Gone to a restaurant, café, pub or bar	1	2	3	4	5	6
Gone to the TAB, casino, horse or dog track, or similar	1	2	3	4	5	6
Gone to a barbeque, hangi, or similar event	1	2	3	4	5	6
Gone to a library or museum	1	2	3	4	5	6
Participated in an outdoor activity (walking, cycling, etc.)	1	2	3	4	5	6

72) Please indicate below which ethnic group or groups <u>you belong to</u>: (Tick ALL that apply)

New Zealand European	(1)	(1)	Niuean
Māori	(1)	(1)	Chinese
Samoan	(1)	(1)	Indian
Cook Island Māori	(1)	(1)	Tongan
Other (e.g., Dutch, Japanese, Tokelauan)	(1)		

(Please specify):_____

73) Please indicate below which ethnic group you feel you <u>identify with the most</u>: (Please tick ONE)

New Zealand European	(1)	(2)	Niuean
Māori	(3)	(4)	Chinese
Samoan	(5)	(6)	Indian
Cook Island Māori	(7)	(8)	Tongan
Other (e.g., Dutch, Japanese, Tokelauan)	(9)		

(Please specify):_____

74) Please answer the following questions about the ethnic group you said you most identify with.

(Tick ONE circle on each line)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs	(1)	(2)	(3)	(4)	(5)
I have a strong sense of belonging to my own ethnic group	(1)	(2)	(3)	(4)	(5)
I understand pretty well what my ethnic group membership means to me	(1)	(2)	(3)	(4)	(5)
I have often done things that will help me understand my ethnic background better	(1)	(2)	(3)	(4)	(5)
I have often talked to other people in order to learn more about my ethnic group	(1)	(2)	(3)	(4)	(5)
I feel a strong attachment towards my own ethnic group	(1)	(2)	(3)	(4)	(5)

75) In which language(s) could you have a conversation covering everyday things?

New Zealand European	(1)	(1)	Niuean
Māori	(1)	(1)	Chinese
Samoan	(1)	(1)	Indian
Cook Island Māori	(1)	(1)	Tongan
Other (e.g., Dutch, Japanese, Tokelauan)	(1)		

(Please specify):_____

If you have Māori ancestry, please complete question 76 below.
If you do not have Māori ancestry, please turn to question 77 on the next page

76) (a) Do you identify as Māori?

Yes	No
1	2

(b) How many generations of your Māori ancestry can you name? (Please tick ONE circle)

I generation (parents)	2 generations (grandparents)	3 generations (great-grandparents)	More than 3 generations
1	2	3	4

(c) Have you ever been to a marae; and if yes – how often over the past 12 months? (Please tick ONE circle)

Not at all	Once	A few times	Several times	More than once a month
1	2	3	4	5

(d) In terms of your involvement with your whanau, would you say that your whanau plays…(Please tick ONE circle)

A very large part in your life	A large part in your life	A small part in your life	A very small part in your life
1	2	3	4

(e) Do you have a financial interest in Māori land (i.e., as an owner, part/potential owner or beneficiary)? (Please tick ONE circle)

Yes	No	Not sure/don't know
1	2	3

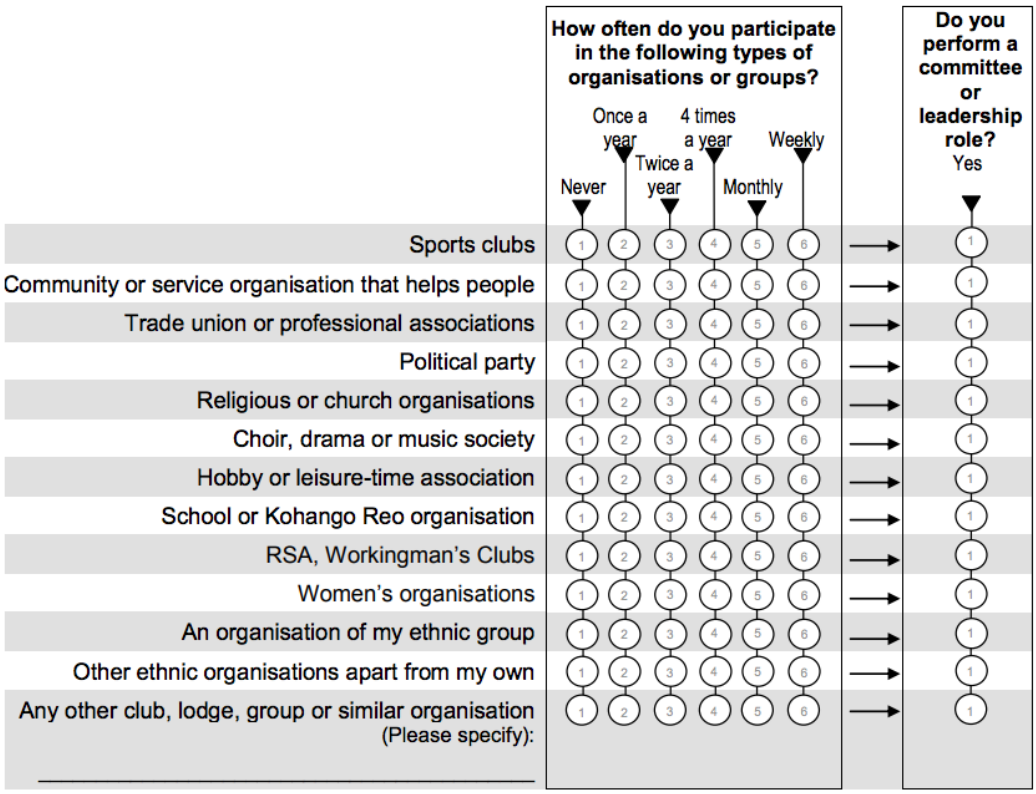
(f) This question considers your contacts with people. In general, would you say that your contacts are with…(Please tick ONE circle)

Mainly Māori	Some Māori	Few Māori	No Māori
1	2	3	4

(g) How would you rate your overall ability with Māori language? (Please tick ONE circle)

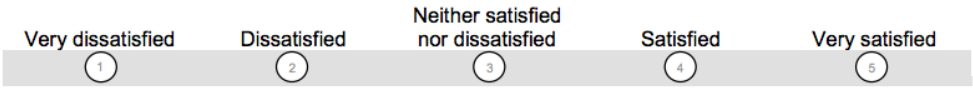
Excellent	Very good	Good	Fair	Poor	*Not applicable*
1	2	3	4	5	6

77) These are questions about your participation in organisations and clubs. Please indicate below how often you attend each organisation or club and whether you have a leadership role in any of these organisations or clubs (e.g., serve on the Trust Board, committee, <u>or</u> coach or mentor others, etc.).



78) In general, how happy or unhappy do you usually feel?

79) All things considered, how satisfied are you with your life as a whole these days?



Appendix 2. Research Case Study

Massey University
Clinical Psychology

RESEARCH CASE STUDY

Vulnerability to Elder Abuse in New Zealand: Loneliness, Social Support and Support Network Type

Candidate: Yvonne Woodhead
The Doctor of Clinical Psychology Programme
Student ID: 14123636
Setting: Massey University (Palmerston North)
Supervisors: Professor Christine Stephens, Dr Joanne Taylor, Associate Professor Paul Merrick

---

This case was completed during internship at Massey University (Palmerston North) in 2017 and represents the work of the candidate.

Student	Supervisor
Yvonne Woodhead	Dr Joanne Taylor
Intern Psychologist	Clinical Psychologist

4599 words

Vulnerability to Elder Abuse in New Zealand: Loneliness, Social Support and Support Network Type

Yvonne Woodhead

Abstract

Elder abuse is the act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person (World Health Organisation, 2011). It occurs in an estimated 3-10% of the New Zealand population and results in adverse consequences for those who experience it. This study aimed to research the risk factors of elder abuse based on analysis of a community dwelling sample of 3277 older adults in New Zealand who completed a questionnaire about their ageing experiences. Loneliness and social support were two factors found to be significantly related to vulnerability to elder abuse.

OBJECTIVES: To examine whether loneliness, low levels of social support and particular support network types increase vulnerability to elder abuse in the community-dwelling New Zealand population.

DESIGN: Cross-sectional study with longitudinal aspects.

SETTING: New Zealand

PARTICIPANTS: In 2010: 3277 individuals aged 50 to 90 years who responded to a postal questionnaire. The mean age of the participants was 65. In terms of gender, 55% were female and 62% identified as New Zealand Mäori. In 2012: 3212 individuals aged 51 to 81 years who responded to a second postal questionnaire. The mean age of the participants was 67.

MEASUREMENTS: Loneliness, social support, support network type and elder abuse were assessed.

RESULTS: Elder abuse was found in 28.8% of the participants in 2010 and 21.4% of the participants in 2012. After controlling for confounding factors, a small proportion of elder abuse was predicted by higher loneliness scores (2010: R^2 change = .01, F change (1, 2451) = 34.7, $p < 0.001$; 2012: R^2 change = .004, F change (1, 2047) = 9.44, $p < 0.01$) and lower social support scores (R^2 change = .01, F change (1, 2522) = 19.30, $p < 0.001$).

CONCLUSION: Loneliness and low levels of social support appeared to be associated with elder abuse in this sample of the New Zealand population. Further studies are needed to confirm this finding. The development of a more accurate elder abuse measure would facilitate improved understanding of elder abuse prevalence and correlates.

Key words: Elder abuse, loneliness, social support, support network type, New Zealand population

---

Introduction

Elder abuse is a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person (Glasgow & Fanslow, 2006; World Health Organisation, 2011). It is increasingly being addressed by governmental bodies, practitioners and the general public as a pervasive, global social justice and public health problem (Gordon & Brill, 2001; Pillemer, Connolly, Breckman, Spreng & Lachs, 2015). Elder abuse has been linked to significant morbidity and mortality (Cohen, 2011; Lachs & Pillemer, 2004).

An estimated 3-10% of New Zealanders suffer elder abuse, with true prevalence likely far greater given mass underreporting (Age Concern, 2015). The experience of elder abuse is likely on the rise, with the population of older adults (aged 65 years and over) projected to reach 1.5 million in New Zealand by 2061 (Statistics New Zealand, 2014). Current understanding of elder abuse prevalence and etiology is limited, primarily due to the application of different elder abuse definitions in different studies (Pillemer, Burnes, Riffin & Lachs, 2016). These knowledge deficits have inhibited the development of possible preventative and intervention strategies to counter the serious problem of elder abuse.

Cultural differences in understandings of what constitutes abuse has presented challenges in elder abuse research, particularly in the determination of prevalence (Yeung, Cooper & Dale, 2015). In the Mäori cultural context, individual perceptions of abuse may include breaching expected etiquette/protocol or showing disrespect to kaumatua (Barnes, 2000; Glasgow & Fanslow, 2006). In many Asian ethnic groups, abuse may include failing to care for older family members in the family home and abandoning them instead to nursing homes (Chen, Wu & Yeh, 2016). The impact on the older person is generally a good guideline to use when determining what constitutes abuse (Glasgow & Fanslow, 2006).

Elder abuse in New Zealand currently recognises physical, sexual, psychological/emotional and financial abuse and neglect (active, passive and self) (Age Concern NZ, 2007; World Health Organisation, 2011). There are also subtypes of abuse which cut across the five forms of abuse, including partner, institutional, discrimination/ageism and systemic/structural (policy) (World Health Organisation, 2011). In New Zealand, abuse of enduring power of attorney (EPOA) is an additional form of abuse which is becoming increasingly recognised (Age Concern, 2007).

Elder abuse is largely underreported and it is estimated that only 1 in 24 cases of elder abuse is reported (World Health Organisation, 2011). A recent systematic review and meta-analysis using best available evidence from 52 studies in 28 countries found 15.7% elder abuse rates in people aged 60 years and older (Yon, Mikton, Gassoumis & Wilber, 2017). Of the abuse cases brought to the attention of Age Concern NZ, most are for New Zealand European (86%), women (68%), aged 70 to 84 years (62%), living alone (40%) and experiencing psychological/ emotional abuse (56%) or financial abuse (46%) (Age Concern, 2002; Age Concern, 2005).

Various factors have been identified as increasing the risk of elder abuse. At the individual victim level, risk factors include dementia, depression, impaired health, aggression/challenging behaviour, lower socioeconomic positioning, older age and female gender. At the individual perpetrator level, risk factors include depression, substance abuse, financial problems and hostility/aggression. At the relationship level, risk factors include financial dependence of perpetrator on victim, emotional and accommodation dependence of victim on perpetrator, shared living arrangement, kinship and long term difficulties in the relationship. At the community level, risk factors include social isolation and lack of social support. At the societal level, risk factors include discrimination, social and economic factors and violence cultures (Dong & Simon, 2014; Johannesen & Logiudice, 2013; Sethi et al., 2011).

The rapid post-industrialisation of the female labour market in addition to increasing geographic mobility and globalisation has significantly affected family and community dynamics (Baillie, 2007; Phillipson, Bernard, Phillips & Ogg, 2001). Individual households have become increasingly individualist and disconnected from their wider families, neighbours and communities and in comparison to previous generations, there is less provision of practical support and monitoring between households. Yet, government fiscal constraints on spending

has meant greater reliance on informal, unpaid familial/community care at the same time that such care has become less available (Peri, Fanslow, Hand & Parsons, 2008). Studies have shown that older people with poor levels of community support are more likely to report elder abuse than those with moderate to strong levels of community support. This may be due to lack of support for the caregiver (leading to caregiver burnout) and/or lack of monitoring and detection of signs of abuse (Sethi et al., 2011). A recent systematic review of elder abuse also found that elder abuse is most strongly correlated with relationship conflict and low levels of social support (Johannesen & Logiudice, 2013).

Social support is the content of relationships, or the resources obtained/available from relationships with other individuals or with religious or community groups (Dong, Beck & Simon, 2010; Melchiorre, Chiatti, Lamura, Torres-Gonzales, Stankunas, Lindert, Ioannidi-Kapolou, Barros, Macassa & Soares, 2013; Pescolido & Levy, 2002). It encompasses emotional (caring), informational (guidance) and tangible (practical) support and also provides a sense of belonging (shared activities) (Uchino, 2004). A related concept is loneliness, which is the subjective feeling that arises from experiencing social isolation and is best described as dissatisfaction with the discrepancy between actual and desired social relationships (Holt-Lunstad, Smith, Baker, Harris & Stephenson, 2015). Social isolation is recognised as a common cause of loneliness, particularly when it is undesired, and is considered to be very closely related to loneliness (Wright-St Clair, Neville & Forsyth, 2017). Loneliness is also an identified correlate of elder abuse (Luo & Waite, 2011). Loneliness is common in older adults, occurring at a time of many losses (friends, partner, retirement, health/mobility, independence). It is often enforced by perpetrators to conceal abuse or pursued by victims to hide abuse due to fear or shame (Luo & Waite, 2011; Amstadter, Zajac, Strachan, Hernandez, Kilpatrick, & Acierno, 2011). Support network types describe an individual in terms of both their social

support and social isolation. Various instruments exist to describe support network types (Wenger, 1994a).

Aim

In recognising the significant level of risk posed by social isolation and lack of social support in the context of elder abuse, the current research aimed to examine these risk factors in the New Zealand context to investigate whether loneliness (social isolation), lack of social support and/or support network type increase vulnerability to elder abuse in the community-dwelling New Zealand population.

This research consists of four hypotheses. These are 1) Loneliness (controlling for age, physical health, mental health and economic living standards) will be related to higher levels of reported elder abuse; 2) Social support (controlling for age, physical health, mental health and economic living standards) will be related to lower levels of reported elder abuse; 3) The Family Dependent support network type (controlling for age, physical health, mental health and economic living standards) will be related to higher levels of reported elder abuse; 4) The Locally Integrated support network type (controlling for age, physical health, mental health and economic living standards) will be related to lower levels of reported elder abuse.

Method

The present study was a secondary analysis of data from the New Zealand Longitudinal Study of Ageing (NZLSA) which provides data on health and ageing indicators such as health, wealth and social factors that contribute to positive ageing.

Participants

The NZLSA consists of several waves of data. Participants were originally recruited because they had participated in previous related studies. There were originally 4000 participants. Of these, 2500 individuals had previously completed a survey for the Health, Work and Retirement Longitudinal Study (HWR) in 2008 and were invited to participate in the NZLSA in 2010. In addition, 1500 other individuals who had participated in three other smaller studies/surveys were also invited to participate. The participants who had been recruited to these earlier studies had been randomly selected from the general electoral roll.

This research analyses data from the 2010 and 2012 waves of data from the NZLSA. Participants from data wave 2010 consisted of 3277 individuals aged 50 to 90 years who responded to a postal questionnaire. The mean age of the participants was 65. In terms of gender, 55% were female. In terms of ethnicity, 62% identified as New Zealand Mäori. Participants from data wave 2012 consisted of 3212 individuals aged 51 to 81 years who responded to a second postal questionnaire. The mean age of the participants was 67.

Procedure

Participants completed postal questionnaires on an anonymous basis, with consent to participate implied by return of questionnaires by post. Questionnaire content was reviewed by a Mäori Advisory Group and ethical approval was granted by the Massey University Human Ethics Committee (application no. 09/70) (Alpass Towers, Stephens, Fitzgerald, Stevenson, & Davey 2007).

Design

The present observational study is a cross-sectional design with related prospective research aims. Cross-sectionally it explores whether loneliness, social support and support network type (controlling for demographic variables including age, physical health, mental health and economic living standards) predict elder abuse. Longitudinally, this study explores whether the same three variables (again controlling for demographic variables) can predict later elder abuse at a two year follow up.

Measures:

The Vulnerability to Abuse Screening Scale (VASS; De Jong Gierveld & Van Tilburg, 2010) is an elder abuse measure consisting of 12 items (four subscales each containing three items) (Schofield & Mishra, 2003). Due to validity concerns expressed by the VASS authors as well as concerns arising from the present study's internal reliability testing of the VASS, two subscales were removed. This was done to improve validity of the use of the VASS in the current research. The resulting modified version of the VASS (MVASS) was used instead. This modified version (MVASS) contained seven items as a result of principal components factor analysis, which revealed a different subscale distribution of the items than the original VASS. The MVASS is scored in the same way as the NZLSA scored the original VASS, with every 'Yes' response on an item scored 1 and every 'No' response scored 0. The maximum score is 7. A higher score indicates higher risk of elder abuse.

The Social Provisions Scale (SPS; Cutrona & Russell, 1987) measures the degree to which one's social relationships provide perceived social support. The SPS is made up of 24 items

that measure perceived social support based on the six forms of social support identified by Weiss in 1974; guidance (advice or information), reliable alliance (assurance that others can be relied on in times of stress), reassurance of worth (acknowledgement of one's competence), attachment (emotional closeness), social integration (belonging) and opportunity for nurturance (assistance) (Cutrona & Russell, 1987; Weiss, 1974). Respondents indicate their agreement with statements from 1 ('Strongly disagree') to 4 ('Strongly agree'). The maximum score is 96. A higher score on the SPS indicates a higher degree of perceived social support. Several studies have provided evidence for reliability and validity of the SPS (Cutrona & Russell, 1987; Russell, Altwater & Van Velzen, 1984).

The De Jong Gierveld Loneliness Scale (De Jong Gierveld & Van Tilburg, 2010) is an 11 item self-report measure of social and emotional loneliness. Participants respond to directional statements which have a neutral mid-point on a scale indicating agreement/disagreement. The emotional subscale requires positive 'Yes' responses to indicate loneliness while the social subscale requires 'No' responses to indicate loneliness. The maximum score is 11. A higher score on the scale indicates a higher degree of loneliness. Scores are further categorised into four levels ranging from 'Very severely lonely' to 'Not lonely' (De Jong Gierveld & Van Tilburg, 2010). The scale also provides the option of administering an emotional loneliness six item subscale or a social loneliness five item subscale, based on the distinction between social and emotional loneliness (Weiss, 1973). The total score is not valid if responses to more than one item are missing (Weiss, 1973). The complete scale scores (rather than the subscale scores) were analysed in the present study. The De Jong Gierveld Scale has good internal consistency (α = 0.85 for social loneliness and α = 0.81 for emotional loneliness) and good validity (correlated with similar loneliness-related variables) (De Jong Gierveld & Van Tilburg, 2010).

The Practitioner Assessment of Network Type (PANT; Wenger, 1994a) is a tool designed to help practitioners identify the support networks of older adults. The PANT is made up of eight items that ask about geographical proximity to family, frequency of face-to-face contact with family/friends/neighbours and involvement in community/social/religious group activities. Each item requires respondents to choose between a set of response options, which correspond to the five different support network types. A higher score in a particular support network type indicates the greater extent to which the respondent's circumstances identify with that support network type. The PANT instrument has demonstrated predictive validity, identifying support network type unequivocally 75 percent of the time. Participants are deemed 'borderline' (highest scores in two support network types) 20 percent of the time and 'inconclusive' (highest score in more than two columns) 5 percent of the time (Wenger, 1994a; Wenger, 1997).

The PANT categories include the Locally Integrated type (close relationships with family, friends, neighbours), Wider Community-Focused type (distant family, good relationships with friends and neighbours), Local Family Dependent type (close family ties, few friendships, limited contact with neighbours), Local Self-Contained type (limited contact with family or friends, reliance on neighbours) and Private Restricted type (absent family, limited contact with friends and neighbours). Each network type presents its own unique risks in terms of elder abuse (Wenger, 1994a; Wenger, 1997).

In regards to the instruments used to measure demographic control variables, the **Economic Living Standards Index Short Form** (ELSI-SF) was used to measure economic living standards and the **12 item version 2 Health Survey** (SF-12v2) was used to measure physical

and mental health. Both measures have sound psychometric properties (Cheak-Zamora, Wyrwich & McBride, 2009; Jensen, Spittal & Krishnan, 2005).

Statistical analysis

The IBM SPSS statistical package (version 22.0, IBM SPSS Statistics for Windows, Released 2013, IBM Corp, Armonk, NY) was used for data entry and analysis. Multiple regression was used to analyse each of the four independent variables loneliness, social support, Family Dependent support network type and Locally Integrated support network type at time 1 and time 2. In total, eight equations were performed controlling for age, physical health, mental health and economic living standards:

1) LON10 (Loneliness measured in 2010) was entered as the independent variable. MVASS10 (Elder abuse measured in 2010) was entered as the dependent variable.
2) LON10 was entered as the independent variable. MVASS12 (Elder abuse measured in 2012) was entered as the dependent variable.
3) SOCSUP10 (Social support measured in 2010) was entered as the independent variable. MVASS10 was entered as the dependent variable.
4) SOCSUP10 was entered as the independent variable. MVASS12 was entered as the dependent variable.
5) The Family Dependent support network type (FD-SNT10; measured in 2010) was entered as the independent variable. MVASS10 was entered as the dependent variable.
6) FD-SNT10 was entered as the independent variable. MVASS12 was entered as the dependent variable.
7) The Locally Integrated support network type (LI-SNT10; measured in 2010) was entered as the independent variable. MVASS10 was entered as the dependent variable.

8) LI-SNT10 was entered as the independent variable. MVASS12 was entered as the dependent variable.

Results

Data screening

Outliers were identified but not removed on the basis that there was no good reason conceptually to remove any particular individual(s) and because large sample sizes are robust to the effect of outliers (Tabachnick & Fidell, 2013; Williams, Grajales & Kurkjewicz, 2013). There were no concerns with linearity, normality or homoscedasticity. There were no concerns with multicollinearity using the < 0.9 threshold.

Initial data analysis

In order to first determine the control variables, significance of relationships between the key study variables was tested using Pearson's Correlation Analysis. All variables were entered into the same table to enable subsequent checking for multicollinearity. Gender, the Locally Self-Contained, Wider Community-Focused and Private Restricted support network types were not significantly related to elder abuse either at baseline (2010) or two years later. These four variables were therefore excluded from subsequent analyses.

Primary results

Hierarchical regression analysis (see Table 1) showed that loneliness at baseline (LON10) was significantly related to elder abuse reported at baseline (MVASS10) and two years later

(MVASS12). After controlling for baseline age (Age10), economic living standards (ELS10), physical health (PH10) and mental health (MH10), loneliness at baseline (LON10) explained a small but significant 1.2% of the variance in elder abuse at baseline (MVASS10) (R^2 change = .01, F change (1, 2451) = 34.7, $p < 0.001$) and a small but significant 0.4% of the variance in elder abuse two years later (MVASS12) (R^2 change = .00, F change (1, 2047) = 9.44, $p < 0.01$).

Table 1

Hierarchical Multiple Regression Analysis: Loneliness Predicting Elder Abuse at Baseline and at Two Year Follow Up, Controlling for Age, Economic Living Standards, Physical Health and Mental Health

		2010 (N=2457)			2012 (N=2053)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		3.39	.22		2.99	.22	
	Age10	-.01	.00	-.09*	-.01	.00	-.09*
	ELS10	-.04	.00	-.24*	-.03	.00	-.19*
	PH10	-.01	.00	-.06**	-.01	.00	-.08**
	MH10	-.02	.00	-.17*	-.02	.00	-.19*
Block 2							
Constant		2.82	.24		2.70	.24	
	Age10	-.01	.00	-.08*	-.01	.00	-.09*
	ELS10	-.03	.00	-.21*	-.02	.00	-.17*
	PH10	-.01	.00	-.05***	-.01	.00	-.08**
	MH10	-.02	.00	-.13*	-.02	.00	-.16*
	LON10	.04	.01	.13*	.02	.01	.07**
Block 1							
Multiple R			.38			.35	
R^2			.14*			.12*	
Adjusted R^2			.14			.12	
Block 2							
Multiple R			.39			.35	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
R^2 change			.01*			.00**	

Note: * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=0.32 in 2010, 1.99 in 2012.

Social support measured at baseline (SOCSUP10) was significantly related to elder abuse at baseline (MVASS10) but not two years later. After controlling for Age10, ELS10, PH10 and MH10, social support at baseline (SOCSUP10) explained a small but significant 0.7% of the variance in elder abuse at baseline (MVASS10) (R^2 change = .01, F change (1, 2522) = 19.30,

$p < 0.001$). Social support at baseline (SOCSUP10), after controlling for the same variables, was not significantly related to elder abuse two years later (MVASS12). See Table 2.

Table 2

Hierarchical Multiple Regression Analysis: Social Support Predicting Elder Abuse at Baseline and at Two Year Follow Up, Controlling for Age, Economic Living Standards, Physical Health and Mental Health

		2010 (*N*=2528)			2012 (*N*=2109)		
	Predictor	*b*	*SE b*	β	*b*	*SE b*	β
Block 1							
Constant		3.41	.22		3.11	.22	
	Age10	-.01	.00	-.09*	-.01	.00	-.10*
	ELS10	-.04	.00	-.24*	-.02	.00	-.17*
	PH10	-.01	.00	-.06**	-.01	.00	-.09*
	MH10	-.02	.00	-.17*	-.02	.00	-.20*
Block 2							
Constant		3.94	.25		3.29	.25	
	Age10	-.01	.00	-.10*	-.01	.00	-.10*
	ELS10	-.03	.00	-.22*	-.02	.00	-.16*
	PH10	-.01	.00	-.05**	-.01	.00	-.08*
	MH10	-.02	.00	-.15*	-.02	.00	-.19*
	SOCSUP10	.01	.01	.09*	.00	.00	.04
Block 1							
Multiple *R*			.38			.35	
R^2			.14*			.12*	
Adjusted R^2			.14			.12	
Block 2							
Multiple *R*			.39			.35	
R^2			.15*			.12*	
Adjusted R^2			.15			.12	
R^2 change			.01*			.00	

Note: * = $p < 0.001$, ** = $p < 0.01$, *** = $p < 0.05$, Durbin Watson=1.93 in 2010, 2.00 in 2012.

Neither the Family Dependent (FD-SNT10) or Locally Integrated (LI-SNT10) support network types at baseline were significantly related to elder abuse at baseline (MVASS10) or two years later (MVASS12) when controlling for the individual level variables Age10, ELS10, PH10, MH10.

Logistic Regression was also completed due to concerns about whether or not a threshold was needed to determine presence of abuse. The wording of particular questions such as 'Has anyone taken things that belong to you without your OK?' may not accurately reflect abuse. Given this, there was some uncertainty regarding how many 'Yes' responses to items were needed to be considered sufficient indication of elder abuse. Logistic Regression analysis was completed on the basis of a threshold that one 'Yes' response constituted sufficient presence of elder abuse. The results from this analyses were consistent with the findings which resulted from the Multiple Regression analyses.

Discussion

The findings from the present study indicate that loneliness and social support were related to elder abuse but support network type was not. The effect size of these relationships were small. However, these findings were generally consistent with the direction of the research literature regarding social support, which has found social support to have an alleviating effect on loneliness as a risk factor of elder abuse and lack of social support to have a three-fold increase in likelihood of elder abuse (Dong, Beck & Simon, 2009; Acierno, Hernandez, Amstadter, Resnick, Steve, Muzzy & Kilpatrick, 2010). These findings were also generally consistent with the research literature on loneliness, which has found loneliness to be correlated with elder abuse (Luo & Waite, 2011).

Although the existence of these relationships is evident in the literature, the mechanisms underlying these relationships has been less well explored. In regard to social support, some have suggested that individuals who lack social support may be more likely to appraise situations as being negative or harmful (Luo & Waite, 2011). Others have suggested the converse; that individuals who experience elder abuse may be more likely to perceive lack of social support (Acierno et al., 2010). Others still have suggested an indirect pathway, with low

social support developing/maintaining/exacerbating mental health problems and therefore indirectly increasing risk of elder abuse (Acierno et al., 2010; Amstadter et al., 2011).

In regard to loneliness, some have suggested that individuals who experience elder abuse may withdraw from others for reasons of fear or shame, thereby creating conditions of loneliness (Amstadter et al., 2011). To date, there have been no prospective studies evaluating the direction of the relationship. However, the present findings demonstrate that loneliness at baseline (2010) is related to elder abuse two years later. Other explanations suggested include an indirect pathway; that loneliness may indirectly increase risk of elder abuse because loneliness may reflect poor health and age, both of which are risk factors of elder abuse (Amstadter et al., 2011).

Although this paper potentially begins to give some indication of the direction of the relationship between loneliness and elder abuse, more research is still needed this with bigger effect size findings. More is also needed to determine the mechanisms which underlie the relationships between loneliness and elder abuse and social support and elder abuse. As for other limitations, lack of ethnic diversity and the strictly community-dwelling population in the sample means that the findings cannot be generalised to all older adults who experience abuse (i.e. including those who live in institutional care). It is also likely that the individuals who responded positively to the invitation to participate in the NZLSA experience less daily constraints on their freedom to communicate and express themselves than other individuals who may be being abused to a much more serious extent, such that they lack the freedom to communicate to others about their abuse.

Another limitation of the study is the need for a better measure of elder abuse. Although attempts were made to strengthen the VASS measure (the MVASS), further questions remain about the wording of particular questions and whether such questions accurately reflect elder abuse. For instance, does the question 'Has anyone taken things that belong to you without your OK?' really reflect elder abuse? Further questions also remain about how many 'Yes' responses to items are needed to be considered sufficient indication of elder abuse. Out of seven possible MVASS items, would a 'Yes' response to one or two or three items be necessary to deem presence of elder abuse? Future studies may benefit from using or creating another measure such as the Elder Abuse Suspicion Index for long term care (EASI-LTC) which, although developed for use in institutional settings, has questions that much more clearly measure elder abuse. These questions include phrases such as 'Has anyone tried to force you to sign papers or to take, use or spend your money against your will?'.

This paper aimed to identify whether loneliness, social support and/or support network type were related to increased risk of elder abuse. Health practitioners are privy to the most intimate details of patients' lives and are therefore in a unique position to identify high-risk situations. Knowledge of risk factors can aid detection of elder abuse by those in regular contact with individuals who may otherwise be socially isolated, lacking in social support or underreporting their experiences of abuse (Johannesen & Logiudice, 2013). In terms of clinical applicability, these findings suggest that asking individuals questions relevant to identifying their levels of loneliness and social support may be helpful indicators of risk of elder abuse.

The Code of Ethics, adopted by both the New Zealand Psychological Society and the New Zealand College of Clinical Psychologists in 2002, guides those working in the profession to give due regard to the ethical principle of 'responsible caring' and its associated value of

‘promotion of wellbeing’. Subsumed under this ethical principle is the explicit practice implication 2.1.12 which charges psychologists to

> ‘do everything reasonable to stop or offset the consequences of actions by others when these actions are likely to result in serious physical harm or death. This may include reporting to appropriate authorities (e.g. the police) or an intended victim or other relevant people, and would be done even when a confidential relationship is involved’.

While not mandatory in the sense of being a legal obligation, abiding by the Code of Ethics is strongly encouraged by the profession and taught at the outset of most postgraduate psychology professional training courses in New Zealand. Further evidence of the importance placed on the Code’s ethics and practice guidelines is its incorporation into many workplace codes of conduct. Such workplaces include many District Health Board community mental health services in New Zealand. This piece of research is therefore beneficial in guiding health professionals, such as clinical psychologists, to know to monitor for loneliness and absence of social support as part of the risk screening component of their work with clients.

Elder abuse shares many characteristics with other forms of family violence (Fanslow, 2005). Like partner and child abuse, elder abuse is largely hidden, private and underreported. Victims are often isolated, dependent and lack support and there is often a history of family conflict, substance abuse, mental health problems and unemployment (Lachs & Pillemer, 2004). However unlike child abuse, older adult victims are generally legally competent adults able to make their own decisions about where to live and whom to live with. Decisions in which older adult victims choose to stay in unsafe environments need to be respected and safety issues need to be explored collaboratively with them.

Working in a child and adolescent mental health setting, risk factors of elder abuse have not been directly relevant to my practice. However, in light of family risk factors of family violence which can be present in both child and elder abuse, when working with children and their families there is scope for consideration of the safety of older adult family members as part of general risk screening 'by others to others'. More generally, the present findings add to my thought processes regarding risk screening as I will be more aware of the importance of loneliness and lack of social support as contextual factors associated with abuse. These factors could be considered to be associated with abuse not only for older adults but for other age groups as well. Therefore, these factors will be relevant in my assessment of potentially the majority, if not all, of my future clients.

References

Acierno, R., Hernandez, M. A., Amstadter, A. B., Resnick, H. S., Steve, K., Muzzy, W., & Kilpatrick, D. G. (2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: the National Elder Mistreatment Study. *American Journal of Public Health, 100*(2), 292-297 296p. doi: 10.2105/AJPH.2009.163089

Age Concern NZ. (2002). An analysis of referrals for the period 1 July 1998 to 1 July 2001. Wellington, NZ: Age Concern New Zealand Inc.

Age Concern NZ. (2005). Age Concern New Zealand Elder abuse and neglect: An analysis of referrals for the period 1 July 2002 to 31 December 2003. Wellington, NZ: Age Concern New Zealand Inc.

Age Concern NZ. (2007). Elder abuse and neglect prevention: Challenges for the future. Wellington, NZ: Age Concern New Zealand Inc.

Age Concern NZ. (2015). Elder abuse and neglect prevention. Retrieved from https://www.ageconcern.org.nz/ACNZPublic/Services/EANP/ACNZ_Public/Elder_Abuse_and_Neglect.aspx

Alpass, F., Towers, A., Stephens, C., Fitzgerald, E., Stevenson, B., & Davey, J. (2007). Independence, well-being, and social participation in an aging population. *Annals of the New York Academy of Sciences, 1114*, 241-250. doi: 10.1196/annals.1396.009

Amstadter, A. B., Zajac, K., Strachan, M., Hernandez, M. A., Kilpatrick, D. G., & Acierno, R. (2011). Prevalence and correlates of elder mistreatment in South Carolina: The South Carolina Elder Mistreatment Study. *Journal of Interpersonal Violence, 26*(15), 2947-2972. doi: 10.1177/0886260510390959

Baillie, L. (2007). Family caregiving when relationships are poor. In I. Paoletti (Ed.), *Family Caregiving for Older Disabled People* (pp. 127-149). New York: Nova Science Publishers.

Barnes, H.M. 2000. Kaupapa Mäori: Explaining the ordinary. *Pacific Health Dialogue, 7*(1), 13-16.

Cheak-Zamora, N., Wyrwich, K., & McBride, T. (2009). Reliability and validity of the SF-12v2 in the medical expenditure panel survey. *Quality of Life Research, 18*, 727–735. doi: 10.1007/s11136-009-9483-1

Chen, W., Wu, C., & Yeh, K. (2016). How parenting and filial piety influence happiness, parent-child relationships and quality of family life in Taiwanese adult children. *Journal of Family Studies, 22*(1), 80-96. doi: 10.1080/13229400.2015.1027154

Cohen, M. (2011). Screening tools for the identification of elder abuse. *Journal of Clinical Outcomes Management, 18*(6), 261-270.

Cutrona, C. E., & Russell, D. (1987). The provisions of social relationships and adaptation to stress. *Advances in Personal Relationships, 1*(1), 37-67.

De Jong Gierveld, J., & Van Tilburg, T. (2010). The De Jong Gierveld short scales for emotional and social loneliness: Tested on data from 7 countries in the UN generations and gender surveys. *European Journal of Ageing, 7*, 121-130. doi: 10.1007/s10433-010-0144-6

Dong, X., Beck, T., & Simon, M. A. (2009). Loneliness and mistreatment of older Chinese women: Does social support matter? *Journal of Women and Aging, 21*(4), 293-302. doi: 10.1080/08952840903285252

Dong, X., Beck, T., & Simon, M. A. (2010). The associations of gender, depression and elder mistreatment in a community-dwelling Chinese population: The modifying effect of social support. *Archives of Gerontology and Geriatrics, 50*, 202-208. doi: 10.1016/j.archger.2009.03.011

Dong, X., & Simon, M. A. (2014). Vulnerability risk index profile for elder abuse in a community-dwelling population. *Journal of the American Geriatrics Society*, *62*(1), 10-15. doi: 10.1111/jgs.12621

Fanslow, J. L. (2005). *Beyond zero tolerance: Key issues and future directions for family violence work in New Zealand.* Wellington: Families Commission.

Glasgow, K. & Fanslow, J. L. (2006). Family Violence Intervention Guidelines: Elder abuse and neglect. Wellington, NZ: Ministry of Health

Gordon, R. M., & Brill, D. (2001). The abuse and neglect of the elderly. *International Journal of Law and Psychiatry*, *24*(2-3), 183-197. doi:10.1016/S0160-2527(00)00076-5

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science, 10*(2), 227-237. doi: 10.1177/1745691614568352

Jensen, J., Spittal, M., & Krishnan, V. (2005). *ELSI Short Form: User manual for a direct measure of living standards*. Retrieved from http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/living-standards/elsi-short-form.html

Johannesen, M., & Logiudice, D. (2013). Elder abuse: A systematic review of risk factors in community-dwelling elders. *Age And Ageing, 42*(3), 292-298. doi: 10.1093/ageing/afs195

Lachs, M. S., & Pillemer, K. (2004). Elder abuse. *The Lancet, 364*(9441), 1263-1272. doi:10.1016/S0140-6736(04)17144-4

Luo, Y., & Waite, L. J. (2011). Mistreatment and psychological well-being among older adults: Exploring the role of psychosocial resources and deficits. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 66*(2), 217-229. doi: 10.1093/geronb/gbq096

Melchiorre, M. G., Chiatti, C., Lamura, G., Torres-Gonzales, F., Stankunas, M., Lindert, J., Ioannidi-Kapolou, E., Barros, H., Macassa, G., & Soares, J. (2013). Social Support, socio-economic Status, health and abuse among older people in seven European countries. *Public Library of Science One, 8*(1), e54856. doi: 10.1371/journal.pone.0054856

Peri, K., Fanslow, J., Hand, J., & Parsons, J. (2008). *Elder abuse and neglect: Exploration of risk and protective factors: A report for the Families Commission*. Retrieved from

https://www.ageconcern.org.nz/files/EANP/Elder%20Abuse%20and%20Neglect,%20Exploration%20of%20Risk%20and%20Protectvie%20Factors,%20Families%20Commission,%202008.pdf

Pescosolido, B., & Levy, J. (2002). The role of support networks in health illness and disease and healing. In J. A. Levy & B. A. Pesocosolido (Eds.), *Support networks and Health*. Oxford: Elsevier Science.

Phillipson, C., Bernard, M., Phillips, J., & Ogg, J. (2001). *The family and community life of older people: Support networks and social support in three urban areas*. London: Routledge.

Pillemer, K., Burnes, D., Riffin, C., & Lachs, M. S. (2016). Elder abuse: Global situation, risk factors, and prevent strategies. *The Gerontologist, 56*(S2), S194-S205. doi:doi:10.1093/geront/gnw004

Pillemer, K., Connolly, M.T., Breckman, R., Spreng, N., & Lachs, M. S. (2015). Elder mistreatment: Priorities for consideration by the White House Conference on Aging. *The Gerontologist, 55*(2), 320-327. doi:10.1093/geront/gnu180

Russell, D., Altwater, E., & Van Velzen, D. (1984). *Job related stress, social support, and burnout among teachers*.

Schofield, & Mishra, G. D. (2003). Validity of self-report screening scale for elder abuse: Women's Health Australia study. *Validity of self-report screening scale for elder abuse: Women's Health Australia study, 43*(1), 110-120.

Sethi, D., Wood, S., Mitis, F., Bellis, M., Penhale, B., Marmolejo, I. I., Lowenstein, A., Manthorpe, G. & Karki, F. U. (2011). European report on preventing elder maltreatment. Denmark: World Health Organisation Regional Office for Europe

Statistics New Zealand. (2014). National population projects: 2011 (base) – 2061. Retrieved from http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalPopulationProjections_HOTP2011.aspx

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. New York: Pearson Education, Inc.

Uchino, B. (2004). *Social support and physical health: Understanding the health and consequences of relationships*. London: Yale University Press.

Weiss. (1973). *Loneliness: The experience of emotional and social isolation*. Cambridge, MA: The MIT Press.

Weiss. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others* (pp. 17-26). Englewood Cliffs, NJ: Prentice Hall.

Wenger, C. (1994a). *Support networks of older people: A guide for practitioners*. Bangor, Wales: Centre for Social Policy Research and Development.

Wenger, C. (1997). Support networks and the prediction of elderly people at risk. *Aging & Mental Health, 1*(4), 311-320. doi: 10.1080/13607869757001

Williams, M., Grajales, C., & Kurkiewicz, D. (2013). Assumptions of Multiple Regression: Correcting Two Misconceptions. *Practical Assessment, Research & Evaluation, 18*(11), 1-14.

World Health Organisation. (2011). Elder maltreatment. Retrieved from http://www.who.int/mediacentre/factsheets/fs357/en/

Wright-St Clair, V., Neville, S., & Forsyth, V. (2017). Indigenous Ageing Research Feature: Integrative review of older adult loneliness and social isolation in Aotearoa/New Zealand. *Australasian Journal on Ageing*, *36*(2), 114-123.

Yeung, P., Cooper, L., & Dale, M. (2015). Prevalence and associated factors of elder abuse in a community-dwelling population of Aotearoa New Zealand: A cross-sectional study. *Aotearoa New Zealand Social Work Review*, *27*(3), 29-43.

Yon, Y. Mikton, C. Gassoumis, Z. & Wilber, K. (2017). Elder abuse prevalence in community settings: A systematic review and meta-analysis. *The Lancet Global Health*, *5*(2), 147-156.