The Social World of Older Adults in New Zealand

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Abstract

The present study examined the impact of socio-demographic factors on the relationship between marital status and social support on the one hand, and marital status and psychological well-being on the other hand among older adults aged 55-70 years old. This study extended the work of Barrett (1999) by expanding social support to include structure and function of social network types, and social engagement (loneliness and social provision). Particular attention was paid to the never married group who were compared to other marital groups. A secondary analysis of the Health, Work, and Retirement (HWR) (2006) cross-sectional data was undertaken. The HWR postal survey included questions about socio-demographics, mental well-being, and social support. Results show that the social network types of Locally Integrated, Locally Self-Contained, Wider Community, Family, and Private differed by socio-demographics and marital status and that age, education, and gender moderated the relationship between scores on Locally Self-Contained and Locally Integrated networks and marital status. Singles reported they were lonelier than the married group and less lonely than the previously married group. Reported levels of social provision for singles were the lowest compared to other marital status groups. Gender was not found to moderate the relationship between marital status and social provision. In the analyses of psychological well-being, the single group scored lower than the married group and higher than the previously married group, a similar finding to Barrett (1999). Additionally, positive subjective well-being was found to be associated with socio-demographic factors. Moreover, low levels of loneliness, positive perceptions of social support, and high scores on the Locally Integrated, Locally Self-Contained, and the Wider Community network types were associated with positive subjective well-being. Socio-demographics failed to moderate the relationship between marital status and subjective well-being. Limitations of the study and implications for future research are discussed with an emphasis on future longitudinal data analysis.

Dedication

To mum, Nora, for believing in me even when I doubted my ability to complete this project. Thank you for the emotional support and encouragement your long distance phone calls provided. Without your love, this would not have been possible.

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Chapter 1: Introduction

Overview

The observed population trends in New Zealand, the literature around older adults and the limited research on never married older adults provide an avenue for the present thesis to explore the social world of older adults in New Zealand. Particular attention will be paid to whether trends in social support and well-being among older adults in New Zealand are comparable to international trends, focusing on the single group, i.e., those that have never been married.

The present chapter will start with presenting descriptive statistics of the New Zealand aging population (65 plus), followed by population projections for 2061. An introduction of the indigenous people (Māori) of New Zealand follows to provide the background context for the present study.

Description of the Aging Population in New Zealand

The aging population in New Zealand is dynamically changing, which is consistent with similar aging trends in the OECD (Statistics New Zealand, 2007). In 2006, those aged 65+ years (N= 495,000) made up 12.3% of the general population in New Zealand, with women out-numbering men. The largest growth in New Zealand population is expected to occur between 2011 and 2037 because the Baby Boomers will reach old ages. By late 2020, those aged 65 plus will make up 20% of the New Zealand population compared to 13% in 2009. This projection is expected to increase to 25% by the year 2050. There will be 1.4 million people in New Zealand aged sixty five and over by 2061, i.e., 2.6 times the 2009 population count. By 2061, one in four of older adults aged 65 plus will be eighty five years and over (National Project, 2009).

Some researchers attribute such changes to the large birth rates of the 1950s, 1960s and the 1970s cohort, which they project will make up over one-quarter of the New Zealand population by 2030, while others attribute differences in the aging trends to the shifts in demographics of the baby boom era (1946-65) (Dustan & Thomson, 2006).

Although more males are born compared to females (105.5 to 100 ratio), males have a higher mortality rate compared to females in all age groups. As a result, females outnumber males in old age. In 2009, there were 83 males for every 100 females in the sixty-five plus age group. In the eighty five plus age group, there were only 50 males for every 100 females. By 2061, it is projected that the sex ratio will increase for those aged sixty-five plus to 87 males for every 100 females (National Population Project, 2009).

A survey by the Ministry of Social Policy on the living standards of older adults in New Zealand aged 65+ years (N= 3060) (Fergusson, Hong, Horwood, Jensen, & Travers, 2001) reported that over half of the aging population (53%) is made up of single, divorced, widowed or separated older adults living alone, while the (47%) are partnered. The single group was found to make up 11% of the sample, the majority of whom reported living alone. Two thirds of the sample were females aged 65-80 years old, a high number of whom were widows living alone. This illustrates the longevity trend in older female adults compared to older males. Eight percent of the single group reported mental health problems in the past twelve months compared to four percent of the married group.

Ethnic Group

Māori is the indigenous group that make up 15% of the New Zealand population, often referred to as *tangata whenua*, meaning people of the land. Māori tend to have a collectivist view of the world compared to that of the *Pakeha* (European New Zealanders) which is often more individualistic (Durie, 2003). The importance of family takes centre stage for many Māori. In *Te Reo* (the Maori language) family is referred to as whanau. According to Metge (1995), whanau involves several aspects, including whakapapa (genealogy), whangai (similar to the western concept of adoption), retaining strong connection with kinship, connection to the land expressed by different cultural practices and by maintaining close proximity in geographical location to relatives, and involvement with the local marae (a symbol of the collectivist identity by linking the immediate and extended family and offering support in times of need). Māori often affiliate with their community through either their father or mother's ancestry or both, which provides an extensive connection with kinship, often called upon in times of need (Henare, 1988).

In the recent New Zealand General Social Survey (Statistics New Zealand, 2008), Māori were found to report high levels of satisfaction with their lives (81.5%). However, they also tended to report twice as high levels of isolation (4.7%) compared to the general population. This could be partly explained by increased reported health problems, poorer living standards, less financial resources, and geographic isolation (Statistics New Zealand, 2008). Pakeha (non- Māori), in a study by Wilson and Everts (1995), were found to report higher levels of satisfaction with their social support compared to Māori and Pacific Islanders who both wanted more contact with their families.

Chapter Two: Social Support and Well-Being

Chapter two starts by briefly defining 'social support'. A review of the emerging cross-disciplinary literature linking social support and well-being follows. The different facets of social support (e.g., social isolation, social networks and social provision) are then presented and discussed. Finally, the theoretical framework for the present study and the research hypotheses are outlined.

Background

Literature shows that social support plays an important role in aging and is often linked to well-being (Antonucci & Akiyama, 1987; Bowling & Browne, 1991; Kaniasty & Norris, 1993; Krause, 2005; 1995; Phillipson, Allan & Morgan, 2004; Wilson & Everts). The importance of social support for older adults is often reflected in their sense of self-worth, and can be facilitated through meaningful contact with others, membership and participation in social networks, and promoting reciprocity of support (Spar & La Rue, 2006; Rubinstein, 1986). Arriving at a concise definition of social support has proven problematic, as it often varies from one study to another according to the constructs utilised. Some researchers focus on the concept of receiving support among older adults. Other researchers operationalise social support by its function. For instance, research has focused either on the emotional function of social support, and highlighted individuals' perception of social support and loneliness. Other research has highlighted the instrumental function of social support which encapsulates the network type, the number of social connections and/or resources available to an older adult (Dobbs & Strain, 2008; Rozanova, Dosmon & de Jong Gieverland, 2008; Wenger & Keating, 2008). Bowling, Edelman, Leaver, and Hoekel (1989) have combined the terms in their definition to include financial, emotional, and/or instrumental support provided by network members to an individual. Victor, Scambler, and Bond (2009) note that this definition reflects only a one-way flow of support, largely neglecting the contribution of older adults to the network.

In the current thesis, the term "social support" will be used to reflect a multi-faceted dynamic understanding of support. It will incorporate the current literature

and include three facets of the concept: social isolation or loneliness, social support network type, and social provision that will make up the over-arching definition of social support used in this study.

Social isolation.

Previous literature shows divided views on social isolation. Machielse (2006) highlights two theoretical approaches to social isolation. The first is the network approach, which notes three facets of the social network: social integration, social network and social support approach (Dykstra, 1990; House & Kahn, 1985; Snijders, 2001, cited in Hortulanus, Machielse, & Meeuwesen, 2006). Social isolation is hence conceptualised in terms of the scope, structure or lack of support in a network. The second approach comes from research on loneliness. Individual as well as environmental factors are thought to contribute to the experience and subjective meaning attached to loneliness. Victor, Scambler, and Bond (2009) differentiated between the concepts of social isolation and loneliness. While they conceptualised loneliness as a subjective experience varying in intensity, they also highlighted that loneliness and social isolation although different, share common features. Rozanova, Dosman, and de Jong-Gierveld (2008) further highlight that social isolation may also be seen in terms of geographic location, distance, poor infrastructure, and harsh weather conditions (e.g., harsh winters).

Data from wave one of a survey on social isolation in the Netherlands (Hortulanus et al., 2003) was utilised to operationalise loneliness, network type, support and protective factors in a sample of 2,400 interview respondents. Results show that 37% of those aged 65 plus experienced mild to moderate feelings of loneliness compared to 28% of the overall younger sample. Socio-economic status (SES), location, ethnicity and marital status explained 10% of the variance in loneliness. The researchers concluded that SES explained the high percentage of reported loneliness in older adults. Victor and colleagues (2005, cited in Victor et al., 2009) reported that most older adults aged 65 and above in their study did not experience loneliness. Only 7% of their sample reported that they felt lonely most of the time, which is consistent with results from similar studies in Britain measuring loneliness as a single construct (refer to Victor et al., 2009 for more details). According to other researchers, several factors have been found to account for

variations in the reported levels of loneliness, including gender and marital status (Pinquart, 2003; Barrett, 1999), cultural differences (Jylhä, 2004), socio-economic status, personal factors (Meeuwesen, 2006), and age.

Risk factors for loneliness.

Risk factors often associated with loneliness include aspects of socio-demographic factors, marital status, life satisfaction, and health problems (Hortulanus, 2006; Meeuwesen, 2006; Pinquart, 2001; Victor et al., 2009). In a meta-analysis of seven cross-sectional studies, five factors were identified as statistically significant predictors of loneliness. These included low education, marital status (widowhood), poor health (mental and physical), and poor expectations of health in old age (Victor et al., 2009). However, this meta-analysis failed to find a statistically significant link between gender, age, and living alone with loneliness.

The Economic and Social Research Council (ESRC), part of the Growing Older Programme (GO), used quantitative data collected from 2000-2001 waves of the Omnibus Survey (ONS), a national social survey in Britain. Additionally, qualitative data was collected from a sample of older adults aged 65 and above residing in the community (N=999). Questions addressed health, loneliness, isolation and quality of life (Victor et al., 2005, cited in Victor et al., 2009). The results identified the availability of material resources (e.g. income, education) and social resources (e.g. presence of a confidant, access to a social support network) as protective factors against social isolation and therefore facilitating of social engagement. These findings were reiterated by Keating (2008). Scharf and Bartlam (2008) further add that economic or social changes in a community setting (rural setting) may lead to social isolation and impact on well-being if older adults are not able to replace the quality of lost social relationships and maintain social participation.

The Way of Living of older adults survey, based in Germany, interviewed older adults (N=4043) aged 53-79 about their loneliness, quality and frequency of social contact as well as their socio-economic status (Pinquart, 2001). This study focused on the social factors predictive of loneliness. The study found that the frequency and the quality of social contact with family, friends and neighbours is a protective factor for singles. The study also highlights that the quality of interaction with friends is a predictor of loneliness in singles. Contrary to Victor's meta-analysis,

gender differences were noted in reported levels of loneliness. Single and divorced men reported higher levels of loneliness compared to single and divorced women. Risk factors identified in this study include marital status, lack of contact with family and friends, health problems, and limited social participation. Neighbours, although they provided functional support, did not reduce the levels of reported loneliness among the singles. Social activities were also identified as capable of reducing loneliness, especially among childless singles.

Reported gender differences in levels of experienced loneliness for the singles were explained by Cantor's hierarchical compensation model (1979, cited in Pinquart, 2001) which states that friends are not only a source of emotional support but are also a protective factor against loneliness. The hierarchical compensation model is similar to Shanas's substitution theory (1979) which states that single people's networks tend to include more friends that substitute family and relatives in their absence and provide the never married with emotional support. Rubinstein (1986) further adds that single people and widows/ widowers experience loss at different stages in their lives and have to re-organise and adjust their lives accordingly. In the process, they learn to rely mostly on friends who fulfil the roles of the lost ones (intimate or friendship).

Social networks and social provision.

Social networks can be defined as "all those people involved with an elderly person in a significant way: as a member of the household, in providing companionship, emotional support, instrumental help, advice or personal care or receiving any of these from the old person" (Wenger, 1994: p. 2). Social networks provide the context in which social interactions occur. For older adults, social participation can be viewed as a means of belonging to the community and at the same time reflecting that they are in control of some aspects of their lives (Rubinstein, 1986). When an older adult perceives his/her multiple social roles as fulfilling, they are more likely to report high levels of self-efficacy and life satisfaction (Spar & La Rue, 2006). A large body of literature has focused on examining social networks to establish cross-cultural comparisons, sub-group differences, and their contribution or hindrance to successful aging (Antonucci & Hiroko, 1987; Cheng, Lee, Chan, Leung, & Lee, 2009; Fiori, Smith, & Antonucci, 2007; Fiori, Antonucci, & Cortina, 2006; Litwin, 2001; Pinquart, 2000; Phillipson, Allan, & Morgan, 2004; Wenger, 1994).

Social support network types are not only found to be similar across studies from North America, Israel, the United Kingdom and China for older adults, but also stable in old age.

Social network typology.

The typology of networks can be categorised into friend-focused, family-focused or restricted categories, each of which has unique structures and functions for providing social support. Fiori and colleagues (2007) found similar network types to those reported in the literature on social support for the elderly (Cheng et al., 2009; Fiori et al., 2006; Litwin, 2001). Cultural differences have been found to account for variation in network types. Cheng and colleagues (2009) found an additional distinct network type, the distant family network, unique to his study on old Chinese adults. This network type is made up of singles who rely on the distant relatives in the absence of immediate kin for the provision of social support. The distant family network type was found to be high on reported subjective well-being, which may indicate that distant kin act as a protective factor for well-being. Fiori and colleagues (2006) reported two variations in the restricted network type, the non-friend and the non-family restricted subgroups, which may be unique to American culture. The non-friend restricted subgroup was associated with high levels of depressive symptomology, suggesting the importance of friendship in subjective well-being and in increasing social participation. Litwin (2001) notes that the diverse network type was the most common network type in Israel, while the family network type was the least common. Additionally, Westerners were found to be more likely to utilise the diverse network type, while Easterners were more likely to use the family network type for social support. Arjouch and colleagues (2001) found similar results for African Americans who tended to have smaller support networks made up of a high proportion of family members compared to the support networks utilised by Caucasians. Additionally, as older African American adults progressed in age, their social support networks became smaller in size, which is a similar to the finding by Antonucci and Akiyama (1987). A cross-cultural study of the structural characteristics of networks for older adults aged 70-90 years old in Japan, Germany, France and the United States found that as older adults progress in age, their networks become smaller in size (Antonucci et al., 2001). This was only applicable for the samples from

Germany, the United States and France. Gender was not found to be a predictor of network characteristics which is similar to Antonucci and Akiyama's (1987) finding in that as older adults advance in age, the gender difference becomes smaller and disappears.

These findings support the notion that both age and ethnicity influence network structure. Consequently, socio-demographics, according to the reviewed literature, are found to either predict or influence network type. Litwin (2001) found income and educational differences among network types. Those in the diverse network reported higher income, higher levels of education and tended to be younger compared to the restricted and family networks. Takahashi, Tamura, and Tokoro, (1997) found marital status, living conditions, and gender to influence network types. Wenger and Keating (2008) argue that it is unclear whether the diversity in network characteristics in cross-cultural literature is a result of cultural context or location (urban vs. rural).

The association between social support network type and well-being is evident in the literature. The quality of social support rather than the quantity is associated with well-being (Fiori et al., 2006; Takahashi et al., 1997). Fiori and colleagues' (2007) findings were similar to Cheng and colleagues' (2009) and Litwin (2001) and Wenger's (1994) in that well-being was highest among the diverse network type and lowest among the restricted network type. All the network types with the exception of the restricted, reported being satisfied with their social support. Unique to Fiori and colleagues' (2007) study was the heterogeneity found in the network types. The old-old (85years plus) were more likely to belong to the restricted network type than the young-old (70-84), which is partly due to age-related changes such as death or illnesses. Among the friend-focused network, those that reported that they perceived the available social support as low (family-focused-unsupported) were younger, more active in their social participation and reported low levels of instrumental support and higher levels of well-being compared to those that perceived their social support as high (family-focused-supported). This group tended to be older, reported more physical problems. This partly accounts for their high levels of reported instrumental support and low levels of well-being. Cheng and colleagues (2009), however, failed to find a difference between the family-focused and the friend focused network types on

subjective well-being, stating that family in China remains a major source of support. Takahashi and colleagues (1997) found no difference in the quality of social support between family-based networks and friend-based networks among a sample of older Japanese adults aged 65 plus, contrary to other research findings. Although social support was found to be positively associated with well-being, they disagreed with assigning support to only one particular network type, stating that older adults in Japan are a heterogeneous group who receive their social support either from family and/or friends networks. Furthermore, Litwin (2001) also failed to neither find either ethnic nor gender differences among network types on well-being. However, Takahashi and colleagues (1997) showed that socio-demographics do impact on the perception of social support and subjective well-being. Moreover, Spar and La Rue (2006) noted that higher education and economic living standards were associated with high morale in old age. Additionally, they reported that having a confiding relationship was important to an older adult's well-being. A confidant, they reported, can be a spouse in the first instance when available, a friend in the absence of a spouse or a sibling that an older adult can confide in.

Erikson's life cycle stage of integrity versus despair provides a theoretical insight into how older adults perceive well-being. According to Erikson (1950, cited in Spar & La Rue, 2006) older adults at the integrity versus despair stage try to make sense of their life experiences by evaluating the purpose and impact of their actions on others and on themselves. If older adults perceive their life experiences as meaningful, they tend to exhibit high morale (integrity). However, if older adults reflect back on their lives with many regrets, they tend to exhibit a low morale (despair). Spar and La Rue (2006) offer an explanation to the reported high levels of well-being among older adults. Older adults cope with stressful life events and changes in a different manner compared to younger adults. They are portrayed as less confrontational, often distancing themselves from the problem, accepting responsibility and re-evaluating the problem in a positive manner.

Link between social support and well-being.

The empirical support for the link between social support and well-being is extensively documented in the literature. However, again the term is variously understood. Studies have used morale (Litwin, 2001), life satisfaction (Barrett, 1999),

affect (Takahashi, Tamura, & Tokoro, 1997), and mental well-being (Fiori, Antonucci, & Cortina, 2006; Fiori, Smith, & Antonucci, 2007) to reflect the concept of psychological well-being. In the present study, mental well-being will be the term used to discuss this concept.

Although some studies have provided a positive direct or indirect correlation between social support and well-being, other studies have not. Newsom, Nishishiba, Morgan, and Rook (2003) found that the type of social interaction in which an older adult engages impacts on their happiness. The authors found that whilst positive social interaction, had a short-term positive effect on older adults' happiness, in the long-term it did not. Negative social interaction, on the other hand, predicted an increase in their long-term reported negative affect.

Marital status.

Relationship status has also been found to impact social support. In a study examining the relationship between social support and life satisfaction among the never married (n = 266), married (n = 1,765) and the previously married (n = 1,147) aged 30 years and above in a sample taken from the first wave of Americans' Changing Lives (ACL) (1986) study, social support networks of single older adults were found to be different in structure and function from those of their married and formally married counter groups (Barrett, 1999). The never married were reported to interact more with neighbours, friends and relatives than the married or divorced groups. They were also less likely to have a confidant and reported lower levels of perceived social support. As the never married advanced in age (60+) they tended to report less social interaction and fewer confidants compared to the married and the formally married groups. However, education was found to be associated with positively perceived support among the never married compared to their counter groups, which may indicate that the structure and function of the networks they belong to differs from those of their counterparts. This may be partially explained by the changes in perception of future physical well-being and adaptation to never having been married. In general, the never married group tended to report lower life satisfaction than their married counterpart (Barrett, 1999).

Similar findings come from the reported variations in social support and well-being for different marital groups. Mirowsky and Ross (2003) found that the married group in their study reported higher levels of social support and social integration, which has been found to be associated with positive well-being (Ensel, 1986) and low mortality rates, especially for older adults (Naron-Epel, Shemy, & Carmel, 2004). The previously married marital group have also been found to report higher levels of anxiety and depression and dissatisfaction with their lives compared to the married and single groups (Anthony & Petronis, 1991). The previously married group have furthermore been found to be associated with negative aspects of well-being (Marks & Lambert, 1998). Additionally, single and divorced groups reported lower psychological well-being than their married counterpart (Shapiro & Keyes, 2008). Support for similar findings comes from a study that examined the differences in well-being (life satisfaction) among the different relationship statuses and the mediating effects of resources in a community sample ($N = 2818$) of young adults (aged between 18-30) from data waves 1987 and 1991 of the Dutch Panel study on Social Integration in the Netherlands (PSIN) (Soons & Liefbroer, 2008). Single people reported the lowest level of well-being compared with married people.

In a study examining the influence of gender, physical disability and social support on the relationship between living alone and depression in a community-based sample of older adults aged 60+ years found that social support moderates the relationship between living alone and depression (Russell & Taylor, 2009). Older adults living alone who perceive their social network as less supportive report higher levels of depression compared to those living with a partner/ spouse. However, Pinquart and Sorensen (2000) found that quality of social relationships was positively correlated with well-being among older adults. This may indicate that positive social support can be a protective factor for well-being. Yet, when a social network does not fulfil its intended function, it can have negative impact on older adults' well-being.

Gender.

Gender differences are noted in terms of network size, type and function. Women's networks are reported to be larger than men's networks, to include more friends (Craven, 2007), and provide more emotional support (Fuhrer & Stanford, 2002). However, a study by Ajrouch, Blandon, and Antonucci (2005) found this to be

true only for younger women. As women progress in years, the structure and support level of their networks decreases. Emotional support for women comes mainly from close friends (emotional support) (Coventry, Gillespie, Health, & Martin, 2004), or from relatives and family (Antonucci & Akiyama, 1987; Gurung, Taylor, & Seeman, 2003; Carbery & Buhrmester, 1998, cited in Soons & Liefbroer, 2008), while men receive emotional support mainly from their spouses. This implies that the previously married and the single men groups are the most vulnerable and lacking in terms of emotional social support resources which may have a detrimental impact on their social participation and therefore well-being (Gurung et al., 2003; Reis, 2001). Differences in network types between men and women is highlighted by Orford (1992) who, in contrast to Craven (2007) reported that men's networks are larger than women's, and are based mainly on socialising and common interests or activities, while women's networks are more family-based. However, network size may be dependent on educational level. A study by Ajrouch et al. (2005) showed that men with higher levels of education report larger networks, which may provide them with potential resources for social support.

In a study examining the relationship between marital status and social and psychological well-being in a surveyed sample (N = 3,032) aged 25-74 taken from Midlife in the United States (MIDUS) study, no difference was found in terms of social well-being between the married and unmarried groups (Shapiro & Keyes, 2008). However, the never married and widowed women were psychologically better off than the never married and widowed men. Additionally, never married women's psychological well-being was rated higher than never married men. This is similar to previous research findings, which supports the notion that men rely on their partners for social support (Soons & Liefbroer, 2008). This may be explained by cultural differences in terms of cultural and generational norms. Durie (2003) highlighted the differences in well-being among Māori and non- Māori in New Zealand, adding that such differences can only be explained by cultural factors. Using Te Whare Tapa Wha model (four cornerstones of a house), Durie helped explain the holistic view of well-being held by many Māori. Durie's model is among the most well-known Māori models of health and well-being in New Zealand. A full explanation of the various cultural models is beyond the scope of this thesis, however briefly, the model presents a holistic conceptualisation of well-being. Similar to the four sides of a house,

according to Durie's model, well-being has four aspects, including taha tinanga (physical environment and body), taha hinengaro (thoughts and feelings), taha wairoa (spirituality), and taha whanau (family and relationships). When combined, the four cornerstones make up the over-arching concept of well-being.

Older single women reported higher levels of well-being than single men (Barrett, 1999; Shapiro & Keyes, 2009). In a study of older adults aged 65 and above residing in the community, Craven (2007) reported that men reported higher levels of independence compared to women, which was a predictor of well-being. She adds that with high levels of reported independence comes more reliance on friends rather than partners for emotional support, which can be reciprocated. Conversely, instrumental support from family may or may not be reciprocated. The level of perceived social support has been found to increase with age for men while it decreases for women (Coventry, Gillespie, Health, & Martin, 2004). Craven (2007), on the other hand, did not find gender difference in perceived social support in a study of older adults aged 65 and above living in the community (N= 492).

In summary, New Zealand's population is ageing. Literature shows that social support plays an important role in aging and is often linked to well-being. Three aspects of social support that have been linked to well-being are social isolation or loneliness, social support network type, and social provision. These aspects have been shown to be influenced by socio-demographic factors such as age, gender, ethnicity, education, and marital status. The present study will examine the relationships between these variables and psychological well-being.

Theoretical Frameworks

The Convoy model of social relationships will be adopted as a general framework to contextualise social participation and help explain variations in social support and their impact on well-being across different age groups. This model is useful due to the fact that it takes into account the age-related changes in social relationships across a person's life span and helps understand the different types of networks an individual belongs to and their functional role. In other words, the Convoy model accounts for the structural and functional aspects of social support networks among older adults.

The Convoy model of social relationships (Antonucci, 1985; Antonucci, 1991; Antonucci & Akiyama, 1995; Kahn & Antonucci, 1980) states that each individual has a convoy of social networks that offer them support throughout their life. A convoy is made up of friends and family that act as resources to an individual when needed at different stages and times in one's life. The social networks are viewed as a dynamic "social convoy" that changes throughout a person's life. Members of the convoy have certain functional set roles to fulfil, being either instrumental or emotional that influence the received social support. When a member of the convoy can no longer deliver his/her expected role (e.g. due to death, illness or unavailability), the individual replaces them with new members to ensure optimal support is received. The overall quality and structure of the convoy are influenced over time by two factors: personal (age, gender, personality) and situational (expected roles, resources, demands) (Antonucci, 2001). Such changes in the convoy (strengths and weaknesses) impact on a person's well-being.

Empirical support for the Convoy model comes from different studies (Antonucci & Akiyama, 1995; Ajrouch, Blandon, & Antonucci, 2005; Cheng, Lee, Chan, Leung, & Lee, 2009; Gurung, Taylor, & Seeman, 2003; Lansford, Sherman, & Antonucci, 1998). Such studies demonstrate that the quality rather than quantity of social support in the form of social participation is crucial to an individual's well-being. Additionally, the level of social support remains stable for older adults over time even though the social ties within such social support may change to provide the optimal level of support needed for an individual.

The Convoy Model provides a framework which traces change and continuity in social ties at different stages in individuals' lives. Such changes and continuity may help us to better understand the diversity of social networks and other aspects of social support and how that support varies depending on socio-demographic factors for older adults.

The Convoy Model provides a framework for social ties which in turn exists in a larger social context. An adaptation of Berkman, Glass, Brissette & Seeman's (2000) model of the macro and micro pathways between social support and health will be used in this study to provide a conceptual framework that will help explain the findings of this study. It states that socio-structural conditions at a macro-level shape

the social support networks which in turn provide opportunities for social engagement that impact on well-being. At a macro-level are socio-structural conditions e.g. socio-demographics which shape the structure and function of social support networks. Socio-demographic factors include: age, gender, ethnicity, location, economic living standards, work status and education. Research shows that socio-demographic variables influence social support network type (Barrett, 1999; Ajrouch, Antonucci, & Janevic, 2001; Fiori, Smith, & Antonucci, 2007). The social support network structure includes size, density, connectedness, proximity, and accessibility, while the function covers frequency of contact with relatives, friends, organisations, multiplicity, duration, and reciprocity. Wenger (1994) highlighted five social support network types in terms of their structure and function. Similar network types were reported by Fiori, Smith, and Antonucci (2007); Fiori, Antonucci, and Cortina (2006) and Litwin (2001). Social support networks in turn provide opportunities for social support (emotional, functional, instrumental, or informational) and for social participation (social isolation and perceived social support) which impacts on psychological well-being. Empirical links between social support and psychological well-being are documented in (Barrett, 1999; Fiori, Smith, & Antonucci, 2007; Litwin, 2001). An adaptation of Berkman et al.'s model (2000) is presented in Figure 1.

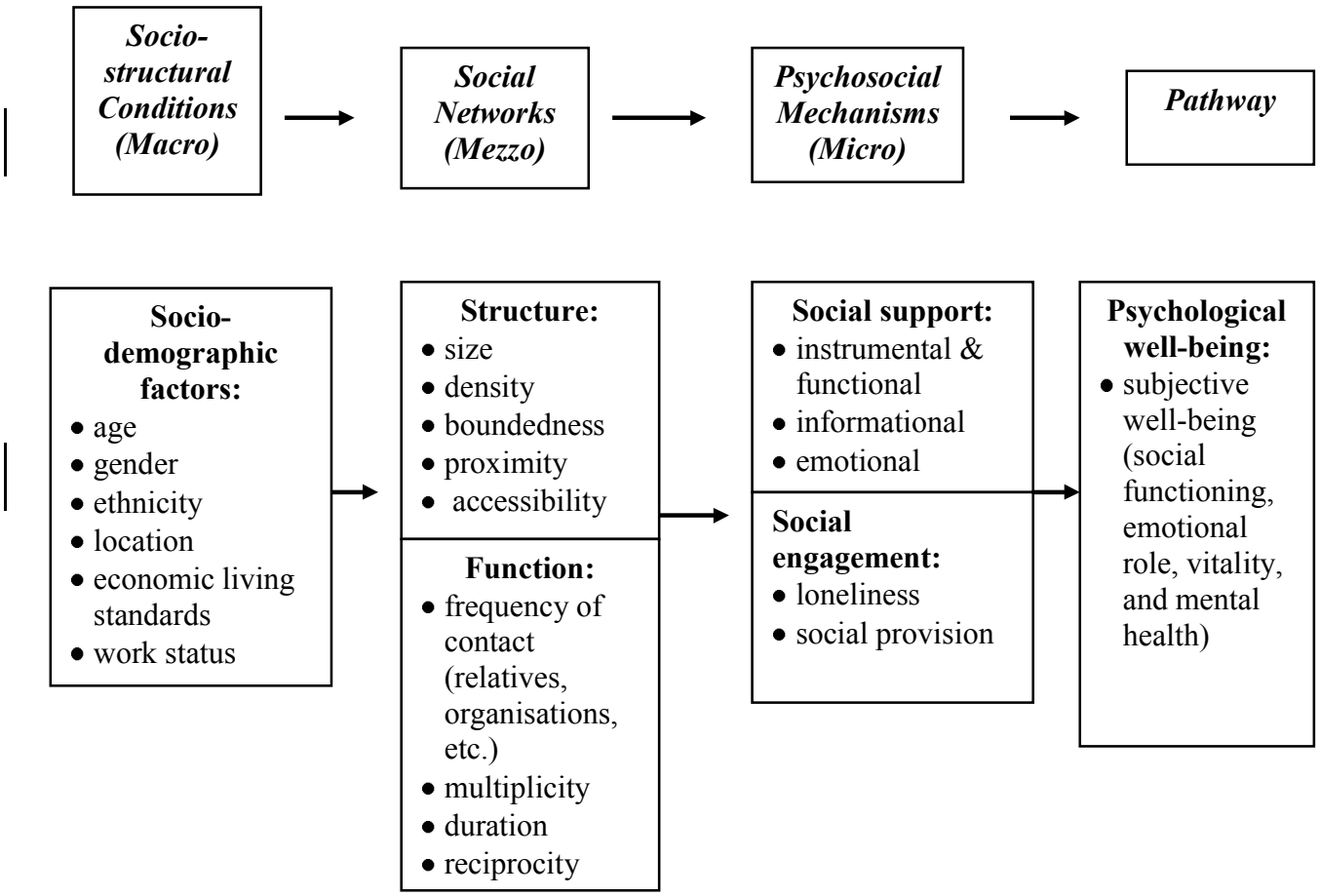

Figure 1. Conceptual model linking social support to health outlining socio-structural conditions that shape social networks which provide opportunities for psychosocial mechanisms which in turn impact on well-being. (Adapted from Berkman, Glass, Brissette, & Seeman [2000], Figure.1, p. 847).

Research Hypotheses

The present study is an extension of Barrett's (1999), which examined the effects of marital status on the relationship between social support and well-being among older adults aged 55-70 years old. What is unique to the present study is that social support variables are expanded to include network type, social isolation and perceived satisfaction with social support.

Based on previous research outlined above that found differences in network types by gender (Ajrouch, Blandon, & Antonucci, 2005; Fiori, Antonucci, & Cortina, 2006; Takahashi, Tamura, & Tokoro, 1997), ethnicity (Ajrouch, Antonucci, & Janevic, 2001; Firori et al, 2007), age (Antonucci et al., 2001; Antonucci & Akiyama, 1987) and education (Litwin, 2001), and additional findings that these relationships may differ by marital status (Barrett, 1999), the following predictions are made:

Hypothesis 1: a) It is predicted that the social support networks will differ by socio-demographic factors, irrespective of marital status. In other words, it is predicted that socio-demographic variables will have main effects on network type scores. b) Social network types will differ by marital status (c) Socio-demographic factors are expected to moderate the relationship between marital status and network scores.

Previous research has found that single older adults are less lonely compared to the previously married group (Barrett, 1999; Victor et al, 2009). Additionally, education has been found to be protective factor against loneliness (Keating, 2008; Spar & La Rue, 2006; Victor et al, 2009), therefore the following predictions are made:

Hypothesis 2: a) Loneliness is expected to be the lowest among the singles because they have managed to adapt to living independently. b) Education is expected to be a protective factor for singles against loneliness. In other words, singles with higher levels of education are expected to report lower levels of loneliness compared to singles with less education.

Perceived social support has been found to be lower for single older adults compared to married and previously married marital status groups (Barrett, 1999; Russell & Taylor, 2009; Ross, 1995). In addition, single women have been found to have higher levels of social support than single men due to having active social ties with family, friends and neighbours which in turn act as different sources for providing support (Antonucci & Akiyama, 1987; Cutrona & Russell, 1987; Shapiro & Keyes, 2008; Soons & Liefbroer, 2008). Therefore, the following predictions are made:

Hypothesis 3: a) Perception of social support is hypothesised to differ for singles compared to the married and previously married groups. It is hypothesised that singles will have low levels of perceived social support. b) Single women are expected to report higher levels of perceived social support compared to single men.

Barrett (199) found that singles reported higher levels of subjective well-being compared to the previously married group and lower levels of subjective well-being compared to the married group. She also found that the socio-demographic factors of age (being older), gender (female) and high economic living standards were associated with high levels of reported subjective well-being. Additionally, of the social support variables, positive perception of social support and lower levels of loneliness were also associated with psychological well-being. Moreover, Barrett (1999) found that gender and ethnicity moderated the relationship between marital status and psychological well-being. Therefore, the following predictions are made:

Hypothesis 4: a) It is hypothesised that results from the present study will replicate those results found in Barrett's study (1999). Reported levels of well-being for singles are expected to be lower than that of the married but higher than that of the previously married groups. b) It is expected that scores of subjective well-being will differ according to socio-demographic factors and social support variables. Additionally, demographic variables of ethnicity, age, gender and education will moderate the relationship between marital status and well-being.

Chapter Three: Method

This chapter discusses the research design, sample composition and response rate, procedure and measures used in the current study.

Research Design

The cross-sectional study examined the relationship between social support and well-being and the links with selected variables. A retrospective self-report postal survey was utilised for the collection of data relating to health, retirement and work aspects of the participants' lifestyles aged 55 – 70 years old. The collected data was the first wave of data collected in 2006 from *The Heath, Work, and Retirement (HWR) Study,* a longitudinal study conducted in New Zealand (Alpass, Towers, Stephens, Davey, Fitzgerald, & Stevenson, 2007).

Sample Composition and Response Rate

Thirteen thousand and forty New Zealanders aged 55-70 years old were randomly selected from the New Zealand Electoral Roll. Using the Maori descent indicator in the Electoral Roll database, Maori were oversampled resulting in a sub-sample of 7,780 Maori participants and a sub-sample of 5,260 general population participants. The response rates for the general population and the Maori sub-samples were 62% and 48% respectively with an overall response rate of 53%. Refer to Towers (2007) for full description of sampling procedure.

Procedure

The HWR study surveyed New Zealanders aged 55 to 70 years old about health, physical activity, social support, work status and attitudes, retirement status and attitudes, and socio-demographic information via postal questionnaire. The main objective of the study was to examine the impact of the transition from work to retirement on well-being and independence. Individuals in institutions (prisons, nursing homes, or dependent care) were excluded from the survey population.

In order to increase the response rate, Dillman's structured approach to survey design, developed in 2000, was used in this study (Towers, 2007). A pre-notice letter was initially sent to participants informing them of their random selection from the

Electoral Roll for the study and that the questionnaire would follow soon after that. One week later, the questionnaire along with a free post envelope and a cover letter detailing the study were sent to the participants. A reminder post-card was sent three weeks later to all participants. For those who did not respond, a replacement questionnaire was sent six weeks later followed by a final reminder eleven weeks later. In total, 6,662 participants returned the postal surveys and were included in the study.

Ethical approval for the study was sought from the Human Ethics Committee at Massey University (HEC: PN 05/90) prior to commencing the study. For further information about the methodology and participant selection, refer to the HWR website, www.hwr.massey.ac.nz/resources/methodology_towers.pdf.

Measures

For the present study, mental well-being was the dependent variable. Marital status, social networks, perceived social support and isolation were treated as independent variables. Gender, age, geographical location, economic living standards, education, ethnicity, and retirement status was used as control variables. Measures are described below and are provided in Appendix A.

Demographic information.

Questions on this measure sought information about the participant's marital status, gender, age, ethnicity, residential location, retirement status, educational qualifications and economic living standards. Questions were modelled on the 2006 New Zealand Census of Population and Dwellings (Statistics New Zealand, 2007).

Response categories for the marital status question were: 1 = legally married, 2 = civil union/ de facto/ partnered relationship, 3 = permanently separated from legal spouse, 4 = divorced/ marriage dissolved, 5 = widow/widower and 6 = never been legally married. The six response categories were then collapsed into three distinct groups based on their legal marital status, mainly the presence or absence of a spouse/partner: 1= legally married/ civil union/ de facto/ partnered which will be referred to as married, 2=permanently separated from legal spouse/ divorced/

widowed which will be referred to as previously married, 3= never been legally married which will be referred to as single.

For gender, dichotomous response choices included: 1 = male, 2 = female. Responses for the age question reported on the number of years at the time wave one of data were collected.

Response categories for the ethnic group question were collapsed into two categories: 0 = non- Māori, 1 = New Zealand Māori.

Response choices for the residential location question were collapsed into two distinct categories: 1 = urban (which included main, secondary and minor urban) and 0 = rural (which included rural centre and rural area).

Work status categorised responses into two categories: 0 = working, 1 = not in work force.

The education question collapsed response categories into three distinct categories: 1 = no school qualifications, 2 = school qualifications and 3 = post-school qualifications.

Economic living standard.

The Economic Living Standard Index- Short Form (ELSI-SF) is a self-rated measure based on the ELSI developed by the Ministry of Social Development (2005). The rationale behind the ELSI-SF is that economic living standards vary on a continuum from low to high impacting on one's ability to socialise and to engage in social activities.

The ELSI-SF is made up of 25 items that assess ownership and social participation restrictions as well as economising. Scores range from 0 to 31. A scoring algorithm was used to allocate responses into one of the following categories: 1 = severe hardship, 2 = significant hardship, 3 = some hardship, 4 = fairly comfortable, 5 = comfortable, 6 = good and 7 = very good. In this study, only the overall ELS-SF score was used. According to Jensen, Spittal, and Krishnan (2005), The Economic Living Standard, Short Form scale has good internal consistency, with Cronbach

alpha coefficient reported of 0.88. In the current study, the Cronbach alpha coefficient was 0.81.

Jensen and colleagues (2005) reported that older people have better living standards compared to younger adults and that 80% of New Zealanders fall into the fairly comfortable to the very good categories based on the New Zealand population in 2000.

The uses of the ELSI-SF vary from being descriptive in assessing socioeconomic living standards to being a tool that allows examining the effect of economic living standards on other variables. Jensen and colleagues (2005) highlighted the following inherent limitations of the ELSI-SF. The context and meaning of the items on the ELSI-SF is applicable to a particular social and economic context of New Zealand in 2000 and may well vary. Additionally, the ELSI-SF represents only the materialistic aspect of well-being. Moreover, scores at the top end of the scale are compressed indicating that they partly function as proxies for measuring quality of economic living standards.

Social support measures.

Questions asked about participant's social support network type, perceived satisfaction with the function and level of social support, and subjective perception of the level of loneliness.

Social support network types.

Social network is defined as "all those people involved with an elderly person in a significant way: as a member of the household, in providing companionship, emotional support, instrumental help, advice or personal care or receiving any of these from the old person" (Wenger, 1994, p. 2). Wenger's typology of support network is based on a longitudinal study conducted in North Wales in 1978 (Wenger, 1994). The instrument is intended for practitioner's use when assessing and intervening with older adults residing in the community. Rather than being used as a clinical tool where each participant is assigned a network type, in the present each participant received a score on each of the five networks.

Wenger (1994) identified five types of social support networks based on: the availability of local close kin; the level of involvement of family, friends and neighbours; and the level of interaction with the community and voluntary groups.

A scoring algorithm allocates a network type to each respondent based on the summated total response scored on each of the five network categories. According to Wenger, 70% of the cases will show expected results while approximately 25% of the will be borderline cases because they scored the same highest score for two networks and 5% of the results will be inconclusive. A minor modification of transforming response categories from miles into kilometres were made to the Wenger Network for use with the HWR New Zealand sample.

The five identified network types are Family Dependent, Locally Integrated, Local Self-Contained, Wider Community and Private (Wenger, 1994). The most common support networks identified in Wenger's study were Locally Integrated and Family Dependent support networks. A brief summary of the characteristics of each support network follows.

Family: This network type tends to be small, focuses on close family ties with few friends and neighbours. It is most likely composed of widowed older people with some health problems, and a high level of dependency on close family (commonly a female relative) for interaction and needs. It is often characterised by loneliness (Wenger, 1983, cited in Wenger, 1994) and depression because the older people feel they are a burden on those around them.

Locally Integrated: This network type tends to be larger than other network types. It is most likely composed of younger older adults (65-74) who are in good health, are actively involved in the community and have close relationships with friends, family and neighbours. High morale is common rather than loneliness and isolation.

Locally Self-Contained: This network type tends to smaller than average, adopts a low key involvement in the community and is self-reliant. It is characterised by being single, and/or childless and unskilled work with low incomes. They may rely on neighbours for practical help; although may suffer from undiagnosed health problems such as fall. Social isolation is common among this network type.

Wider Community: This network type is larger than average, actively involved in the wider community, often associated with retirement migrants and good health. It is characterised by the absence of local relatives, the distinction between friends and family and a friendship based lifestyle. High moral and low loneliness are common.

Private: This network type tends to be small, have fewer support ties, suffer from poor health and is associated with lifelong pattern of migration. It is characterised by lack of community involvement, being independent and most likely childless. Loneliness and isolation are common.

The Social Provisions Scale.

The Social Provision Scale (SPS) (Cutrona & Russell, 1987) assesses participants' subjective perception of social support on six sub- scales. It has sound internal consistency, with Cronbach alpha coefficient reported of 0.92 for the Total Social Provision Scale (SPS) and between 0.65 to 0.76 on the individual sub- scales. In the present study, the Cronbach alpha coefficient was 0.89. Only the summed scores of the sub-scales that form the Total (SPS) were used in this study. Higher scores indicated higher levels of social support.

Social isolation.

The question on social isolation measures loneliness among adults aged 55-70 years old: *Some people tell us that they feel lonely while others say that they don't. In the last 12 months how often have you felt lonely or isolated?* (Ministry of Social Development, 2005). Responses fall into six categories: 1 = always, 2 = most of the time, 3 = sometimes, 4 = rarely, 5 = never and 6 = don't know. Scores were reversed so that high scores indicated greater loneliness.

Well-being.

The SF36-II, a measure of health status, assesses eight areas of functioning and well-being in addition to two broad areas of subjective well-being (physical and mental). The mental health sub-scale of the SF36-II (Ware, Kosinski, & Dewey, 2000) was used to assess well-being in this study. Scores were summed, transformed and normed on the HWR sample using algorithms. The normed mental health sub-

scale scores ranged from 0 = worst health to 100 = best possible health. Higher scores denoted better mental well-being.

Evidence for internal reliability and construct validity (Jenkinson, Stewart-Brown, Petersen, & Paice, 1999) were reported. Cronbach alpha in studies in New Zealand vary between 0.80 - 0.84 (Beagley, 2008; Scott, Sarfati, Tobias, & Haslett, 2000). In the present study, the Cronbach alpha coefficient was 0.81.

Chapter Four: Results

Missing Data and Variable Transformations

Means and standard deviations of the untransformed variables were included in the descriptive analysis. Listwise deletion was later used in the inferential statistical analyses to exclude cases with missing data on any of the variables in use. Excluded missing cases were less than 5 % on all the variables and examination of the distribution of the data showed missing data was random.

All variables were initially screened through the various SPSS analytical tools for accuracy of data entry, missing values, and fit between their distributions and the assumptions of multivariate analyses as recommended by Tabachnick and Fidell (2007a). The variables of isolation, well-being, social provision and private and wider community network types were mildly to moderately skewed. Two methods of transformation were used, square root and logarithmic, to adjust for skewness. The square root transformation method slightly improved the distribution of the data only on the well-being variable. Additionally, the poor split on marital status and the interaction effects truncate their correlation with other variables, but were retained for analyses because they were crucial for the study. Moreover, due to the large sample size (N= 6,662), mild to moderate skewness was of less importance (Tabachnick & Fidell, 2007a).

To adjust for the over-sampling of Maori in the sample, a weighted ethnicity variable derived from population-based distributions of ethnicity was run in the background of the inferential data analyses. Additionally, the well-being variable was transformally inversed for easier interpretation. In other words, higher scores on the inversed well-being measure meant better mental health.

For regression analyses, marital status was transformed into two dummy coded variables: “ms1a” (separated/divorced/widowed= 1, married/ de facto= 0, single=0) and “ms2a” (single=1, married/ de facto=0, separated/divorced/widowed =0). In this study, the married, partnered and de facto group will be referred to as ‘married’, while the separated/divorced/widowed group will be referred to as ‘previously married’. The

married group are the reference group. Also, location, retirement and ethnicity variables were dichotomised for use in the inferential analyses.

Data Analyses

The data analyses were undertaken in three different stages which provided descriptive statistical summaries of the procedures used and the statistical outcomes associated with the hypotheses. The data was analysed using SPSS for Windows Version 17.

First, details of the continuous variables of age, economic living standards, network type, perceived social support, well-being and social isolation are summarised in Table 1. Additionally, details of the sample demographic characteristics of gender, ethnicity, education, location, and work status are summarised in Table 2. The summaries are also discussed in the text of the following section. Un-weighted data was used to produce descriptive frequencies of the variables.

Second, to test for moderating effect of demographic variables on the relationship between social support and marital status, hierarchical regression analysis was used. Finally, to test for the moderating effect of social support on the relationship between well-being and marital status, hierarchical regression analysis was used. Interaction terms were created by computing cross-product terms between variables, i.e., either using binary coded dichotomies or deviation scores from the mean of continuous variables.

Results

Descriptive statistics in Table 1 and Table 2 present the means and standard deviations of the continuous variables used in analyses, noting significant differences between the single and both the married and the previously married groups.

The age range of the participants varied from 54 to 70 years old. Singles were slightly younger than their married and previously married counter-groups. The singles reported lower standards of living when compared to the married group but higher standards of living when compared to the previously married groups.

Table 1. Means and Standard Deviations of Continuous Variables Used in This Study

Variable	Married (n = 4,932)		Previously Married (n = 1,340)		Single (n = 255)	
Age *						
(54-70 years)	60.78	(4.52)	61.65	(4.62)	60.39	(4.54)
ELSI-SF*	5.21	(1.47)	4.29	(1.83)	4.36	(1.79)
Network*						
Family	2.51	(1.35)	2.42	(1.39)	2.04	(1.36)
Locain	3.19	(1.49)	3.16	(1.54)	2.73	(1.46)
Locsel	2.70	(1.41)	2.52	(1.42)	2.78	(1.44)
Wider	2.69	(1.38)	2.44	(1.37)	2.33	(1.40)
Private	2.0	(1.33)	1.80	(1.34)	2.13	(1.45)
Social Provision*[a]	79.70	(9.52)	76.11	(10)	74.49	(10)
Well-Being*[b]	50.03	(9.43)	46.35	(11.66)	47.39	(10.64)
Loneliness*[c]	1.74	(0.81)	2.29	(0.93)	2.1	(0.95)

Note. Family = Family Dependent, Locin= Locally Integrated, Locsel= Local self-contained, Wider= Wider Community Focus, & Private= Private network types.
ELSI-SF = Economic Living Standard Index, Short Form.
*$p < 0.05$.
[a]Social Provision (higher values = more perceived social support).
[b]Well-Being (higher values = better mental well-being).
[c]Loneliness (1 = never to 5 = always).

Singles scored the lowest on the Family network type whilst they scored the highest on the Locally Self-Contained network type. Singles scored highly on the Private network type when compared with the previously married group. They also scored the lowest on the Locally Integrated network type when compared with the married and previously married counter-groups.

The married group scored the highest on the Locally Integrated network type and the lowest on the Private network type. The majority of those in the Family network type were married people. The previously married group, scored the highest on the Locally Integrated network type and the lowest on the Private network type. When compared with the married group, the previously married scored lower on the Wider Community Focus network type.

When compared with the married and previously married groups on the perceived level of social support as measured by the Social Provision total score, the singles were the most lacking on social capital after the previously married, while the married scored the highest on perceived social support.

Responses on well-being ranged from -3.73 to 71.67 for all participants. The married group reported the highest score on mental well-being followed by the singles. The previously married, in comparison, reported the lowest scores on well-being.

The married group reported that they were the least lonely, while the previously married group were the loneliest. The singles reported that they felt lonelier than the married group but were less lonely than the previously married in the past twelve months.

The number of females (54.4%) was slightly higher than that of males (45.6%) in the overall sample. Among singles, there were more males than females. Among the previously married, there were more females.

The variable of ethnicity was recoded into 1= Māori and 0= non- Māori to allow its use in the regression analyses. Just over half of the singles were of Māori descent. Over half of the married group were of non- Māori descent, while the majority of the previously married were of Māori descent.

Among the single group, a high proportion either had no school qualifications or post-school qualifications. The married group had more post-school qualifications than the singles and the previously married groups. A large percentage of the previously married group reported having no school qualifications followed by the singles and lastly by the married group.

The majority of the sample reported living in urban areas compared to those in rural areas. The previously married were the least likely to live in rural areas compared with their married and single counter groups. For singles, the majority reported living in urban areas.

Table 2. Summary of the Participants Demographic Characteristics

Variable	Married (n = 4,932)		Previously Married (n = 1,340)		Single (n = 255)	
Gender*[a]						
Males	2287	(49.9%)	499	(31.9%)	176	(51.2%)
Females	2299	(50.1%)	1067	(68.1%)	168	(48.8%)
Ethnicity*						
Non Māori	2384	(55.5%)	600	(40.5%)	131	(40.4%)
Māori	1910	(44.5%)	880	(59.5%)	193	(59.6%)
Education*						
No school qualification	1676	(36.8%)	683	(44.4%)	133	(40.5%)
School qualification	1016	(22.3%)	318	(20.7%)	76	(23.2%)
Post-school qualification	1862	(40.9%)	536	(34.9%)	119	(36.3%)
Location*						
Rural	1128	(24.9%)	321	(21%)	76	(23%)
Urban	3400	(75.1%)	1208	(79%)	255	(77%)
Work Status*						
Work	3024	(67.6%)	843	(56%)	188	(58%)
Not in Work	1449	(32.4%)	663	(44%)	136	(42%)

*$p<0.05$

[a]Gender (2.5% missing).
[b]Ethnicity (8.5 % missing).
[c]Education (3.6% missing).
[d]Location (4.1% missing).
[e]Work Status (5.4% missing)

The work status variable was dichotomised into 0= those in the work-force and 1= those not in the work-force to allow its use in the regression analyses. The majority of single people in this sample reported being in the workforce. A high proportion of the previously married reported not being in the work force compared with the married group who were still in the workforce.

Differences in Network Types

Hierarchical regression analysis was used to address hypothesis one. This type of analysis was used to evaluate the unique contribution of each of the variables

within the three independent variable (IVs) blocks (socio-demographics, marital status and the moderating effects of age, gender, ethnicity, and education variables) in relation to the five dependent variables (DV) of Network type scores. This type of regression analysis was chosen because it allowed the researcher to control the entry order of the independent variable blocks and to account for the unique variance of each independent variable after variances of other independent variables had been accounted for (Tabachnick & Fidell, 2007b).

Step one examined the contribution of socio-demographic variables. In step two the unique contribution of marital status variables was estimated after controlling for socio-demographic variables. Step three estimated the contribution of the moderating effects of age, gender, ethnicity, and education variables after controlling for the previous two blocks of variables. Standardised Beta coefficients (β) for each variable within the three successive blocks of independent variables are reported. The final adjusted R^2 variance explained by each step of the equation is provided.

Family network type.

R was significantly different from zero at the end of each step. The results of this analysis are provided in Table 3.

At Step one, socio-demographic variables alone explained 1.5% of variance (adjusted R^2) in Family network type scores, F (7, 4383) = 10.421, $p < 0.001$. After Step two, with the addition of the two marital status variables, total explained variance in scores on Family network type increased to 2.4% (adjusted R^2), F (9, 4381) = 13.081, $p < 0.001$. After the inclusion of these variables, R squared change was significant, F change (2, 4380) = 22.042, $p < 0.001$. The marital status variables accounted for 0.9% unique variance in Family Network type scores when controlling for socio-demographic variables. After Step three, with the moderating variables entered, total variance explained in scores on Family network type remained at 2.4% (adjusted R^2), F (13, 4377) = 9.147, $p < 0.001$. The R squared change after the inclusion of the interaction effects variables was not significant, F (4, 4376) = 0.0.313, $p = 0.869$.

Table 3. Hierarchical Multiple Regression Analyses of Socio-Demographics, Marital Status, and Interaction Effects on Family Network scores showing standardised regression coefficients, R, Total R^2, Adjusted R^2 and R^2 Change (N= 6,497)

Variables	Step 1	Step 2	Step 3
Socio-demographics			
Age	-0.014	-0.012	-0.013
Gender	0.098***	0.108***	0.105***
Ethnicity	0.054***	0.059***	0.059***
ESLI-SF score	0.009	-0.011	-0.011
Location	0.033*	0.041**	0.040**
Work Status	-0.052**	-0.054**	-0.054**
Education	0.037*	0.038*	0.036*
Marital Status			
Ms1a		-0.077***	-0.077***
Ms2a		-0.075***	-0.099***
Interaction Effects			
Age x single			0.010
Gender x single			0.016
Ethnicity x single			-0.002
Education x single			0.019
R	0.128	0.162	0.163
Total R^2	0.016	0.026	0.026
Adjusted R^2	0.015	0.024	0.024
R^2 Change	0.016	0.010	0.000

*p<0.05, **p<0.01, ***p<0.001

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects. With all the variables in step three, gender, ethnicity, work status, and education from the first block remain significantly linked to Family network type scores. Gender and education's significant contributions diminished in step three, which appeared to be moderated by the subsequent introduction of interaction effects variable blocks. The moderating effects variable block failed to reach any significance in the final step. Gender contributed the most to the variance explained in the final model ($\beta = 0.105$, $p < 0.001$), while

education contributed the least to the variance explained in the final model ($\beta = 0.036$, $p < 0.05$). As can be seen in Table 1, singles were more likely to report lower scores on the Family Network type and in the regression analysis both marital status dummy variables remained significant ($\beta = -0.077$, $p < 0.001$ and $\beta = -0.075$, $p < 0.01$ respectively) when controlling for demographic variables. These results partially support hypothesis 1a which stated that socio-demographic factors will have main effect on network type scores, here being the Family Network type scores.

Locally Integrated network type.

The same procedure was followed for the locally integrated network regression analysis as outlined previously. *R* was significantly different from zero at the end of each step. The results of this analysis are provided in Table 4.

At Step one, the socio-demographic variables explained 1.9% of variance (adjusted R^2) in Locally Integrated network type scores, F (7, 4383) = 13.364, $p <$ 0.001. After Step two, with the addition of the two marital status variables, the total variance explained in Locally Integrated network type scores increased to 2.7% (adjusted R^2), F (9, 4381) = 14.288, $p < 0.001$. The R squared change after the addition of the marital status variables was significant, F (2, 4380) = 17.177, $p <$ 0.001. The marital status variables accounted for 0.8% unique variance in Locally Integrated network type scores when controlling for socio-demographic variables.

After Step three, with the moderating variables entered, total variance explained in Locally Integrated network type increased slightly to 2.8% (adjusted R^2), F (13, 4377) = 10.641, $p < 0.001$. The *R* change squared was significant after the addition of these variables, F (4, 4376) = 2.394, $p < 0.05$.

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects. With all the variables in step three, ethnicity, economic living standards, location and education from the first block remain significantly linked to Locally Integrated network type scores. Location contributed the most to the variance explained in the final model ($\beta = 0.12$, $p < 0.001$), while education contributed the least to the variance explained in the final model ($\beta =$ -0.037, $p < 0.05$).

Table 4**.** Hierarchical Multiple Regression Analyses of Socio-Demographics, Marital Status, and interaction Effects on Locally Integrated Network scores showing standardised Regression coefficients, R, Total R^2, Adjusted R^2 and R^2 Change (N= 6,497)

Variables	Step 1	Step 2	Step 3
Socio-demographics			
Age	-0.009	-0.011	-0.007
Gender	0.029	0.029	0.020
Ethnicity	0.043**	0.046**	0.042*
ESLI-SF score	0.072***	0.063***	0.064***
Location	0.116***	0.119***	0.120***
Work Status	0.012	0.013	0.015
Education	-0.038*	-0.036*	-0.037*
Marital Status			
Ms1a		-0.019	-0.017
Ms2a		-0.088**	-0.141***
Interaction Effects			
Age x single			-0.019
Gender x single			-0.049*
Ethnicity x single			0.018
Education x single			0.014
R	0.145	0.169	0.175
Total R^2	0.021	0.029	0.031
Adjusted R^2	0.019	0.027	0.028
R^2 Change	0.021	0.008	0.002

*p<0.05, **p<0.01, ***p<0.001

Of the marital status variable block, only ms2 was associated with Locally Integrated network scores. As shown in Table 1, singles were more likely to report the lowest scores on Locally Integrated variable compared to the married and previously married counter-groups and this finding was significant (β = -0.141, $p < 0.001$) in the regression analysis when controlling for demographic variables.

In the moderating effects variable block, the gender x marital status interaction variable was the only significant interaction effect in this block ($\beta = 0.049$, $p < 0.05$). Single females were more likely to score higher than single males on the Locally Integrated network type. Consequently, single men were more likely to score the lowest on this network type compared with their married and previously married counter-groups. Results of the gender x marital status interaction on scores of Locally Integrated network type are displayed in Figure 2. **A schematic representation of gender x marital status interaction on scores of Locally Integrated Network type.**

The results from the hierarchical regression reported in Table 4 partially support hypothesis 1a, which predicted that network type would not only vary according to socio-demographics irrespective of marital status, but also moderate the relationship between marital status and network scores. Those who identify as non-Māori, those with higher standards of living scores, those in urban locations, and those with higher education all reported higher scores on the Locally Integrated network variable. Findings partially support hypothesis 1b with gender moderating the relationship between marital status and network scores. Singles scored the lowest on the locally integrated network variable; however, scores were lower for male singles compare to female singles.

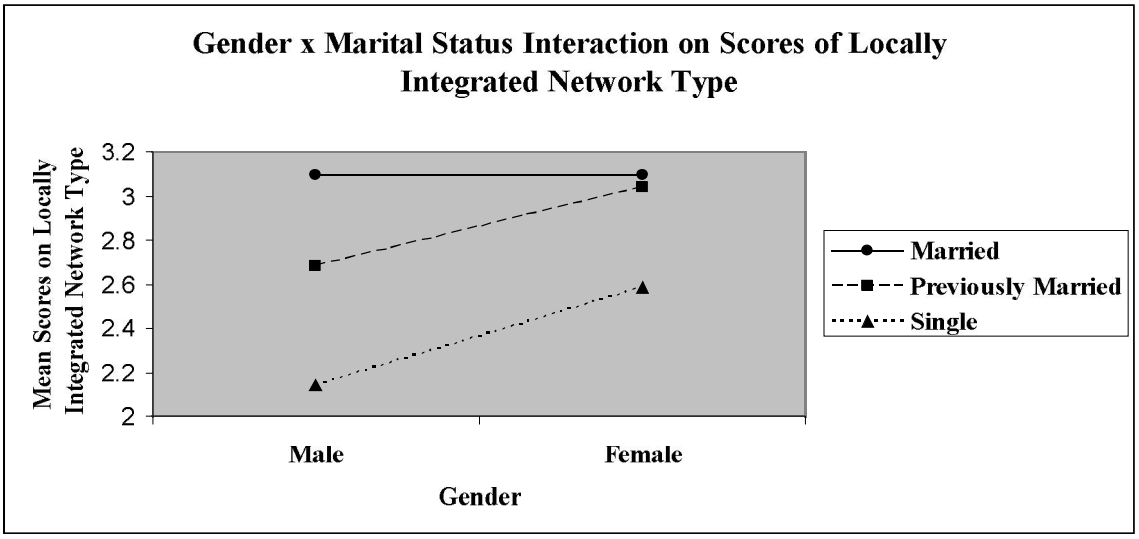

Figure 2. A schematic representation of gender x marital status interaction on scores of Locally Integrated Network type.

Wider Community network type.

The same procedure was followed for the Wider Community network regression analysis as outlined previously. *R* was significantly different from zero at the end of each step. The results of this analysis are provided in Table 5.

At Step one the socio-demographic variables explained 3.5% of variance (adjusted R^2) in Wider Community network scores, F (7, 4383) = 23.785, $p < 0.001$. After Step two, with the addition of the two marital status variables, the total variance explained in Wider Community network scores increased to 3.7% (adjusted R^2), F (9, 4381) = 19.849, $p < 0.001$. After the addition of these variables, the R squared change was significant, F (2, 4380) = 5.887, $p < 0.01$. The marital status variable block accounted for 0.2% unique variance in Wider Community network scores when controlling for socio-demographic variables.

At Step three, with the addition of the interaction effects variable blocks, the total variance explained in Wider Community network scores increased slightly to 3.8% (adjusted R^2), F (13, 4377) = 14.330, $p < 0.001$. The R squared change after the inclusion of these variables was not significant, F (4, 4376) = 1.879, $p = 0.111$. Although the gender x marital status interaction was significant ($\beta = -0.044$, $p < 0.05$), this did not contribute to explained variance as this block of variables was not significant. Therefore, this relationship is not interpreted.

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects. With all the variables in Step three, age, ethnicity, location and education from the first block remain significantly linked to Wider Community network type scores. Education contributed the most to the variance explained in the final model ($\beta = 0.146$, $p < 0.001$), while location contributed the least to the variance explained in the final model ($\beta = -0.091$, $p < 0.001$). Of the marital status variable block, only ms2 was associated with Wider Community scores at Step two.

Table 5. Hierarchical Multiple Regression Analyses of Socio-Demographics, Marital Status, and Interaction Effects on Wider Community Network scores showing standardised regression coefficients, R, Total R^2, Adjusted R^2 and R^2 Change (N= 6,497)

Variables	Step 1	Step 2	Step 3
Socio-demographics			
Age	0.042**	0.043**	0.040*
Gender	-0.005	-0.003	0.005
Ethnicity	-0.052***	-0.050***	-0.051***
ESLI-SF score	0.038*	0.030	0.030
Location	-0.094***	-0.091***	-0.091***
Work Status	0.012	0.012	0.010
Education	0.142***	0.142***	0.146***
Marital Status			
Ms1a		-0.028	-0.029
Ms2a		-0.046***	0.016
Interaction Effects			
Age x single			0.011
Gender x single			-0.044*
Ethnicity x single			0.006
Education x single			-0.039
R	0.191	0.198	0.202
Total R^2	0.037	0.039	0.041
Adjusted R^2	0.035	0.037	0.038
R^2 Change	0.037	0.003	0.002

*p<0.05, **p<0.01, ***p<0.001

As shown in Table 1, singles were more likely to score the lowest on the Wider Community network variable compared to the married and the previously married counter-groups and this finding was significant ($\beta = -0.046$, $p < 0.001$) in the regression analysis when controlling for socio-demographic variables. However, this relationship was not significant in Step three.

These results reported in Table 5 partially support hypothesis 1a which predicted that the network type would vary according to socio-demographics, irrespective of marital status. Those older in age, those who identify as non- Māori, those in rural locations, and those with higher education reported higher scores on the Wider Community network type variable.

Private network type.

The same procedure was followed for the private network regression analysis as outlined previously. *R* was significantly different from zero at the end of each step. The results of this analysis are provided in Table 6.

At Step one the socio-demographic variables explained 2.7% of variance (adjusted R^2) in Private network type scores, F (7, 4383) = 18.586, p < 0.001. After Step two, with the addition of the marital status variables, the total variance explained in Private network type scores increased to 3.2% (adjusted R^2), F (9, 4381) = 17.378, $p < 0.001$. The R squared change was significant after the inclusion of these variables, F (2, 4380) = 12.801, $p < 0.001$. The marital status variable block accounted for 0.5% unique variance in Private network scores when controlling for socio-demographic variables.

At Step three with the addition of the interaction effects variable block, the total variance explained in Private network type scores increased slightly to 3.3% (adjusted R^2), F (13, 4377) = 12.606, $p < 0.001$. The R squared change was not statistically significant after the inclusion of these variables, F (4, 4376) = 1.837, p = 0.119. Although the gender x marital status interaction was significant (β = -0.045, p < 0.05), this did not contribute to explained variance as this block of variables was not significant. Therefore, this relationship is not interpreted.

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects.

Table 6. Hierarchical Multiple Regression Analysis of Socio-Demographics, Marital Status, and Interaction Effects on Private Network Scores Showing Standardised Regression Coefficients, R, Total R^2, Adjusted R^2 and R^2 Change (N= 6,497)

Variables	Step 1	Step 2	Step 3
Socio-demographics			
Age	-0.016	-0.011	-0.014
Gender	-0.035*	-0.028	-0.020
Ethnicity	-0.008	-0.007	-0.004
ESLI-SF score	-0.011	-0.015	-0.016
Location	-0.122***	-0.121***	-0.121***
Work Status	-0.015	-0.019	-0.021
Education	0.101***	0.100***	0.099***
Marital Status			
Ms1a		-0.034*	-0.036*
Ms2a		0.064***	0.097**
Interaction Effects			
Age x single			0.013
Gender x single			-0.045*
Ethnicity x single			-0.014
Education x single			0.005
R	0.170	0.186	0.190
Total R^2	0.029	0.034	0.036
Adjusted R^2	0.027	0.032	0.033
R^2 Change	0.029	0.006	0.002

*p<0.05, **p<0.01, ***p<0.001

With all the variables in Step three, only location and education from the first block remain significantly linked to Private network type scores. Education contributed the most to the variance explained in the final model ($\beta = 0.099$, $p < 0.001$), while location contributed the least to the variance explained in the final model ($\beta = -0.121$, $p < 0.001$). As can be seen in Table 1, singles were more likely to report the highest scores on the Private network type and in the regression analysis both marital status dummy variables remained significant ($\beta = -0.036$, $p < 0.05$ and $\beta = -0.097$, $p < 0.01$ respectively) when controlling for demographic variables.

These results reported in Table 6 partially support hypothesis 1a which predicted that the network type would vary according to socio-demographics, irrespective of marital status. Those in urban locations and those with higher education reported higher scores on the Private network type variable.

Locally Self-Contained network type.

The same procedure was followed for the locally self-contained network regression analysis as outlined previously. *R* was significantly different from zero at the end of each step. The results of this analysis are provided in Table 7.

At Step one the socio-demographic variables explained 1.3% of variance (adjusted R^2) in Locally Self-Contained network type scores, F (7, 4383) = 9.288, $p <$ 0.001. After Step two, with the addition of the marital status variables, the total variance explained in Locally Self-Contained network type increased to 1.7% (adjusted R^2), F (9, 4381) = 9.681, $p < 0.001$. The R squared change was significant after the inclusion of these variables, F (2, 4380) = 10.911, $p < 0.001$. The marital status variable block accounted for 0.4% unique variance in Locally Self-Contained network scores when controlling for socio-demographic variables.

At Step three, with the addition of the interaction effect variables block, the total variance explained in Locally Self-Contained network scores increased slightly to 2.0% (adjusted R^2), F (13, 4377) = 7.819, $p < 0.001$. The R squared change was significant after the inclusion of these variables, F (4, 4376) = 3.577, $p < 0.01$.

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects. With all the variables in step three, location, work and education from the first block remain significantly linked to Locally Self-Contained network type scores. Education contributed the most to the variance explained in the final model ($\beta = 0.078$, $p < 0.001$.

Table 7. Hierarchical Multiple Regression Analysis of Socio-Demographics, Marital Status, and Interaction Effects on Locally Self-Contained Network Showing Standardised Regression Coefficients, R, Total R^2, Adjusted R^2 and R^2 Change (N= 6,497)

Variables	Step 1	Step 2	Step 3
Socio-demographics			
Age	0.029	0.034*	0.026
Gender	0.021	0.030	0.034*
Ethnicity	-0.006	-0.005	-0.002
ESLI-SF score	0.029	0.023	0.020
Location	-0.050***	-0.048***	-0.050***
Work Status	-0.045**	-0.048**	-0.051**
Education	0.087***	0.086***	0.078***
Marital Status			
Ms1a		-0.045**	-0.046**
Ms2a		0.050***	0.014
Interaction Effects			
Age x single			0.038*
Gender x single			-0.016
Ethnicity x single			-0.013
Education x single			0.068*
R	0.121	0.140	0.151
Total R^2	0.015	0.020	0.023
Adjusted R^2	0.013	0.017	0.020
R^2 Change	0.015	0.005	0.003

*p<0.05, **p<0.01, ***p<0.001

Gender was found to only become significant art Step three indicating that it predicts high scores on Locally Self-Contained network scores after it combines with another variable that suppresses irrelevant variance (Tabachnick & Fidell, 2007b). Of the marital status variable block, only ms1 remained significantly associated with Locally Self-Contained network scores.

Of the Interaction effects block, the age x marital status ($\beta = 0.038$, $p < 0.05$) and education x marital status ($\beta = 0.068$, $p < 0.05$) were the significant interaction effects in this block. Singles scored the highest compared to the married and previously married counter-groups on the Locally Self-Contained network scores (see Table 1). However, this relationship was modified by age and education. The singles who fall in the oldest age group (65-70 years old) were more likely to score higher on the Locally self-contained network type compared to singles who fall in the younger age groups (54-64 years old). Moreover, oldest singles were found to score the highest on the Locally Self-Contained network type compared to oldest previously married and the married counter-groups. Details of the interaction effect of age x marital status are displayed in Figure 3.

Additionally, singles with some qualifications were more likely to score the highest on the Locally Self-Contained network compared to singles with no school qualifications. Details of the interaction effect of education x marital status are displayed in Figure 4.

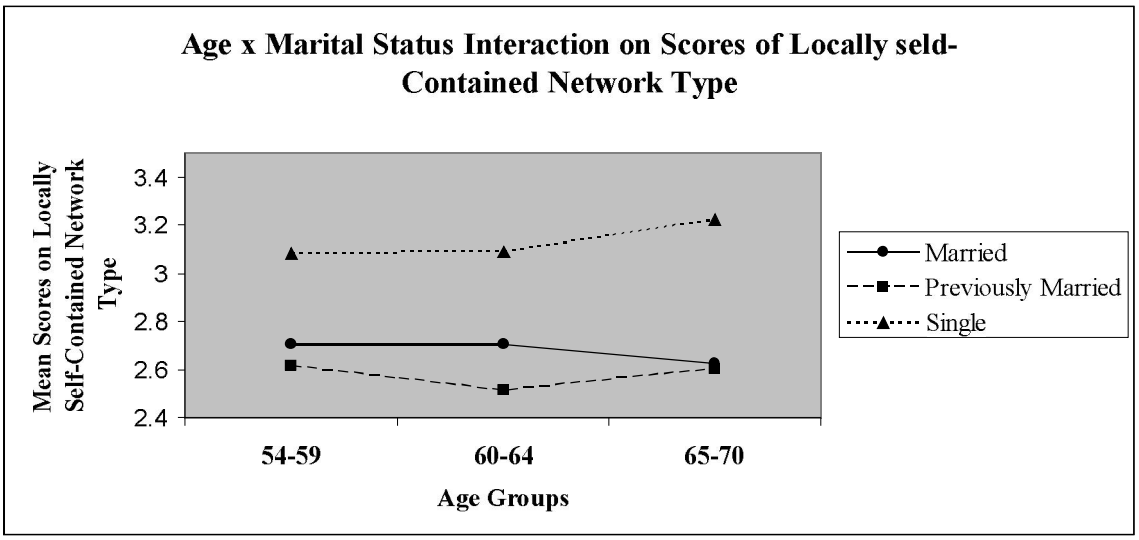

Figure 3. A schematic representation of the age x marital status interaction on Locally Self-Contained network type scores (for $n = 2031$ aged 54-59, $n = 1305$ aged 60-64 and $n = 1208$ aged 65-70)

These results reported in Table 7 partially support hypotheses 1a which predicted that the network type would vary according to demographics, irrespective of

marital status and would moderate the relationship between marital status and network scores. Those in urban locations, those in the work force, and those with some qualifications reported higher scores on the Locsel network type variable. Findings also partially support hypothesis 1b with education and age moderating the relationship between marital status and network scores. Singles with some qualifications and the oldest scored the highest on the Locsel network variable compared to their married and previously married counter-groups. Moreover, scores were the highest for singles with qualifications compared to singles with no qualifications.

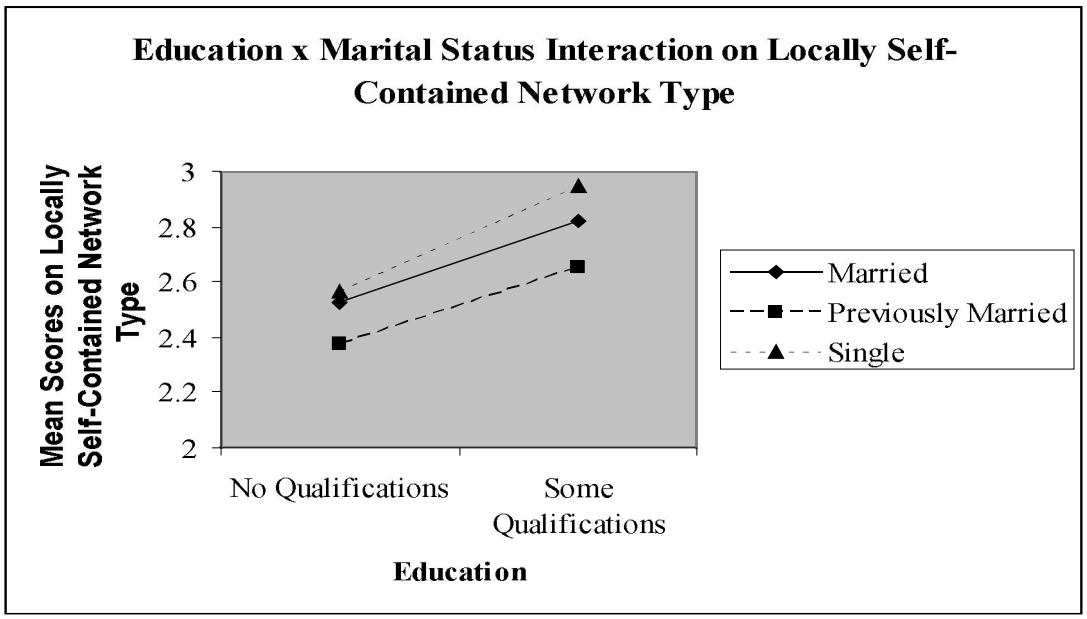

Figure 4. A schematic representation of the education x marital status interaction on Locally Self-Contained network type scores (for n = 1284 no qualifications, n = 3283 some qualifications).

Factors Contributing to Social Integration

Hierarchical regression analysis was also used to address hypothesis two. Step one examined the contribution of socio-demographic variables. In Step 2 the unique contribution of marital status variables was estimated after controlling for socio-demographic variables. Step 3 estimated the contribution of the interaction effects of age, gender, ethnicity, and education variables after controlling for the previous two blocks of variables. Standardised Beta coefficients (β) for each variable within the

three successive blocks of independent variables are reported. The final adjusted R^2 variance explained by each step of the equation is provided.

Loneliness.

R was significantly different from zero at the end of each step. The results of this analysis are provided in Table 8.

At Step one, the socio-demographic variables alone explained 10.4% of variance (adjusted R^2) in loneliness, F (7, 4286) = 72.474, p <= 0.001. After Step two, with the inclusion of the marital status variables, total explained variance in loneliness increased to 14.1% (adjusted R^2), F (9, 4284) = 79.089, p < 0.001. The R squared change was significant after the inclusion of these variables, F (2, 4284) = 91.529, p < 0.001. The marital status variable block accounted for 3.7 % unique variance in loneliness when controlling for socio-demographic variables.

After Step three, with the addition of the interaction effects variables, the total variance explained in loneliness remained 14.1% (adjusted R^2), F (13, 4280) = 55.232, p< 0.001. After the addition of these variables, the R squared change was not statistically significant, F (4, 4280) = 1.473, p = 0.208. Although the education x marital status interaction was significant (β = -0.0575, p < 0.05), this did not contribute to explained variance as this block of variables was not significant. Therefore, this relationship is not interpreted.

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects. With all the variables in Step three, age, economic living standards, location and education from the first block remain significantly linked to loneliness. Education contributed the most to the variance explained in the final model (β = 0.044, p < 0.01), while economic living standards contributed the least to the variance explained in the final model (β = -0.264, p < 0.001). As can be seen in Table 1, singles were more likely to report lower levels of loneliness compared to the previously married group and higher levels of loneliness compared to the married group and in the regression analysis both marital

status dummy variables remained significant ($\beta = 0.196$, $p < 0.001$ and $\beta = 0.121$, $p < 0.001$ respectively) when controlling for demographic variables.

These results from the hierarchical regression reported in Table 8 did not support hypothesis 2a which predicted that reported levels of loneliness would be the lowest among singles. Singles reported they were less lonely than the previously married group yet lonelier than the married group.

Table 8**.** Hierarchical Multiple Regression Analysis of Socio-Demographics, Marital Status, and Interaction Effects on Loneliness Scores Showing Standardised Regression Coefficients, R, Total R^2, Adjusted R^2 and R^2 Change (N= 6,497)

Variables	Step 1	Step 2	Step 3
Socio-demographics			
Age	-0.063***	-0.075***	-0.072***
Gender	0.050***	0.021	0.023
Ethnicity	0.024	0.015	0.017
ESLI-SF score	-0.308***	-0.264**	-0.264***
Location	0.045**	0.028*	0.029*
Work Status	0.016	0.023	0.023
Education	0.040**	0.038**	0.044**
Marital Status			
Ms1a		0.196***	0.196***
Ms2a		0.064***	0.121***
Interaction Effects			
Age x single			0.017
Gender x single			0.012
Ethnicity x single			0.011
Education x single			0.057*
R	0.325	0.377	0.379
Total R^2	0.106	0.142	0.144
Adjusted R^2	0.104	0.141	0.141
R^2 Change	0.106	0.037	0.001

*p<0.05, **p<0.01, ***p<0.001

Social provision.

The same procedure was followed for the social provision dependant variable as previously outlined. *R* was significantly different from zero at the end of each step. The results of this analysis are provided in Table 9.

At Step one, the socio-demographic variables alone explained 10.6% of variance (adjusted R^2) in social provision, F (7, 4138) = 71.393, $p < 0.001$. After Step two, with the inclusion of the marital status variables, total explained variance in social provision increased to 12% (adjusted R^2), F (9, 4136) = 63.849, $p < 0.001$. The R squared change was significant after the inclusion of these variables, F (2, 4136) = 33.516, $p < 0.001$. The marital status variable block accounted for 1.4 % unique variance in loneliness when controlling for socio-demographic variables.

After Step three, with the addition of the interaction effects variables, the total variance explained in social provision was 12.1% (adjusted R^2), F (13, 4132) = 44.765, $p < 0.001$. The R squared change was not significant after the inclusion of these variables, F (4, 4132) = 1.726, $p = 0.141$. Although the gender x marital status interaction was significant ($\beta = 0.044$, $p < 0.05$)), this did not contribute to explained variance as this block of variables was not significant. Therefore, this relationship is not interpreted.

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects. With all the variables in Step three, age, gender, economic living standards, location and education from the first block remain significantly linked to social provision. Economic living standards contributed the most to the variance explained in the final model ($\beta = 0.241$, $p < 0.001$), while age contributed the least to the variance explained in the final model ($\beta = -0.050$, $p < 0.01$). As can be seen in Table 1, singles reported the lowest scores on social provision compared to the married and previously married counter-groups and in the regression analysis both marital status dummy variables remained significant ($\beta = 0.106$, $p < 0.001$ and $\beta = 0.102$, $p < 0.001$ respectively) when controlling for demographic variables.

Table 9**.** Hierarchical Multiple Regression Analysis of Socio-Demographics, Marital Status, and Interaction Effects on Social Provision Scores Showing Standardised Regression Coefficients, R, Total R^2, Adjusted R^2, R^2 Change (N= 6,497)

Variables	Step 1	Step 2	Step 3
Socio-demographics			
Age	-0.058***	-0.054***	-0.050**
Gender	0.140***	0.153***	0.146***
Ethnicity	-0.003	0.003	0.003
ESLI-SF score	0.264***	0.240***	0.241***
Location	-0.043**	-0.032*	-0.032*
Work Status	-0.023	-0.026	-0.024
Education	0.096***	-0.072***	0.097***
Marital Status			
Ms1a		-0.107***	-0.106***
Ms2a		-0.072***	-0.102***
Interaction Effects			
Age x single			-0.017
Gender x single			0.044*
Ethnicity x single			-0.002
Education x single			-0.001
R	0.328	0.349	0.351
Total R^2	0.108	0.122	0.123
Adjusted R^2	0.106	0.120	0.121
R^2 Change	0.108	0.104	0.001

*p<0.05, **p<0.01, ***p<0.001

The results from the hierarchical regression, reported in Table 9 did not support hypothesis 3a, which predicted that singles would have the lowest levels of perceived social support compared with the married and previously married counter-groups. Instead, singles reported lower levels of perceived social support when

compared to the married group, but higher levels of perceived social support when compared with the previously married group.

Factors Contributing to Well-Being

Hierarchical regression analysis assessed the unique contribution of each of the variables within the four independent variable (IVs) blocks of socio-demographics, marital status, social support, and interaction effects in relation to the dependent variable (DV) of well-being listed in Table 10.

Step 1 examined the contribution of socio-demographic variables. In step 2 the unique contribution of marital status variables was estimated after controlling for the effect of their socio-demographic variables. Step 3 estimated the contribution of the social support variables after controlling for the socio-demographic variables and the marital status variables. Step 4 controlled for the socio-demographic, the marital status, and social support variable blocks before estimating the contribution of the moderating effects of education, age, gender, and ethnicity variable blocks.

Standardised Beta coefficients (β) for each variable within the four successive blocks of independent variables are reported. The final adjusted R^2 variance explained by each step of the equation is provided. R was significantly different from zero at the end of each step. The results of this analysis are provided in Table 10.

At Step 1 the socio-demographic variables explained 12.4% of variance (adjusted R^2) in well-being scores, F (7, 3816) = 78.563, $p < 0.001$. After Step 2, with the addition of the marital status variables, the total variance explained in well-being increased slightly to 12.6% (adjusted R^2), F (9, 3814) = 62.383, $p < 0.001$. After the inclusion of these variables, R squared change was significant. F (2, 3813) = 5.154, $p < 0.01$. At Step 3, with the addition of the social support variables, the total variance explained in well-being increased to 30.9% (adjusted R^2), F (16, 3807) = 107.903, p= 0.001. R squared change was significant after the addition of these variables, F (7, 3806) = 145.201, $p < 0.001$. The social support variable block accounted for 18.3 % unique variance in well-being when controlling for socio-demographic and marital status variables. At Step 4, with the addition of the interaction effect variables block, the total variance explained in well-being increased to 31% (adjusted R^2), F (20,

3803) = 86.896, $p < 0.001$. R squared change was not significant after the addition of these variables, F (4, 3802) = 2.285, $p = 0.058$. Although education x marital status was significant, this did not contribute to explained variance as this block of variables was not significant. Therefore, this relationship is not interpreted.

By examining the beta coefficients at each step it is possible to observe their contributions on the DV within each block of variables and the extent to which the additional IVs in the subsequent steps alter these effects. With all the variables in Step four, age, gender, ethnicity, economic living standards, work status and education from the first block remain significantly linked to subjective well-being. Economic living standards contributed the most to the variance explained in the final model (β = 0.169, $p < 0.001$), while ethnicity contributed the least to the variance explained in the final model (β = -0.030, $p < 0.05$). Those who are older, those females, those non-Māori, those who are in the work force, those with high living standards and some education were more likely to report positive subjective well-being.

As can be seen in Table 1, singles reported lower levels of subjective well-being compared to the married group and higher levels of subjective well-being compared to the previously married group. However, in the regression analysis, only ms1a variable is significant ($\beta = 0.044$, $p < 0.01$) when controlling for demographic variables. The ms2a variable, only becoming significant at Step 4, is probably a spurious correlation given that it was not significant in the previous three steps.

Of the social support variable block, social provision, loneliness, and Locally Integrated, Locally self-contained and Wider Community network type scores from the third block of variables were significantly associated with subjective well-being. Social provision contributed the most to the variance explained in the final model (β = 0.133, $p < 0.001$), while Wider Community network variable contributed the least to the variance explained in the final model (β = -0.034, $p < 0.05$).

Table 10. Hierarchical Multiple Regression Analysis of Socio-Demographics, Marital Status, Social Support and Interaction Effects on Well-Being Scores showing standardised coefficients, R, Adjusted R^2 and R^2 Change (N=6,497)

Variables	Step 1	Step 2	Step 3	Step 4
Socio-Demographics				
Age	0.105***	0.107***	0.083***	0.085***
Gender	0.058***	0.065***	0.049***	0.046***
Ethnicity	-0.036*	-0.034*	-0.029*	-0.030*
ESLI-SF score	0.319***	0.308***	0.167***	0.169***
Location	-0.041**	-0.036*	-0.013	-0.013
Work Status	-0.067***	-0.069***	-0.055***	-0.053***
Education	0.034*	0.035*	0.034*	0.041**
Marital Status				
Ms1a		-0.050**	0.043**	0.044**
Ms2a		-0.016	0.020	0.070*
Social Support				
Loneliness			-0.391***	-0.391***
Family network type			-0.008	-0.008
Locin network type			0.056**	0.055**
Locsel network type			0.041**	0.042**
Wider network type			0.035*	0.034*
Private network type			0.011	0.012
Social Provision Score			0.133***	0.133***
Interaction Effects				
Education x single				-0.075**
Age x single				-0.002
Gender x single				0.021
Ethnicity x single				-0.003
R	0.355	0.358	0.559	0.560
Total R^2	0.126	0.128	0.312	0.314
Adjusted R^2	0.124	0.126	0.309	0.310
R^2 Change	0.126	0.002	0.184	0.002

*p<0.05, **p<0.01, ***p<0.001

Those reporting lower levels of loneliness, high on social provision and those scoring highly on Locally Integrated, Locally Self-contained and Wider Community network scores were more likely to report positive subjective well-being.

The results from the hierarchical regression, reported in Table 10, showed that reported subjective well-being for the previously married group was different compared to the singles and the married counter-groups.

Chapter Five: Discussion

The present research examined the impact of socio-demographics on the relationship between marital status and social support on the one hand, and marital status and well-being on the other hand among older adults aged 55-70 years old. This study set out to extend previous work by Barrett (1999) by expanding social support to include the structure and function of social network types, and social engagement which includes social isolation or loneliness and social provision. Additionally, the socio-demographic factors of work status and location were also included because of the nature of the present sample (older adults from a national sample in New Zealand). Moreover, well-being in the present study was assessed by the summed scores on mental well-being rather than life satisfaction as done in Barrett's study.

Findings are discussed in the order of hypotheses presented in Chapter two (pages 18-19).

Hypothesis 1: Networks

The first hypothesis predicted that social support networks would differ by socio-demographic factors such as age, gender, ethnicity and education and that these factors would interact with marital status on scores of social network types. Previous research had found that social networks do differ by these factors (Antonucci & Akiyama, 1987; Ajrouch, Antonucci, & Janevic, 2001; Ajrouch, Blandon, & Antonucci, 2005; Antonucci et al., 2001; Firori et al, 2007; Fiori, Antonucci, & Cortina, 2006; Litwin, 2001; Takahashi, Tamura, & Tokoro, 1997). Hypotheses 1a and 1b were partly supported. The five network types all differed to some extent by socio-demographic variables including marital status.

First looking at the Family network type, Māori, females, urban dwellers, the better educated, and those not in the work force scored more highly on the Family network type variable. Taking into account the presence of the indigenous group (Māori in this study), their collectivist view of the world (Durie, 2003), and their extended kinship (Durie, 1997; Hirini, 1997; Metge, 1995; Taiapa, 1995), it is not surprising that Māori would score highly on this network type for social support.

Henare (1988) stated that Māori acknowledge their whanau (family) connections, which are called upon in times of need. Whanau makes up one aspect of the collective identity of Māori. It provides a sense of belonging, and most importantly acknowledges that Māori exist within and inter-depend on their wider social systems, e.g. hapu and iwi (tribe and sub-tribe) and have a connection to their environment. By acknowledging those whanau connections, family social support is operationalised on the basis of whanaugnatanga which encompasses concepts of love, care, share, protection, belonging, empowerment ad planning for the future (Hirini, 1997). Additionally, the importance of whanau is incorporated in some health models e.g. Te Whare Tapa Whap (Durie, 2003) which recognise the importance of whanau as an important aspect of identity and its implications for well-being.

The gender difference found in the present study, where females were found to score highly on the Family network type compared to males, can be explained in several ways. First, because this network is the result of biology, the core support would most likely come from family members (Arjouch, Antonucci, & Janevic, 2001; Antonucci & Akiyama, 1987; Cheng, Lee, Chan, Leung, & Lee, 2009; Fiori, Antonucci, & Cortina, 2006; Gurung, Taylor, & Seeman, 2003; Shanas, 1979) specifically females (daughters) (Wenger, 1994). Second, Orford (1992) adds that the females' social support networks are more likely to be family-based. Having established that family is the first port of call when in need of support, it could not be ascertained from this study whether the family members called upon for support are immediate or distant family members. Third, the age range of the present sample is fairly young (55 – 70 years old) and may account for the gender difference found. According to Antonucci and Akiyama (1987) the gender difference is visible among the young-old but disappears among the old-old.

Location and education were also significantly linked to scores on Family network type. Those living in urban locations and those with better education were more likely to score highly on this network type. This finding differs from Wenger's (1995) and Litwin's (2001) studies that found education and location unrelated to Family network type. It is unclear why the present study found location and education associated with higher scores on Family network type. One explanation may be that the present sample is more highly educated compared to other samples. The urban

location results may reflect different ways of conceptualising urban versus rural e.g. rural England may be less isolated than much of rural New Zealand.

The marital status difference was evident in scores on the Family network. The single group scored the lowest on the Family network type followed by the previously married, which may indicate that kinship is not the most utilised convoy of social support in late life for the single and previously married groups. One explanation is that social disruptions ranging from death of family members to illnesses may have contributed to the low scores for the singles and the previously married groups. For these two marital groups, childlessness, being the oldest, or absence of siblings may account for their low scores on the Family network type. The married group scored the highest on the Family network type. The profile of those that scored lowest on this network type fits the description offered by Wenger (1994) who stated that being single, under 70, living alone and actively participating in society are characteristics of those who are least likely to associate with the family network type.

Turning to the Locally Integrated network type, the characteristics of those who were more likely to score highly on this network type are in line with Wenger's (1994) description. Wenger indicated that members of this network are actively involved within their community, young in age, healthy, and report high levels of morale. The findings in this study indicate that being non- Māori, educated, living in urban locations and reporting high economic living standards were associated with this network type. This highlights the importance of materialistic well-being in social participation (e.g., the ability to afford costs of transportation, social activities, etc.) to engage in one's own community. This is in line with Wenger's (1994) profile of this network type. People scoring highly on this network type are most likely to be actively involved with their community, have long established residency in their location, and have large social network circle of support made up of friends, family and neighbours.

One of the marital status variables was also significantly associated with scores on the Locally Integrated network type. Among the different marital groups, singles scored the lowest on this network type. This may indicate that because singles are more mobile and do not have long established residency in one local community, they are less likely to score highly on the Locally Integrated network type. As singles

get older, this network type may become more established for this marital status group.

For the Wider Community network type, age, ethnicity, location and education were associated with scores on this variable. Being older, non- Māori, living in a rural location and having some form of education were found to be positively associated with higher scores on the Wider Community network type. This highlights the role education plays in older people's ability to access appropriate resources that meet their needs. Non- Māori were found to score highly compared to Māori on this network, which may reflect a preference to utilise friendship-based support as rather than family-based support references. Wenger (1994) stated that this network type is characterised by absence of local kin, migration or early retirement, independence, similar interests to that of the local community, and friend-based support. Of the marital status groups, singles scored the lowest on this network type compared to the other marital groups. However, with the addition of the interaction effects block, the significance of being single diminished. This may be partly due to married people more likely belonging to this network type who are socially active and with social interests beyond their local community (Fiori, et al., 2007; Wenger, 1994).

Location, education and marital status were significantly related to high scores on the Private network type. In the present study, those living in rural areas, those who hold some qualifications and those who identified as single scored highly on this network type. This may reflect geographical isolation experienced among older adults residing in rural areas who have difficulty accessing transport, and suffer from health problems (Keating, 2008), or may even have lost their social support network due to economic or social changes in their communities (Scharf & Bartlem, 2008). Wenger (1994) highlights that this network type are characterised by people with a lifelong pattern of limited social interaction who are migrants, childless, independent, and lack the presence of local relatives.

Gender, location, work status and education were positive predictors for scoring highly on the Locally Self-Contained network type. Females, those living in urban areas, those in the work force, and those with some qualifications were more likely to score highly on this network type. One of the marital status variables was also significantly related to scores on this network type. Among the different marital

groups, the single group scored the highest on the Locally Self-Contained network type. This is in line with Wenger (1994) who highlighted that childlessness, being single, self-reliance, and having small networks were most likely features of this network type.

The third hypothesis (1c) stated that demographic factors were expected to moderate the relationship between marital status and network scores. This hypothesis was again only partly supported. The only time the block of interaction effects reached significance and explained variance in the type of network score was for the Locally Integrated and the Locally Self-Contained network types. The interaction effect of gender x marital status was positively and significantly associated with higher scores on Locally Integrated network type. Single older female scored highly on Locally Integrated network type scores compared with single older males. This is in line with previous literature that found older women's networks to be larger than that of older men because diverse networks allowed for different sources of support from family, friends and neighbours (Antonucci & Akiyama, 1987; Craven, 2007; Fuhrer & Stanford, 2002). The interaction effects of age x marital status and education x marital status were positively and significantly associated with higher scores on the Locally self-Contained network type. Those singles that were older (65-70 years old) and those with some qualifications were more likely to score highly on this network type compared to those that were younger and those with no qualifications. This may lend support to the view that single people learnt to be more independent and self-reliant compared to the previously married and the married counter-groups (Keith, 1980, cited in Barrett, 1999). Rubinstein's view (1986) that single people suffered loss at earlier stages in their lives and therefore adjusted their social support networks to suit their independent lifestyles by relying more on friends that fulfil the roles of the lost ones is congruent with the results in this study.

Education was found to be positively related to high scores on Locally Self-Contained network type. Among the three marital groups, those with some form of education were found to score highly compared to those with no qualifications. The single group with some form of education scored the highest compared to the married and previously married groups. Borrowing from Berrett's (1999) suggestion that singles' social roles may be restricted to their occupational role and from Wenger's

(19994) characteristic of this network type encompassing minimal involvement with the community provide the reasons that help explain the high scores of singles with education on this network type. On the other hand, singles with some form of qualification scored highest in comparison to singles with no form of qualifications on the Locally Self-Contained network type. Education, therefore, for the single group may be seen as a protective factor in that it provides them with the knowledge to access social support resources when needed. Overall, the nature of this sample, which was made up of younger age group, community dwellers, better educated individuals than the general population, may have accounted for the lack of support for the interaction effects on the Private, Family, and Wider Community network types.

The findings related to network types are best explained through Berkman and colleagues' model (2000). At a macro level, the cultural and social contexts help shape the social support network that individuals access and use. For example, being unmarried, with limited or absence of kinship, residing in a specific community, and having access to available resources are factors that influence the structure and function of the social support network type at a micro level for single people. This suggests the functional role these networks serve for single older adults who choose to associate with like-minded people from similar networks, i.e., those that have limited or no family, do not have active involvement in their communities, and enjoy their own company. Such functionality may be explained by the single group's high levels of independence and the availability of social support in the form of practical help. From the findings, singles were found to score highly on the Locally Self-Contained and the Private network types, both of which are smaller than other network types, characterised by infrequent contact with others, and most importantly are independent and only require practical support. These network types are therefore limited in their ability to provide other facets of social support. The high level of independence found in the Private and Locally Self-Contained network may reflect a history of adapting to limited or absence of social support (Wenger, 1994).

Moreover, the finding that singles scored highly on Private and Locally Self-Contained network types is somehow similar to Barrett's (1999) finding where she found that singles reported lower levels of social interaction compared to the married

and previously married groups. Additionally, age x marital status and education x marital status interaction findings in the present study were similar to Barrett's (1999) findings. Singles were found to report limited social interaction with their networks in older age groups and education was positively related to interaction frequency. Singles that reported higher education were more likely to report increased interaction with their network. As the present study was cross-sectional, we are unable to ascertain whether the choice of network type was shaped in some way by individual temperament or history of social interaction.

Hypothesis 2: Loneliness

Contrary to the prediction in hypothesis 2a, reported levels of loneliness among the single group were not the lowest compared to the married and previously married counter-groups. The singles reported they felt lonelier compared to the married group yet less lonely compared to the previously married group. These findings suggest that singles may have adapted to some degree to living independently and hence have been successful in utilising the available social and personal resources to adjust to their lifestyle.

Results show that age, location, economic living standards, and education were significantly linked to reported levels of loneliness. This study showed that older people reported the lowest levels of loneliness. This is contrary to previous studies that showed an association between age and loneliness, partly explained by decreased mobility, health problems, or disintegration of the social networks of older adults (Keating, 2008; Scharf & Bartlam, 2008; Wenger, 1994). Victor et al.'s (2009) study, on the other hand, found that as older adults progress in age, they are more likely to be the least lonely. Borrowing from Arjouch et al. (2005), older people have established social support networks with ties to family, friends and neighbours, which may indirectly be responsible for reported lower levels of loneliness.

Having high standards of economic living, living in an urban area, and being educated can be considered as protective factors against isolation. This is in line with research that links demographic variables as predictors of social isolation that accounts for loneliness (Keating, 2008; Spar & La Rue, 2006; Victor et al, 2009). Location was associated with reported levels of loneliness. This is in line with Rozanova, Dosman, and de Jong-Gierveld (2008) who highlight that social isolation

may also be seen in terms of geographic location, distance, poor infrastructure, and harsh weather conditions (e.g., harsh winters). With the addition of the marital status block of variables, gender was no longer a significant predictor of loneliness in this study. Borrowing from Victor et al. (2009), some factors underlying gender may account for the confounding relationship between gender and loneliness. These may include living alone, health issues, or even differences between men and women's understanding of loneliness, all of which were not tested for in this study.

In line with previous research findings, being previously married proved to be a strong predictor for social isolation (Spar & La Rue, 2006; Victor et al, 2009; Wenger & Keating, 2008). This may be the result of disruptions to established social relationships due to illness, death, or divorce. This may in turn lead to losing in-laws, mutual friends, and even an established sense of stability. These findings did not support hypothesis 2a because the single group did not report the lowest level of loneliness. Singles reported lower levels of loneliness compared to the previously married group but higher levels of loneliness compared to the married group. It may be that single older adults have developed coping strategies to deal with living alone in old age.

Hypothesis 2b predicted that education would moderate the relationship between marital status and loneliness such that singles with higher education would report lower loneliness scores than those without education. Previous research has found that education was a protective factor for singles (Keating, 2008; Spar & La Rue, 2006; Victor et al., 2009). However, the findings in the present study did not support hypothesis 2b. One explanation is that the sample as a whole was more educated which may have provided access to materialistic and social resources and facilitated social engagement.

Hypothesis 3: Social Provision

Hypothesis 3a, which predicted that singles would differ on their perceptions of social support compared to married and previously married groups, was supported. This was based on previous research which has found single's social provision lower than that of the married and previously married counter-groups (Barrett, 1999; Shapiro & Keyes, 2008; Ross, 1995; Russell & Taylor, 2009). Barrett's (1999) study, on the other hand, found the same results only for those singles aged 70 and older

compared to the married and previously married counter-groups. The present study's finding supports hypothesis 3a by highlighting the different perception of social support for the three different groups in the present sample. The interaction effect block of variables did not add to the significance. As a result, hypothesis 3b was not supported. This may be because the never married group in the present study is young, actively involved in their community and therefore have access to materialistic and social resources. The effects of singlehood may only become visible later in life.

Apart from marital status, the other socio-demographic factors were responsible for the largest part of explained variance in perception of social support among older adults. Those who were young (55-60), females, the more educated, those living in urban locations, and those who reported high economic living standards were the most likely to be satisfied with the available levels of social support.

High economic living standards and education were found to be associated with high levels of perceived social support. This suggests that financial well-being contributes to providing an array of social resources that an individual can access when needed, which indirectly contributes to the perception of available social support as being positive (Barrett, 1999; Broese van Groenou & van Tilburg, 2003; Litwin; 2001). Furthermore, high levels of education may equip an individual with the relevant attitudes and skills to access the relevant support services that meet their needs.

Moreover, women scored higher than men on social provision in the present sample, which is consistent with previous research (Cutrona & Russell, 1987; Shapiro & Keyes, 2008). This confirms the observation that women rely on different sources for social support, unlike men who are rather restricted in their sources of social support, mainly to that of spouses or close relatives if available (Antonucci & Akiyama, 1987; Soons & Liefbroer, 2008).

Advanced age was found to be a risk factor for positive perception of social support. This is in line with Barrett's (1999) study that found that as older adults progress in years, they were more likely to report lower levels of perceived social support. Borrowing from the Convoy Model (1980; Antonucci, 1985; Antonucci,

1991; Antonucci & Akiyama, 1995; Kahn & Antonucci), as older adults age, their social support convoys thins out due to illness, death, or immobility resulting from disability, which in turn may impact on their perception of available social support.

Hypothesis 4: Psychological Well-Being

Hypothesis 4a was supported in the current research. The single group reported higher levels of psychological well-being compared to the previously married group; and, they reported lower levels of psychological well-being compared to the married group. These results replicate those results in Barrett's study (1999). This is in line with literature findings where singles report poorer psychological well-being compared to married people (Shapiro & Keyes, 2008; Soons & Liefbroer, 2008).

One of the marital status variables in the present study was significantly linked to psychological well-being. Among the different marital groups, the previously married group scored the lowest on well-being. Prior research that has highlighted that being previously married is a risk factor for poor psychological well-being (Anthony & Petronis, 1991; Marks & Lambert, 1998; Shapiro & Keyes, 2008). The previously married have been more likely to report higher levels of anxiety, depression and dissatisfaction with life compared to single and married groups (Anthony & Petronis, 1991). Similar findings were reported by Barrett (1999); Marks and Lambert (1998); Robins and Reiger (1991); Soons and Liefbroer (2009); and Victor and Colleagues (2009). Disruptions in the convoy of social support for the previously married group may account for low levels of reported subjective well-being. Due to losses resulting either from death, illness or dissolution of intimate relationships, the previously married group may struggle to adjust to the changes that occurred in their lives. Because this study is cross-sectional, it is difficult to ascertain whether low levels of reported psychological well-being will remain constant over time for the previously married group.

Hypothesis 4b predicted that well-being scores would differ according to socio-demographic variables and social support variables. Additionally, demographic variables of ethnicity, age, gender, and education would moderate the relationship between marital status and psychological well-being. This hypothesis was partially supported in that socio-demographic variables were significantly related to subjective

well-being as were social support variables. However, the moderating block of variables did not add any significance.

Socio-demographics

It was assumed that socio-demographic variables would have a main effect on psychological well-being similar to Barrett's findings (1999), which found age, gender, ethnicity, and higher income to be associated with higher life satisfaction. Previous research has established the link between socio-demographic factors (age, gender, ethnicity, economic living standards, and education) and well-being (Barrett, 1999; Fiori, Smith, & Antonucci, 2007; Fiori, Antonucci, & Cortina, 2006; Litwin, 2001; Soons & Liefbroer, 2008; Takahashi, Tamura, & Tokoro, 1997). In the present study, socio-demographic variables were responsible for a 12.4% contribution to explained variance in psychological well-being. Being older, female, non- Māori, having high economic living standards, possessing some qualifications and being in the work force were found to be associated with higher scores on subjective well-being.

Older adults are more likely to score highly on psychological well-being. This is in line with Barrett's finding (1999). This may be because older people are healthier, more active, educated, content and socially integrated into their communities than younger adults.

In terms of gender differences, the current findings indicate that older women fare better psychologically than older men. This is consistent with international previous research findings (Barrett, 1999; Shapiro & Keyes, 2008). One of the clear determinants of psychological well-being in older age, as discussed in the introduction, is access to positive social support. Older women's networks, one of the avenues of social support, are more likely to be larger than that of older men because diverse networks allowed for different sources of support from family, friends and neighbours (Antonucci & Akiyama, 1987; Craven, 2007; Fuhrer & Stanford, 2002), which in turn impact on positive well-being. The current study supported this finding because older women were found to report better psychological well-being compared to older men.

As to ethnicity, the findings indicate that Māori report lower levels of subjective well-being compared to non- Māori. This is consistent with research findings that Māori have a lower life expectancy, higher levels of mortality, more physical ailments, and lower socio-economic status (Alpass et al., 2007; Statistics New Zealand, 2007). Durie (2003) notes the controversy regarding the appropriate use of the mental health measure of SF-36 to Māori because it does not account for their holistic view of well-being. Thus, the present findings may represent a methodological limitation in that the SF-36 may not have adequately captured the construct of mental health for Māori, which might lead to it (psychological well-being) being consistently under-estimated.

Barrett's study (1999) found high education and low living standards to be associated with life satisfaction. The present study found education and high living standards rather than low living standards to be positively associated with psychological well-being. This may indicate that high living standards allow the possibility to socially interact and participate, which is consistent with other research findings in that education and financial well-being allow for more freedom in terms of social participation (Ajrouch et al., 2005; Rubinstein, 1986; Spar & La Rue, 2006). Moreover, financial wealth can be seen as a means that assist in paying for and maintaining physical health, while education provides older adults with the knowledge and access to relevant information on appropriate health behaviours and promotions (Broese van Groenou, & van Tilburg, 2003).

Work status was found to be negatively associated with well-being such that those in work were more likely to report higher levels of subjective well-being compared to those retired. One explanation is that those in the work-force are likely to be younger, more socially active, have better mobility and health. Retirees, in contrast, are possibly older and may have left the work-force due to health issues.

Social Support

In terms of social support variables, loneliness, high scores on the Wider Community, Locally Integrated and Locally Self-Contained network types, and social provision, lent support for the empirical link between social support and well-being. Social support variables were responsible for the largest part of the explained variance

in psychological well-being (18.4%). This is the unique variance explained after the other variable blocks have been controlled for.

Social isolation reported in terms of loneliness was found to be associated with negative psychological well-being. Those that reported high levels of loneliness were found to report lower levels of subjective well-being. This is in line with Barrett's (1999) finding. Victor et al. (2009) also reported an association between high levels of loneliness and poor mental and physical health. Scharf and Bartlam (2008) stated that economic or social changes in a community setting may lead to social isolation and impact on well-being if older adults are not able to replace the quality of lost social relationships and maintain social participation. It may also be that geographic location, disability, or illnesses contribute to such high levels of reported loneliness, which in turn impact on well-being (Wenger & Keating, 2008).

In terms of network types, high scores on the Locally Integrated, Locally Self-Contained, and the Wider Community network types were associated with positive subjective well-being. Previous research has found that those in the diverse-supported and the neighbours-based network types were more likely to report higher subjective well-being compared to those in the restricted or family-based network types (Cheng et al., 2009; Fiori et al., 2007; Litwin, 2001). This may indicate that the structure of the network (young older adults, good health, socially active and high morale) contains the right ingredients for psychological well-being for older adults as reported by Wenger (1994). Other researchers argue that it is the quality of social support provided by these network types which is associated with well-being (Fiori et al., 2006; Takahashi et al., 1997). Additionally, the Family and Private networks were not associated with positive well-being. This may indicate that such network types are based on obligations which do not facilitate well-being in old age (Lee & Ishii-Kuntz, 1987, cited in Litwin, 2001).

In terms of social provision, it was found to be strongly associated with positive psychological well-being. Those that rated their available social support highly reported positive psychological well-being. This finding lends empirical support to previous research findings highlighting the importance of the social support and its impact on well-being (Antonucci & Hiroko, 1987; Barrett, 1999; Cheng, Lee, Chan, Leung, & Lee, 2009; Fiori, Smith, & Antonucci, 2007; Fiori, Antonucci, &

Cortina, 2006; Litwin, 2001; Phillipson, Allan, & Morgan, 2004; Pinquart, 2000). Our findings lend support to Pinquart and Sorensen (2000) who found that the quality of social support is an important predictor for positive well-being. Spar and La Rue (2006) stated that when an older adult perceives his/her multiple social roles as fulfilling, they are more likely to report high levels of self-efficacy and life satisfaction.

Therefore, being satisfied with the quality of available social support and actively participating in the Locally Integrated, Locally Self-Contained and the Wider Community network types may be viewed as networks that promote positive subjective well-being, while high levels of loneliness may be seen as a risk factor for positive well-being.

General Limitations

Several limitations for the present thesis are highlighted. The present study exhibits uniqueness in terms of sample which caution generalising the research findings. Variations in sample size of the different marital groups deemed them incomparable unless the widowed, divorced and separated groups were combined into one group called the previously married group. Additionally, the different ethnic groups in New Zealand were combined into one non- Māori group. If left ungrouped, the diversity of such ethnic groups could have been seen. Moreover, Māori were over-sampled in this study; however, this was counteracted by using a weighted ethnicity variable in the background of the inferential analyses.

Data collected from the current study was cross-sectional, which in itself is inherent of certain limitations. Causality cannot be implied from cross-sectional data. Additionally, because data is collected at one specific period in time, change in adjustment to old age as well as change in social support is not accounted for. When comparing different age groups cross-sectionally, as in the present study, it is difficult to untangle age and cohort effect. A longitudinal approach would allow data analysis that could determine whether social support for this sample remains stable or changes with time.

The use of self-report measures lends itself to the social desirability effect (Coolican, 2004). It can be argued that some older adults in the present sample

presented what is considered acceptable ways of thinking, feeling, and behaving which may be congruent to a cohort product of people of such age range.

The sample used in the present study consists of older adults who fall into a narrow age range (55-70), who are generally healthy community dwellers, potentially technologically advanced (as they may still be in the work force), well educated, and better off financially compared to the general population. Additionally, those older adults who are institutionalised or those in aged care were excluded from this study. Moreover, the present study included the marital status categories of being married, previously married and single and did not ask about or categorise same sex relationships. It may be that same sex partners may have different network support. Taken together, these characteristics may have served to under-estimate the relationships reported in this study on social support and well-being. It is recommended that a similar study is undertaken with wider age groups for several reasons: social isolation increases with age especially for the oldest-old as reported by Victor et al., (2009), the effects of being single may only become apparent later in life, and social interaction patterns may change with age especially for the oldest-old.

Implications for Future Research

The present study extended previous research by Barrett (1999) by evaluating social support facets and well-being for single older adults in New Zealand. The present study showed that single older adults have a unique social support system which serves a functional role for them. They were observed to be psychologically better off than their previously married group. They, however, also reported low levels of loneliness compared to the previously married group and higher levels of loneliness compared to the married group, which is consistent with previous research findings. This may be partly explained by the reliance of single people on friends or family members to account for social participation.

The present study has implications for future research in showing that social support of the single older adults may be functionally different from other marital status groups. Further research to refine conceptualisation of what constitutes successful aging for single older adults is required. This may entail taking into account the changing face of the social world of older adults in this age of technological advancement.

Conclusion

Using an adopted version of Berkman et al.'s model (2001) (outlined on pages 15-17) helps contextualise the findings of the present study and link them to psychological well-being. The model states that socio-cultural factors shape social networks which provide opportunities for social engagement and participation, which in turn impact on subjective well-being.

Socio-demographic factors in the present study constitute the over-arching social forces that shape social network structure and function. Previous research has shown the link between socio-demographic factors and network type (Ajrouch, Blandon, & Antonucci, 2005; Ajrouch, Antonucci, & Janevic, 2001; Antonucci et al., 2001;Firori et al, 2007; Fiori, Antonucci, & Cortina, 2006; Antonucci & Akiyama, 1987; Litwin, 2001; Takahashi, Tamura, & Tokoro, 1997), socio-demographic variables and social support (Barrett, 1999; Cutrona & Russell, 1987; Shapiro & Keyes, 2008; Victor et al., 2009), and socio-demographic variables and well-being (Barrett, 1999; Antonucci & Hiroko, 1987; Cheng, Lee, Chan, Leung, & Lee, 2009; Fiori, Smith, & Antonucci, 2007; Fiori, Antonucci, & Cortina, 2006; Litwin, 2001; Phillipson, Allan, & Morgan, 2004; Pinquart, 2000). The socio-demographic factors included in the present study were age, gender, ethnicity, economic living standards, location, work status, education and marital status.

The present study utilised Wenger's (1994) network typology, which accounted for the structure and function of social networks. Because this study also incorporates the view that older adults access different convoys of social support, rather than testing for exclusive membership to a specific network type, high scores on the network types were adopted instead. This is in line with the Convoy Model (Antonucci, 1985; Antonucci, 1991; Antonucci & Akiyama, 1995; Kahn & Antonucci, 1980) which states that individuals access different social support resources (family, friends, neighbours) in their convoy when needed.

The socio-cultural factors that shaped the network types in turn provide opportunities for social engagement and participation. Social disengagement, measured by levels of loneliness, was found to be associated with marital status, while social provision was found to be associated with being young in age, female, living in urban location and reporting high economic living standards. Singles reported the

lowest level of social provision which may indicate that they are young, active and financially well-off.

Although the present study is cross-sectional, the convoys of social support embedded in larger social and cultural contexts allow for a better understanding of the way socio-demographic factors shape social ties at a particular life stage for older adults and how they impact on subjective well-being.

The present study provides valuable feedback to the social policies regarding older people and aging, by highlighting the needs that must be addressed and the provision of effective interventions targeting such risk factors tailored specifically for each group. It also may contribute to the policy development by targeting the network types for single older adults and the services needed to maximise their integration into society. Furthermore, the present study has implications for future longitudinal studies which could assess changes in the social convoy as individuals age, particularly for single older adults.

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Appendix A

Health, Work, and Retirement Survey: March 2006.

HEALTH WORK AND RETIREMENT LONGITUDINAL STUDY

E tū te huru mā, haramai e noho

Health

Firstly, we would like to ask you some questions about your health. This information will help us keep track of how you feel and how well you are able to do your usual activities. For each of the following questions, please tick the box that best describes your answer.

Q 1 **In general, would you say your health is:**
(Please tick one box)

Excellent	☐ 1
Very Good	☐ 2
Good	☐ 3
Fair	☐ 4
Poor	☐ 5

Q 2 **Compared to one year ago, how would you rate your health in general now?**
(Please tick one box)

Much better than one year ago	☐ 1
Somewhat better now than one year ago	☐ 2
About the same as one year ago	☐ 3
Somewhat worse now than one year ago	☐ 4
Much worse now than one year ago	☐ 5

Q 3 **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?**
(Please tick one box on each line)

	Activities	Yes, limited a lot	Yes, limited a little	Not limited at all
(a)	*Vigorous activities*, such as running, lifting heavy objects, participating in strenuous sports	☐ 1	☐ 2	☐ 3
(b)	*Moderate activities*, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	☐ 1	☐ 2	☐ 3
(c)	Lifting or carrying groceries	☐ 1	☐ 2	☐ 3
(d)	Climbing *several* flights of stairs	☐ 1	☐ 2	☐ 3
(e)	Climbing *one* flight of stairs	☐ 1	☐ 2	☐ 3
(f)	Bending, kneeling, or stooping	☐ 1	☐ 2	☐ 3
(g)	Walking *more than one* kilometre	☐ 1	☐ 2	☐ 3
(h)	Walking *several blocks*	☐ 1	☐ 2	☐ 3
(i)	Walking *one block*	☐ 1	☐ 2	☐ 3
(j)	Bathing or dressing yourself	☐ 1	☐ 2	☐ 3

Q 4 **During the <u>past 4 weeks</u>, how much of the time have you had any of the following problems with your work OR other regular daily activities <u>as a result of your physical health</u>?**
(Please tick <u>one</u> box on each line)

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
(a)	Cut down on the *amount of time* you spent on work or other activities	1	2	3	4	5
(b)	Accomplished less than you would like	1	2	3	4	5
(c)	Were *limited* in the *kind* of work or other activities	1	2	3	4	5
(d)	Had *difficulty* performing the work or other activities (for example, it took *extra* effort)	1	2	3	4	5

Q 5 **During the <u>past 4 weeks</u>, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?**
(Please tick <u>one</u> box)

Not at all	1
Slightly	2
Moderately	3
Quite a bit	4
Extremely	5

Q 6 **How much <u>bodily</u> pain have you had during the <u>past 4 weeks</u>?**
(Please tick <u>one</u> box)

None	1
Very mild	2
Mild	3
Moderate	4
Severe	5
Very severe	6

Q 7 **During the <u>past 4 weeks</u>, how much of the time have you had any of the following problems with your work OR other regular daily activities <u>as a result of any emotional problems</u> (e.g. feeling depressed or anxious)?**
(Please tick <u>one</u> box on each line)

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
(a)	Cut down on the *amount of time* you spent on work or other activities	1	2	3	4	5
(b)	Accomplished less than you would like	1	2	3	4	5
(c)	Didn't do work or other activities as	1	2	3	4	5

carefully as usual

Q 8 **During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?**
(Please tick one box)

Not at all	☐ 1
Slightly	☐ 2
Moderately	☐ 3
Quite a bit	☐ 4
Extremely	☐ 5

Q 9 **During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives etc.)**
(Please tick one box)

All of the time	☐ 5
Most of the time	☐ 2
Some of the time	☐ 3
A little of the time	☐ 4
None of the time	☐ 5

Q 10 **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 is closest to the way you have been feeling. How much of the time during the past 4 weeks…**
(Please tick one box on each line)

		All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
(a)	Did you feel full of life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(b)	Have you been very nervous?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(c)	Have you felt so down in the dumps that nothing could cheer you up?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(d)	Have you felt calm and peaceful?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(e)	Did you have a lot of energy?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(f)	Have you felt downhearted and blue?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(g)	Did you feel worn out?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(h)	Have you been happy?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
(i)	Did you feel tired?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Q 11 **How *TRUE* or *FALSE* is <u>each</u> of the following statements for you?**
(Please tick <u>one</u> box on each line)

		Definitely true	Mostly true	Don't know	Mostly false	Definitely false
(a)	I seem to get sick a little easier than other people	1	2	3	4	5
(b)	I am as healthy as anybody I know	1	2	3	4	5
(c)	I expect my health to get worse	1	2	3	4	5
(d)	My health is excellent	1	2	3	4	5

Q 12 **The following questions focus on <u>health problems</u> you may have. Please tick the box corresponding to the word 'Yes' or 'No' to indicate if a doctor, nurse or other health care worker has told you that you have any of the following health problems.**
(Please do not skip any questions)

		Yes	No
(a)	Skin cancer?	1	2
(b)	Other forms of cancer?	1	2
(c)	Diabetes?	1	2
(d)	Epilepsy?	1	2
(e)	High blood pressure or hypertension?	1	2
(f)	Heart trouble (e.g., angina or myocardial infarction)?	1	2
(g)	Asthma?	1	2
(h)	Other respiratory conditions (e.g., bronchitis)?	1	2
(i)	Stomach ulcer or duodenal ulcer?	1	2
(j)	Chronic liver trouble (e.g., cirrhosis)?	1	2
(k)	Bowel disorders (e.g., colitis or polyps)?	1	2
(l)	Hernia or rupture?	1	2
(m)	Chronic kidney or urinary tract conditions?	1	2
(n)	Chronic skin conditions (e.g., dermatitis or psoriasis)?	1	2
(o)	Arthritis or rheumatism?	1	2
(p)	Hepatitis?	1	2
(q)	Sight impairment (that cannot be corrected by glasses)?	1	2
(r)	Hearing impairment?	1	2
(s)	Stroke?	1	2

The following questions concern your alcohol consumption. For each question, please tick the answer that is correct for you.

Q 13

(a) How often do you have a drink containing alcohol?
(Please tick one box)

Never	1
Monthly or less	2
Two to four times a month	3
Two to three times a week	4
Four or more times a week	5

- **If you ticked 'NEVER' to the question above please answer Q 13 (b) below.**
- **All other people please go straight to Q14 below.**

(b) Have you ever drunk alcohol in the past?

Yes	1
No	2

(Now, please go straight to Q16 on the next page.)

Q 14 How many drinks containing alcohol do you have on a typical day when drinking?
(Please tick one box)

1 or 2	1
3 or 4	2
5 or 6	3
7 to 9	4
10 or more	5

Q 15 How often do you have six or more drinks on one occasion?
(Please tick one box)

Never	1
Less than monthly	2
Monthly	3
Weekly	4
Daily or almost daily	5

The following questions concern your use of health services (such as doctors or hospitals). For each question, please tick the answer that is correct for you.

Q 16 **In the last 12 months, have you seen a doctor or been visited by a doctor about your own health? By 'doctor' we mean any GP or family doctor, but not a specialist.**
(Please tick one box)

Yes	1
No (Tick and go down to **Q 18**)	2
Don't know (Tick and go down to **Q 18**)	3

Q 17 **How many times?**
(Please tick one box)

1 time	1
2 times	2
3 to 5 times	3
6 to 11 times	4
12 times or more	5
Don't know	6

Q 18 **In the last 12 months, have you yourself used a service at, or been admitted to, a hospital (either public or private)?**
(Please tick one box)

Yes	1
No (Tick and go down to **Q 20**)	2
Don't know (Tick and go down to **Q 20**)	3

Q 19 **In the last 12 months, how many times were you admitted for one night or longer?**
(Please tick one box)

Never admitted over-night	1
1-2 times	2
3-4 times	3
5 or more times	4

Q 20 **In the last 12 months, how many times did you go to a hospital *emergency* department as a patient?**
(Please tick one box)

Never	1
1-2 times	2
3-4 times	3
5 or more times	4

Q 21 **In the last 12 months, have you seen any of the following people for health care or advice for yourself:**
(Tick all that apply)

GP's practice nurse, without also seeing the doctor?	☐ 1
district, public health or other nurse?	☐ 1
chemist or pharmacist, for health advice or medication only?	☐ 1
physiotherapist?	☐ 1
dentist or dental nurse?	☐ 1
optician or optometrist?	☐ 1
chiropractor or osteopath?	☐ 1
podiatrist or chiropodist?	☐ 1
alternative therapist such as a naturopath, homeopath, iridologist or acupuncturist?	☐ 1
psychologist or counsellor?	☐ 1
occupational or speech therapist?	☐ 1
traditional healer such as tohunga, rongoa Māori specialist or fofo?	☐ 1
Māori health worker, Pacific Island health worker?	☐ 1
specialist medical practitioner (e.g., neurologist, oncologist)	☐ 1

Q 22

(a) Would you currently consider yourself a *regular* smoker?
(Please tick <u>one</u> box)

Yes (Tick and go down to **Q 22 b**)	☐ 1
No (Tick and go down to **Q 22 c**)	☐ 2

(b) IF YOU CONSIDER YOURSELF A *REGULAR* SMOKER: How many do you think you would smoke on an average day?
(Please tick <u>one</u> box)

1 to 10 a day	☐ 1
11 to 20 a day	☐ 2
21 to 30 a day	☐ 3
31 or more a day	☐ 4

(c) IF YOU <u>DO NOT</u> CONSIDER YOURSELF A *REGULAR* SMOKER: Have you, at any stage of your life, ever been a *regular* smoker?
(Please tick <u>one</u> box)

Yes	☐ 1
No	☐ 2

HEALTH WORK AND RETIREMENT LONGITUDINAL STUDY

E tū te huru mā, haramai e noho

Physical activity

The following questions concern the kinds of physical activities that people do as part of their everyday lives. Please answer each question even if you do not consider yourself to be an active person.

Please think about the activities you do at work, as part of your house and garden work, to get from place to place or in your spare time for recreation, exercise or sport.

Q 23 **How many hours EACH DAY do you typically spend sitting down while doing things like visiting friends, driving, eating, reading, watching television or working at a desk or computer?**

(a)	On a usual WEEK day		Hours
(b)	On a usual WEEKEND day		Hours

Q 24 **If you add up all the times you spent in each activity in the LAST 7 DAYS, how much time did you spend ALTOGETHER doing each type of activity?**
(If you **did not** do an activity, please write '0' in the box)

(a)	*Briskly walking* (at a pace where you are breathing harder than normal, but only a little harder; e.g., for recreation or exercise, or to get from place to place)		Hours		Minutes
(b)	*Moderate physical activity* (which makes you breath harder than normal, but only moderately harder; e.g., carrying light loads, gardening, bicycling at a regular pace, recreational swimming)		Hours		Minutes
(c)	*Vigorous physical activity* (that makes you breathe a lot harder than normal or huff and puff; e.g., heavy lifting, fast bicycling, aerobics, running)		Hours		Minutes

Q 25 **Thinking about all your physical activities (brisk walking, moderate or vigorous) on how many of the LAST 7 DAYS were you active?**
('Active' means doing 15 minutes or more of vigorous activity, OR 30 minutes or more of moderate activity or brisk walking).

(Please tick one box)

☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
0 days	1 day	2 days	3 days	4 days	5 days	6 days	7 days

Q 26 **Please indicate which of the following describes your physical activity over the PAST 6 MONTHS.** ('Regular physical activity' means doing 15 minutes or more of vigorous activity, OR 30 minutes or more of moderate activity or brisk walking each day for 5 or more days a week).

(Please tick one box)

I am not regularly physically active and do not intend to be so in the next 6 months	☐ 1
I am not regularly physically active but am thinking about starting in the next 6 months	☐ 2
I do some physical activity but not enough to be described as *regular* physical activity	☐ 3

I am regularly physically active but only began in the last 6 months	4
I am regularly physically active and have been so for longer than 6 months	5

The following section of the survey focuses on your social networks, your beliefs about yourself and your beliefs about your family.

Q 27 **I contribute my time and/or labour to volunteer activities:**
(Please tick one box)

Very often	1
Often	2
Sometimes	3
Rarely	4
Never	5

Q 28 **How far away, in distance, does your nearest:**
(Please tick one box on each line)

	Same house / within 1 kilometre	1-5 kilometres	6-15 kilometres	16-50 kilometres	50+ kilometres	*Not applicable or none living*
(a) relative live (not including your spouse/child/siblings)?	1	2	3	4	5	9
(b) child live?	1	2	3	4	5	9
(c) brother or sister live?	1	2	3	4	5	9

Q 29 **How often do you speak to or do something with:**
(Please tick one box on each line)

	Daily	2-3 times a week	At least weekly	At least monthly	Less often	Never / I have none
(a) any of your children or other relatives?	1	2	3	4	5	6
(b) any friends in your community/neighbourhood?	1	2	3	4	5	6
(c) any of your neighbours?	1	2	3	4	5	6

Q 30 **Please answer the following questions about your contact with family and friends.**
(Please tick one box on each line)

	Yes	No
(a) Do you feel you have regular contact with your family?	1	2
(b) Do you feel you have regular contact with your friends?	1	2
(c) Do you regularly participate in family (whanau) activities?	1	2
(d) Do you have family or friends over for a meal at least once a month?	1	2

Q 31 **To what extent do you agree that each statement describes your current relationships with other people?**
(Please tick one box on each line)

		Strongly disagree	Disagree	Agree	Strongly agree
(a)	There are people I can depend on to help me if I really need it.	1	2	3	4
(b)	I feel that I do not have close personal relationships with other people.	1	2	3	4
(c)	There is no one I can turn to for guidance in times of stress.	1	2	3	4
(d)	There are people who depend on me for help.	1	2	3	4
(e)	There are people who enjoy the same social activities I do.	1	2	3	4
(f)	Other people do not view me as competent.	1	2	3	4
(g)	I feel personally responsible for the well-being of another person.	1	2	3	4
(h)	I feel part of a group of people who share my attitudes and beliefs.	1	2	3	4
(i)	I do not think other people respect my skills and abilities.	1	2	3	4
(j)	If something went wrong, no one would come to my assistance.	1	2	3	4
(k)	I have close relationships that provide me with a sense of emotional security and well-being.	1	2	3	4
(l)	There is someone I could talk to about important decisions in my life.	1	2	3	4
(m)	I have relationships where my competence and skills are recognized.	1	2	3	4
(n)	There is no one who shares my interests and concerns.	1	2	3	4
(o)	There is no one who really relies on me for their well-being.	1	2	3	4
(p)	There is a trustworthy person I could turn to for advice if I were having problems.	1	2	3	4
(q)	I feel a strong emotional bond with another person.	1	2	3	4
(r)	There is no one I can depend on for aid if I really need it.	1	2	3	4
(s)	There is no one I feel comfortable talking about problems with.	1	2	3	4
(t)	There are people who admire my talents and abilities.	1	2	3	4
(u)	I lack a feeling of intimacy with another person.	1	2	3	4
(v)	There is no one who likes to do the things I do.	1	2	3	4
(w)	There are people I can count on in an emergency.	1	2	3	4
(x)	No one needs me to care for them.	1	2	3	4

Q 32 **Do you regularly provide unpaid care for grandchildren or other people's children?**
(Please tick one box)

Yes, daily	1
Yes, weekly	2
Yes, occasionally	3
No, never	4

Q 33 **Do you regularly provide care or assistance (e.g., personal care, transport) to any of the following people because of their long-term illness, disability or frailty?**
(Please tick one box on each line)

		Yes	No
(a)	Someone who lives with you	1	2
(b)	Someone who lives elsewhere	1	2

- ***If you answered 'Yes' to EITHER (a) and (b) above, go on to Q 34***
- ***If you answered 'No' to BOTH (a) and (b) above, go straight to Q 37 on the next page***

Q 34 **How many people with a long-term illness, disability or frailty do you regularly provide care for?**
(Please tick one box)

One person	1
Two people	2
More than two people	3

Q 35 **How often in total do you provide this care or assistance?**
(Please tick one box)

Everyday	1
Several times a week	2
Once a week	3
Once every few weeks	4
Less often	5

Q 36 **How much time do you usually spend providing such care or assistance on each occasion?**
(Please tick one box)

All day and night	1
All day	2
All night	3
Several hours	4
About an hour	5

Q 37 **Which of the following statements do you agree with the most?**
(Please tick one box)

People can almost always be trusted	1
People can usually be trusted.	2
You usually can't be too careful	3
You almost always can't be too careful.	4
Don't know	5

Q 38 **Some people tell us that they feel lonely or isolated while others say that they don't. In the last 12 months how often have you felt lonely or isolated?**
(Please tick one box)

Always	1
Most of the time	2
Sometimes	3
Rarely	4
Never	5
Don't know	6

Q 39 **Do you attend any of the following:**
(Please tick one box on each line)

		Yes, regularly	Yes, on occasion	No
(a)	religious meetings	1	2	3
(b)	meetings of any community/neighbourhood or social groups, such as clubs, lectures or anything like that	1	2	3

Q 40 **Please answer the following questions about how you contact people**
(Please tick one box on each line)

		Yes	No
(a)	Do you regularly use a telephone to contact family, friends or colleagues?	1	2
(b)	Do you regularly use email to contact family, friends or colleagues?	1	2
(c)	Do you regularly use the internet (i.e., online chat rooms, purchasing goods or services)	1	2

The following questions are for those currently in paid employment. If you are <u>not</u> currently in paid employment please go straight to the *Retirement* section on page 18.

Q 41

(a) Are you self-employed or employed by another person or company?

Self-employed (tick the box and go to **Q 41 b**) ☐ 1

Employed by another person or company (tick the box and go to **Q 41 c**) ☐ 2

(b) IF YOU ARE SELF-EMPLOYED:
Do you employ any people to work for you? If so, how many?

Yes: (Please indicate below the approximate number of people you employ) ☐ 1

Number of employees: | | | | | |

No ☐ 2

(c) IF YOU ARE EMPLOYED BY ANOTHER PERSON OR COMPANY:
Approximately how many people work for your employer?

Number of employees: | | | | | |

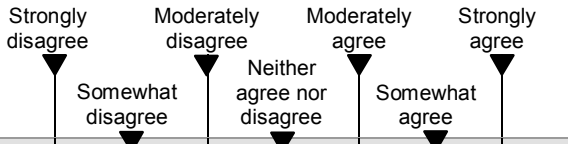
Q 42

Please indicate how much you agree or disagree with the following statements. Answer by ticking the box that best reflects how you feel.
(Please tick <u>one</u> box on each line)

		Strongly disagree 1	Somewhat disagree 2	Moderately disagree 3	Neither agree nor disagree 4	Moderately agree 5	Somewhat agree 6	Strongly agree 7
(a)	I can financially afford to retire now.	☐	☐	☐	☐	☐	☐	☐
(b)	One reason I continue to work is because I cannot afford to retire	☐	☐	☐	☐	☐	☐	☐
(c)	When I imagine what retirement will be like, I feel depressed	☐	☐	☐	☐	☐	☐	☐
(d)	I am tired of work	☐	☐	☐	☐	☐	☐	☐
(e)	If I could get another job different from my current occupation and paying the same amount, I would probably take it	☐	☐	☐	☐	☐	☐	☐
(f)	I definitely want a career for myself in my current occupation	☐	☐	☐	☐	☐	☐	☐
(g)	If I could do it all over again, I would not choose to work in my current occupation	☐	☐	☐	☐	☐	☐	☐
(h)	If I had all the money I needed without working, I would probably still continue to work in my current occupation	☐	☐	☐	☐	☐	☐	☐

(i)	I like this occupation too well to give it up	1	2	3	4	5	6	7
(j)	This is the ideal occupation for a life's work	1	2	3	4	5	6	7

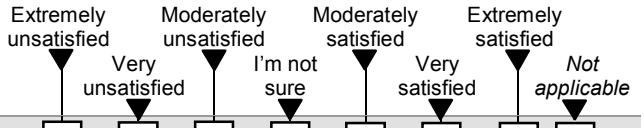
Q 42 *(continued)*



(k)	I spend a significant amount of personal time reading journals or books related to my occupation	1 2 3 4 5 6 7
(l)	I am disappointed that I ever entered my current occupation	1 2 3 4 5 6 7
(m)	I am satisfied with the success I have achieved in my career	1 2 3 4 5 6 7
(n)	I am satisfied with the progress I have made toward meeting my overall career goals	1 2 3 4 5 6 7
(o)	I am satisfied with the progress I have made toward meeting my goals for income	1 2 3 4 5 6 7
(p)	I am satisfied with the progress I have made toward meeting my goals for advancement	1 2 3 4 5 6 7
(q)	I am satisfied with the progress I have made toward meeting my goals for the development of new skills	1 2 3 4 5 6 7

Q 43 **Please indicate how satisfied or dissatisfied you are with the following aspects of your job. Answer by ticking the box that best reflects how you feel. Tick '*Not applicable*' if an item does not apply to your situation**

(Please tick <u>one</u> box on each line)



(a)	The physical work conditions	1 2 3 4 5 6 7 9
(b)	The freedom to choose your own work method	1 2 3 4 5 6 7 9
(c)	Your fellow workers	1 2 3 4 5 6 7 9
(d)	The recognition you get for good work	1 2 3 4 5 6 7 9
(e)	Your immediate supervisor	1 2 3 4 5 6 7 9
(f)	The amount of responsibility you are given	1 2 3 4 5 6 7 9
(g)	Your rate of pay	1 2 3 4 5 6 7 9
(h)	Your opportunity to use your abilities	1 2 3 4 5 6 7 9
(i)	Industrial relations between the organization and employees	1 2 3 4 5 6 7 9
(j)	Your chance of promotion	1 2 3 4 5 6 7 9
(k)	The way the organization is managed	1 2 3 4 5 6 7 9
(l)	Attention paid to suggestions you make	1 2 3 4 5 6 7 9
(m)	Your hours of work	1 2 3 4 5 6 7 9
(n)	The amount of variety in your job	1 2 3 4 5 6 7 9

(o)	Your job security	1	2	3	4	5	6	7	9

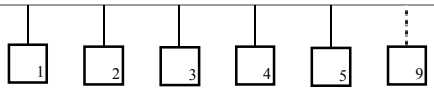
Q 44 **Please indicate how much you agree or disagree with the following statements. Answer by ticking the box that best reflects how you feel.**
(Please tick <u>one</u> box on each line)

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
(a)	**The most important things that happen in life involve work**	1	2	3	4	5
(b)	Work is something people should get involved in most of the time	1	2	3	4	5
(c)	Work should be only a small part of one's life	1	2	3	4	5
(d)	Work should be considered central to life	1	2	3	4	5
(e)	In my view, an individual's personal life goals should be work-oriented	1	2	3	4	5
(f)	Life is worth living only when people get absorbed in work	1	2	3	4	5

Q 45 **Please indicate how much you agree or disagree with the following statements. Answer by ticking the box that best reflects how you feel.**
(Please tick <u>one</u> box on each line)

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	*Not applicable*
(a)	I enjoy my work environment	1	2	3	4	5	9
(b)	If something in my work environment is annoying me then I can get it changed or removed	1	2	3	4	5	9
(c)	My boss is a good boss to work for	1	2	3	4	5	9
(d)	I feel that my boss values my work and the contributions I make	1	2	3	4	5	9
(e)	My boss always listens to my opinion	1	2	3	4	5	9
(f)	My co-workers are good to work with	1	2	3	4	5	9
(g)	If I have a problem my co-workers will help me	1	2	3	4	5	9
(h)	My co-workers always listen to my opinion.	1	2	3	4	5	9
(i)	I am in a position of responsibility for other workers	1	2	3	4	5	9
(j)	I find my job very stressful	1	2	3	4	5	9
(k)	I am responsible for important jobs at work	1	2	3	4	5	9
(l)	I often seem to have a lot of work to do at once	1	2	3	4	5	9
(m)	I work longer hours than most people	1	2	3	4	5	9
(n)	I feel that my job is an important role in my workplace	1	2	3	4	5	9
(o)	I feel that I am not likely to lose my job anytime soon	1	2	3	4	5	9

(p) I have often had physical symptoms (e.g. headaches, high blood pressure) that were a result of the stress of my job



Q 46 **Please indicate how much you agree or disagree with the following statements. Answer by ticking the box that best reflects how you feel.**
(Please tick <u>one</u> box on each line)

		Strongly disagree	Disagree	Agree	Strongly agree	*Not applicable*
(a)	**I have a good relationship with my supervisors**	1	2	3	4	9
(b)	**I am getting on well with my co-workers**	1	2	3	4	9
(c)	**There is a pleasant atmosphere at my work place**	1	2	3	4	9
(d)	**There is good group cohesion at my work place**	1	2	3	4	9
(e)	**There are often conflicts and arguments at work**	1	2	3	4	9

Q 47 **Now we would like to ask some questions about your leisure activities. Please tick the answer that you believe gives an accurate indication of your CURRENT situation.**
(Please tick <u>one</u> box on each line)

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
(a)	When I am not working, my time is filled with non-work interests such as hobbies, clubs and projects	1	2	3	4	5
(b)	When I am not working I like to take it easy	1	2	3	4	5
(c)	When I am not working, I don't know what to do with my time	1	2	3	4	5
(d)	I wish I had more leisure time	1	2	3	4	5
(e)	I look forward to having more leisure time after retirement	1	2	3	4	5
(f)	I feel that work prevents me from having as much leisure time as I would like	1	2	3	4	5
(g)	I enjoy spending time pursuing leisure activities	1	2	3	4	5
(h)	I feel that retirement will allow me to enjoy more leisure activities	1	2	3	4	5

Q 48 **What do you think the chances are that you will be working <u>full-time</u> when you reach:**

		Absolutely no chance	I likely won't	I'm not sure	I likely will	Absolutely certain	*I am this age or older*
(a)	62 years of age?	1	2	3	4	5	9
(b)	65 years of age?	1	2	3	4	5	9

HEALTH WORK AND RETIREMENT LONGITUDINAL STUDY

E tū te huru mā, haramai e noho

Retirement

In the following sets of questions we are interested in what people think about retirement (whether they themselves are retired or not).

IMPORTANT NOTE: If you have never been in paid employment, please skip this section and go straight to the *Background Information* section on page 23.

Q 49 **At this time do you consider yourself partly retired, completely retired, or not retired at all?**
(Please tick one box)

Not retired at all	☐ 1
Partly retired	☐ 2
Completely retired	☐ 3

Q 50 **IF YOU ARE *NOT RETIRED* AT ALL: At what age do you think you will retire completely?**

I think I will retire at age:		

IF YOU ARE *PARTLY/COMPLETELY* RETIRED: In what month and year did you partly/completely retire?

	M	M		Y	Y	Y	Y
	Month			Year			

▶ ***If you are PARTLY or COMPLETELY RETIRED please go on to Q 51.***

▶ ***If you are NOT RETIRED AT ALL please go to Q 53 on the next page.***

Q 51 **If you consider yourself partly/completely retired, was your retirement:**
(Please tick one box)

Forced	☐ 1
Voluntary	☐ 2

Q 52 **If you consider yourself partly/completely retired, how satisfying did you find your previous work?**
(Please tick one box)

Extremely unsatisfying	☐ 1
Unsatisfying	☐ 2
Somewhat unsatisfying	☐ 3
Neither satisfying nor unsatisfying	☐ 4
Somewhat satisfying	☐ 5

Satisfying	6
Extremely satisfying	7

Q 53 **Do/did you expect your spouse/partner to retire at about the same time as you?**
(Please tick one box)

Yes	1
No	2
Spouse not working	3
Not applicable (no spouse/partner)	4

Q 54 **When you and/or your spouse/partner (if applicable) retire(d), do/did you expect your living standards to:**
(Please tick one box)

Increase a lot	1
Increase somewhat	2
Stay the same	3
Decline somewhat	4
Decline a lot	5

Q 55 **Some people want to stop paid work entirely when they retire, while others would like to continue doing some paid work – what about you?**
(Please tick one box)

Stop paid work entirely	1
Continue some paid work	2
Don't know	3

Q 56 **Please indicate how much you agree or disagree with the following statements. Answer by ticking the box that best reflects how you feel.**
(Please tick one box on each line)

		Strongly disagree	Somewhat disagree	Neither agree nor disgaree	Somewhat agree	Strongly agree
(a)	I feel uncertain about how economic trends will affect my life in retirement	1	2	3	4	5
(b)	I feel secure that the government will financially support me in retirement	1	2	3	4	5
(c)	I feel/felt pressure to retire	1	2	3	4	5
(d)	I worry about the standard of living I will have in retirement	1	2	3	4	5
(e)	I worry about having enough income in retirement	1	2	3	4	5
(f)	I am satisfied with what my family income will be in retirement	1	2	3	4	5
(g)	I am confident that I will easily adjust to retirement	1	2	3	4	5
(h)	I don't think I will have any trouble handling retirement	1	2	3	4	5

(i)	I expect to enjoy retirement	1	2	3	4	5

Q 57 **Please indicate how much you agree or disagree with the following statements. Answer by ticking the box that best reflects how you feel.**
(Please tick one box on each line)

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
(a)	**Retirement is a time to rest**	1	2	3	4	5
(b)	Retirement is a time to slow down	1	2	3	4	5
(c)	Retirement is a time to relax	1	2	3	4	5
(d)	Retirement is a time to set to work on long-awaited goals	1	2	3	4	5
(e)	Retirement is a welcome beginning of a new stage	1	2	3	4	5
(f)	Retirement is a time to do what I want	1	2	3	4	5
(g)	My life in retirement will be very similar to my life before retirement	1	2	3	4	5
(h)	Retirement isn't a big issue for me	1	2	3	4	5
(i)	I don't think retirement is a major change	1	2	3	4	5
(j)	The only change in retirement is to have more time	1	2	3	4	5
(k)	In retirement, I won't/don't know what to do with my time	1	2	3	4	5
(l)	Nothing will be able to replace work in my life	1	2	3	4	5
(m)	Retirement means making the best of an unwanted situation	1	2	3	4	5
(n)	Retirement is a period of frustration	1	2	3	4	5

Q 58 **Below is a list of reasons why some people retire. Please indicate how important these reasons are, or could be, <u>for you</u>. We would like you to respond even if you are not currently retired.**
(Please tick one box on each line)

		Very important	Moderately important	Somewhat important	Not important at all	*Not applicable*
(a)	Poor health	1	2	3	4	
(b)	The health of other family members	1	2	3	4	9
(c)	Want to do other things	1	2	3	4	
(d)	Don't like the work	1	2	3	4	
(e)	Don't get along with the boss	1	2	3	4	9
(f)	Don't need to work – have enough money	1	2	3	4	
(g)	Can't find any work	1	2	3	4	
(h)	Work was not appreciated	1	2	3	4	

(i)	Husband/wife/partner about to retire	1	2	3	4	9
(j)	Employer policy toward older workers	1	2	3	4	9

Q 59 **Below is a list of things that some people say are *good* about retirement. Please indicate how important you think they are or will be during your retirement. We would like you to respond even if you are not currently retired.**
(Please tick one box on each line)

		Very important	Moderately important	Somewhat important	Not important at all	*Not applicable*
(a)	Being your own boss	1	2	3	4	
(b)	Lack of pressure	1	2	3	4	
(c)	Being able to take it easy	1	2	3	4	
(d)	Having more time with husband/wife/partner	1	2	3	4	9
(e)	Spending more time with grand/children	1	2	3	4	9
(f)	Spending more time on hobbies or sports	1	2	3	4	
(g)	Having more time for volunteer work (church, civic organisation etc)	1	2	3	4	
(h)	Having the chance to travel	1	2	3	4	

Q 60 **Below is a list of things that some people say are *bad* about retirement. Please indicate how bothersome you think they will be during your retirement. We would like you to respond even if you are not currently retired.**
(Please tick one box on each line)

		Bothered a lot	Bothered somewhat	Bothered a little	Not at all bothered	*Not applicable*
(a)	Being bored, having too much time on your hands	1	2	3	4	
(b)	Not doing anything productive or useful	1	2	3	4	
(c)	Missing people you work(ed) with	1	2	3	4	9
(d)	Illness or disability	1	2	3	4	
(e)	Not having enough income to get by	1	2	3	4	
(f)	Inflation and the cost of living	1	2	3	4	

Q 61 **Please answer the following questions whether you are retired or not.**
(Please tick one box on each line)

		A lot	Some	A little	Hardly at all	*Not applicable*
(a)	While still in the paid workforce, how much have/had you thought about retirement?	1	2	3	4	
(b)	While still in the paid workforce, how much have/had you discussed retirement with your spouse/partner?	1	2	3	4	9
(c)	While still in the paid workforce, how much have/had you discussed retirement with your friends or co-workers?	1	2	3	4	

(d) While still in the paid workforce, have/had you attended any meetings on retirement or retirement planning?

Yes	☐ 1
No	☐ 2

(e) Thinking about your future retirement years compared to your working years, would you say the retirement years will be:

Better	☐ 1
About the same	☐ 2
Not as good	☐ 3

Q 62 Some people feel that in retirement their roles in life might change. For example, some may feel that in retirement their role will be to look out for their grandchildren's welfare, and become a better golfer. What do you think your role in retirement will be?

Please complete the following sentence: "*I feel my main role in retirement will be to*…

HEALTH WORK AND RETIREMENT LONGITUDINAL STUDY

E tū te huru mā, haramai e noho

Background Information

Lastly, we would like to ask you for some general background information. Please place a tick next to the answer that you believe gives an accurate indication of your CURRENT situation, or write details in the spaces provided.

Q 63 When were you born?

D	D		M	M	1 9	Y	Y
Day			Month		Year		

Q 64 Are you?
(Please tick one box)

- Male [1]
- Female [2]

Q 65 Which one of these statements is true about your legal marital status?
(If you have been married more than once, answer for your most recent marriage)

- I am legally married [1]
- I am in a civil union/de facto/partnered relationship [2]
- I am permanently separated from my legal husband or wife [3]
- I am divorced or my marriage has been dissolved [4]
- I am a widow or widower [5]
- I have never been legally married [6]

Q 66 Which ethnic group do you belong to?
(Please tick all the boxes that apply to you)

- Pakeha / New Zealander of European descent [1]
- Māori [1]
- Samoan [1]
- Cook Island Māori [1]
- Tongan [1]
- Niuean [1]
- Chinese [1]
- Indian [1]
- Other (such as Dutch, Japanese, Tokelauan). Please state below: [1]

_____

Q 67

(a) Were you born in New Zealand?
(Please tick one box)

- Yes (Tick and go to **Q 68** on the next page) [1]

No (Tick and go to **Q 67 B** on the next page) ☐ 2

(b) If you were <u>not</u> born in New Zealand please indicate below the approximate date that you came to live permanently in New Zealand:

	M	M		Y	Y	Y	Y
	Month			Year			

Q 68 Excluding yourself, please give the total number of people that live in the same household as you.

Total number of people	

Q 69 How many people, excluding yourself, are dependent on you for their financial support?

Total number of people	

Q 70 Mark as many spaces as you need to show all the people who live in the same household as you.

My legal husband or wife	☐ 1
My partner or de facto, boyfriend or girlfriend	☐ 1
My son(s) and/or daughter(s)	☐ 1
My mother and/or father	☐ 1
My sister(s) and/or brother(s)	☐ 1
My flatmate(s)	☐ 1
Other (Please state: e.g. my grandmother, my mother-in-law, my partner's father, boarder etc). _____	☐ 1
None of the above – I live alone	☐ 1

If you indicated above that you live with some of your children, please indicate below how many children live in the same household as you and their ages:

Number of children	

Ages: | | | | | | | | | | |

Q 71 Which of the following best describes the area where you live?

(Please tick <u>one</u> box)

Main Urban Area	⇨	A city with population of 30,000 or more	⇨	☐ 1
Secondary Urban Area	⇨	A town / city with a population of between 10,000 & 29,999	⇨	☐ 2
Minor Urban Area	⇨	A town with a population of between 1,000 & 10,000	⇨	☐ 3
Rural Centre	⇨	A town with a population of between 300 & 1,000	⇨	☐ 4

Rural Area	⇨	Outside a town / city boundaries	⇨	5

Q 72 **What is your highest secondary school qualification?**
(Please tick one box)

No school qualifications	1
NZ School Certificate in one or more subjects	2
NZ Sixth Form Certificate in one or more subjects	3
NZ Higher School Certificate, or Higher Leaving Certificate	4
NZ University entrance	5
NZ A or B Bursary or University Scholarship	6
Other NZ secondary school qualification (Please print the qualification below): _____	7
Overseas secondary school qualification	8

Q 73 **Apart from secondary school qualifications, do you have other qualifications?**
(Please don't count incomplete qualifications or qualifications that take less than 3 months of full-time study to get).

Yes (Please print your highest qualification below): _____	1
No	2

Q 74 **In the following table:**

- **Please tick in column 1 the situation which best describes your current situation.**
- **Please tick in column 2 the situation which you would prefer to be in.**

(Tick the box in the same row if you are currently in your preferred situation).

Employment Status	① **Your *Current* Situation**	② **Your *Preferred* Situation**
Full-time paid employment, including self employment	1	1
Part-time paid work, including self employment	2	2
Retired, no paid work	3	3
Full-time homemaker	4	4
Full-time student	5	5
Unemployed and seeking work	6	6
Not in the workforce – other (please specify below) _____	7	7

Q 75

Do you regularly perform shift work?

Yes	1
No	2

Not applicable (not employed)	☐ 3

Q 76 **IF IN PAID EMPLOYMENT: What is your occupation in your main job?**

(Try to be as specific as you can. For example: Primary School Teacher, Clothing Machinist, Motel Manager, Word Processor Operator).

_____

How many hours (to the nearest hour) do you usually work each week?

	Hours
In your main job?	
In your other jobs (if applicable)?	

IF PARTLY/COMPLETELY RETIRED: What was your occupation in your main job prior to partial/complete retirement?

(Try to be as specific as you can. For example: Primary School Teacher, Clothing Machinist, Motel Manager, Word Processor Operator).

_____

Q 77 **Is your spouse/partner in paid employment?**
(Please tick one box)

Full-time paid employment, including self employment	☐ 1
Part-time paid work, including self employment	☐ 2
Retired, no paid work	☐ 3
Full-time homemaker	☐ 4
Full-time student	☐ 5
Unemployed and seeking work	☐ 6
Other: (please specify) _____	☐ 7
Not applicable (No spouse/partner)	☐ 9

Q 78 **Tick as many boxes as you need to show all the ways you received income in the 12 months ending today.**

NOTE: Please DON'T count loans because they are not income.

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
Other superannuation, pensions, annuities (other than NZ Superannuation, Veterans Pension or War Pension)	☐ 1
Unemployment Benefit	☐ 1
Domestic Purposes Benefit	☐ 1
Invalids Benefit	☐ 1
Student Allowance	☐ 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

Q 79 **From all the sources of income you marked in question 78, what would the total income be that you yourself received before tax in the last 12 months?**

(Please specify the approximate dollar amount below.)

(Approximately) | | | | | | | | |

Q 80 **What would be the combined income that *every other member* of your household received in the last 12 months?**

(Please specify the approximate dollar amount below.)

(Approximately) | | | | | | | | |

Q 81

(a) **Altogether, how many superannuation schemes (either in New Zealand or offshore) do you belong to?**

(Please tick one box)

None	☐ 1
1	☐ 2
2	☐ 3
3 or more	☐ 4

(b) **Does your spouse/partner belong to a superannuation scheme?**

(Please tick one box)

Yes	☐ 1

No	2
Not applicable (no spouse/partner)	3

(c) Do you own any of the following? IF YOU WANT TO, please provide the approximate value.
(Please tick one box on each line)

	Yes	No	Value *(In thousands)*
The property where you live?	1	2	
A farm or farms?	1	2	
A business or businesses?	1	2	
A holiday house?	1	2	
A rental property or properties?	1	2	
Any shares?	1	2	
Any managed funds?	1	2	
Any banks deposits or savings?	1	2	
A motor vehicle or vehicles?	1	2	
Other major assets? (Please specify below)	1	2	

_____

(d) Do you have any of the following?

	Yes	No
A mortgage or mortgages?	1	2
A loan from a bank, finance company, family member or friend?	1	2

Q 82

For the following questions, please indicate whether or not you have (or have access to) the item by ticking <u>one</u> of the boxes.

1. **Tick the first box if you have the item or have access to it**
2. **Tick the second box if you don't have the item because you don't want it**
3. **Tick the third box if you don't have the item because of its cost**
4. **Tick the forth box if you don't have the item because of some other reason.**

		Yes I have it	No because I don't want it	No because of the cost	No for some other reason
(a)	Telephone	1	2	3	4
(b)	Washing machine	1	2	3	4
(c)	Heating available in all main rooms	1	2	3	4
(d)	A good pair of shoes	1	2	3	4
(e)	A best outfit for special occasions	1	2	3	4
(f)	Personal computer	1	2	3	4
(g)	Home contents insurance	1	2	3	4
(h)	Enough room for family to stay the night	1	2	3	4

Q 83

For the following questions, please indicate whether or not you do the activity by ticking <u>one</u> of the boxes.

		Yes I do it	No because I don't want to	No because of the cost	No for some other reason
(a)	Give presents to family or friends on birthdays, Christmas or other special occasions.	1	2	3	4
(b)	Visit the hairdresser at least once every three months	1	2	3	4
(c)	Have holidays away from home every year	1	2	3	4
(d)	Have a holiday overseas at least every three years	1	2	3	4
(e)	Have a night out at least once a month	1	2	3	4
(f)	Have family or friends over for a meal at least once a month	1	2	3	4

Q 84 **The following questions are about your material standard of living – the things that money can buy** (this does not include your health or capacity to enjoy life)**. Tick the answer that best applies to you.**

(a) Generally, how would you rate your material standard of living?

High	1
Fairly high	2
Medium	3
Fairly low	4
Low	5

b)

Generally, how satisfied are you with your current material standard of living?

Very satisfied	1
Satisfied	2
Neither satisfied nor dissatisfied	3
Dissatisfied	4
Very dissatisfied	5

(c) How well does your total income meet your everyday needs for such things as accommodation, food, clothing and other necessities?

My income is not enough	1
My income is *just* enough	2
My income is enough	3
My income is more than enough	4

Q 85 **The following are a list of things some people do to help keep costs down. In the last 12 months, how often have you done any of these things? Tick the box that best applies to you.**

		Not at all	A little	A lot
(a)	Gone without fresh fruit and vegetables to keep down costs	1	2	3
(b)	Continued wearing clothing that was worn out because you	1	2	3

	couldn't afford a replacement	
(c)	Put off buying clothes for as long as possible to help keep down costs	1 2 3
(d)	Stayed in bed longer to save on heating costs	1 2 3
(e)	Postponed or put off visits to the doctor to help keep down costs	1 2 3
(f)	NOT picked up a prescription to help keep down costs	1 2 3
(g)	Spent less on hobbies than you would like to keep down costs	1 2 3
(h)	Done without or cut back on trips to the shops or other local places to help keep down costs	1 2 3

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E tū te huru mā, haramai e noho

Whakapapa/ Whanaungatanga

In this section we would like to ask you for some general background information about your Māori ancestry.

Q 86 **Do you identify as Māori?**
(Please tick one box)

Yes	1
No	2

Q 87 **How many generations of your Māori ancestry can you name?**
(Please tick one box)

I generation (parents)	1
2 generations (grandparents)	2
3 generations (great-grandparents)	3
More than 3 generations	4

Q 88 **Have you ever been to a marae; and if yes – how often over the past 12 months?**
(Please tick one box)

Not at all	1
Once	2
A few times	3
Several times	4
More than once a month	5

Q 89 **In terms of your involvement with your whanau, would you say that your whanau plays…**
(Please tick one box)

A very large part in your life	1
A large part in your life	2
A small part in your life	3
A very small part in your life	4

Q 90 **Do you have a financial interest in Māori land (i.e. as an owner, part/potential owner or beneficiary)?**
(Please tick one box)

Yes	1
No	2
Not sure/don't know	3

Q 91 **This question considers your contacts with people. In general, would you say that your contacts are with…**
(Please tick one box)

Mainly Māori	1
Some Māori	2
Few Māori	3
No Māori	4

Q 92 **How would you rate your overall ability with Māori language?**
(Please tick one box)

Excellent	1
Very good	2
Good	3
Fair	4
Poor	5
Not applicable	6

Thank you for taking the time to complete this survey