Returning to Work After Retirement:

Predictors and Health Outcomes in

an Aotearoa New Zealand Sample.

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Abstract

The transition into retirement is a complex process, and for some the decision to retire is not permanent. This study sought to understand the phenomenon of unretirement and analyse the impact of returning to work on the physical and mental well-being of older adults in Aotearoa New Zealand. Unretirement or reverse retirement was conceptualised when a participant had indicated that they were retired and subsequently resumed full-time or part-time employment. Using longitudinal data from the New Zealand Health, Work and Retirement Study (2006-2020), a sample was derived of retired and unretired individuals (N=1504). Bivariate analyses were utilised to estimate the prevalence of unretirement in Aotearoa New Zealand and examine the factors that were predictive of unretirement. Hierarchical multiple regression analyses were undertaken to understand the impact of reverse retirement on the physical and mental well-being of older adults. It was found that around thirteen per cent of participants returned to work after retirement. Unretirement was more common for younger participants in better physical health, and less likely for those who owned their own home without a mortgage. Although reverse retirees were healthier, retirement status explained less than one per cent of the variance in physical health outcomes and was not significant when baseline health measures were taken into consideration. These results suggest that unretirement is undertaken by those who have better physical health and less financial resource to depend upon. Unretirement may be a final push to keep up with financial outgoings and continue to accumulate wealth before physical health becomes an impediment to further participation in the workforce.

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Chapter 1: Introduction and Overview

1.1 Overview

Like many countries around the world, Aotearoa New Zealand's population is getting older. The changing nature of demographics due to an ageing population brings with it many concerns related to navigating future social and economic uncertainty (Ministry of Health, 2018).

One aspect of ageing that has already been changing is retirement. Retirement is no longer mandated by age, and legislation is in place to discourage age discrimination in Aotearoa New Zealand (Department of Statistics, 2000). As a result, retirement is not necessarily a complete departure from the workforce. Rather than considering retirement as a singular event, it is now understood as a transitional process that occurs over time and may be marked by withdrawal and re-entry into the workforce (Beehr & Bennett, 2015).

'Reverse retirement' is a unique phenomenon where somebody returns to the workforce after having fully retired (Platts et al., 2019). Reverse retirement is also referred to as "unretirement"; these two terms will be used interchangeably throughout this present study. To the author's understanding, there have been no studies to date in Aotearoa New Zealand that have examined the phenomenon of unretirement.

This chapter will provide an introduction to the topic of reverse retirement. The chapter will begin with an overview of the ageing population in Aotearoa New Zealand and the trend for older adults to remain in the workforce for longer than they historically have. It will then present an overview of the retirement process, and a definition of reverse retirement. Popular conceptualisations and psychological models of

retirement will be discussed with some initial thoughts on how they may apply to unretirement. A review of reverse retirement research will then be presented. The main topics of interest will be the prevalence and predicting factors of reverse retirement. This chapter will then discuss what is understood about the relationship between retirement and health, and cover the limited research on health and unretirement. The chapter will end with a summary and present the aims and research questions that are undertaken in this research project.

1.2 Aotearoa New Zealand's Ageing Population

Many countries around the world are faced with ageing populations and the many social and economic implications that come as a result of these demographic changes (World Health Organisation, 2002). Aotearoa New Zealand is included in the list of countries facing an increase in the average age of its population. The following is an overview of some relevant descriptive statistics to help understand the scope of the demographic changes that Aotearoa New Zealand is predicted to face.

In 1970 the median age of Aotearoa New Zealand's population was 25.6 years, and this had increased to 37.1 years by 2016. It is expected that half the population will be older than forty-six years by 2068 (Statistics New Zealand, 2016). In 2016, adults over the age of 65 made up 12 per cent of the population. It is projected that by 2050, 38 per cent of the Aotearoa New Zealand population will be 65 or over (Statistics New Zealand, 2016). Aotearoa New Zealand's ageing population is due to three demographic trends that are changing the composition of the population. First, people are having fewer children (notably at sub replacement fertility). Second, people have an increased life expectancy. Third, a large number of people born between 1950 and 1970 (referred to as the baby boomer generation) are moving into the over 65 year old retirement age bracket

(Bascand, 2012). The changes in population age are expected to be maintained by lower birth and death rates after the baby boomer generation has transitioned through.

There are concerns regarding the social and economic impacts of the changing demographic. Particularly regarding the provision of health and disability services, superannuation, and other aged care services for older adults in Aotearoa New Zealand (Ministry of Health, 2018). Understanding the older adult demographic can help with policy design for those who wish to, and are able to, transition back into the workforce. It is of increasing importance as countries look to increase pension eligibility ages (McDonald, 1997).

1.3 Live Longer, Work Longer

As a result of lower birth rates and longer life expectancy, the age of the population is increasing, this increases the pressure on labour markets and social pension systems. There is a growing trend in Organisation for Economic Co-operation and Development (OECD) countries to adopt policies to ensure the financial sustainability of social pension systems going forward. These policies have included removing mandatory retirement ages, rollback of early retirement pensions, and increasing the age of entitlement to pension schemes (OECD, 2019).

What it means to be older is now fundamentally different from what it has been in the past. On average, older adults are now healthier, more educated, wealthier, and less involved in childcare (maybe due to the lower birth rates of the following generations) (Bascand, 2012). Older adults remaining in the labour force is also a growing trend in Aotearoa New Zealand. The workforce participation rate of older adults (55 - 74 years old) in Aotearoa New Zealand has increased over the past two decades, from 27 per

cent in 1990, to 58 per cent in 2016 (Statistics New Zealand, 2016). As of 2015, there were approximately 160,000 people over 65 years in the labour force, proportionally this equates to about six per cent of the total labour force and around 22 per cent of the over 65-year-old age bracket (Statistics New Zealand, 2016). It is predicted that, by 2038, the number of people over 65 years old in the workforce will increase to 250,000-400,000, proportionally about nine to thirteen per cent of the total work force. And by 2068, the number of people over 65 years old in the workforce will increase to about 260,000-550,00, approximately nine to sixteen per cent of the workforce (Statistics New Zealand, 2016). Policy changes are partly responsible for the upturn in older adult labour participation rates in Aotearoa New Zealand. In 1992, the upper age limit was removed from employment contracts which meant employers could not force employees to retire due to their age. Between 1992 and 2001, the age of eligibility for superannuation was gradually extended to its current age level of 65. Additionally, a concerted effort has been made to discourage age discrimination in the workplace (Department of Statistics, 2000).

1.4 Retirement

Retirement is understood as the process of withdrawing from the workforce permanently. Retirement normally occurs in the latter years of one's life. It enables older adults to partake in a more leisurely lifestyle, or to deal with issues related to ageing, such as declining health or chronic health problems (Atchley, 1982).

Retirement from the workforce is usually perceived as a sudden transition, as in someone is either participating in the workforce or retired. However, transitioning to retirement is not such a clear-cut process and is in reality, much more complex. There are many and varied ways to retire, and the conventional idea of retiring permanently at 65 years old is no longer the most prevalent form of retirement (Calvo et al., 2018).

Important to this study, retirement does not necessarily mean complete or permanent withdrawal from the job market.

1.5 Retirement Reversal

There may be many phases of retirement that are interrupted by short periods of paid employment (Shultz & Wang, 2011). Retirees may undertake other types of employment after leaving the jobs they have made a career in. This is characterised as bridge employment. Formally defined, bridge employment is participation in the labour force by older workers between retirement from their career job, but before completely leaving the labour force (Beehr & Bennett, 2015; Topa et al., 2014; Wang et al., 2008). Retirement reversal is similar to bridge employment in that it occupies the space between full participation in the labour force and full retirement. However, reverse retirement differs in that it is not a transitional phase like bridge employment has been described. Rather, it occurs after a clean break in employment has occurred. It can be distinguished from bridge employment in that the older adult has entered a period of retirement, and then subsequently makes a return to paid employment (Kanabar, 2015; Platts et al., 2019).

In this study, unretirement was defined as returning to some form of employment after a period of retirement. Retirement and unretirement status were drawn from self-declarations of retirement, as indicated in the Health, Work and Retirement (HWR) study (see method section). This approach aimed to capture transitions into and out of retirement, rather than periods of bridge employment, job seeking, homemaking, or inactivity. Participants were eligible for inclusion into the study if they reported being fully retired in one wave of the survey, and then subsequently reported that they had returned to the labour market in full-time or part-time employment.

This research aimed to gain a better insight into unretirement, and the factors that predict unretirement. This will be helpful for gaining a better understanding of who is likely to return to work after retirement in Aotearoa New Zealand. Additionally, understanding reverse retirement may provide clues to further the research into the impact of retirement on health in Aotearoa New Zealand. An improved understanding of the relationship between unretirement and health could have implications for social policy regarding retirement, employment, and health of older adults in Aotearoa New Zealand.

1.6 Theoretical Perspectives of Retirement Reversal

The transition into retirement has been examined using many theoretical perspectives, with many adding value and no approach emerging as the dominant theory (Beehr, 2014). Some of the more common recurring theoretical approaches are continuity theory, role theory, life course perspective, and resource perspective. A simplified overview of these theoretical approaches will be presented within this section.

Continuity theory postulates that people will attempt to continue or maintain structures that are beneficial to their well-being over their lifetime (Atchley, 1982). Continuity theory would suggest that any new behaviour after retirement would be similar to the former activities prior to retirement. Thus, it would be expected that those who continue to maintain some kind of structure similar to their previous employment would experience better overall health and well-being (Wang & Shi, 2014). Retirement should not be a difficult transition, unless for some reason people have difficulty maintaining social and lifestyle patterns (Wang, 2007). Continuity theory would suggest that individuals may unretire in an attempt to maintain structures that are similar to old patterns and beneficial to their well-being.

Role theory postulates that roles and responsibilities contribute to maintaining a functional self-image. A person's investment within a specific role (e.g., work) contributes to an individual's self-worth, especially in regard to their competency and mastery of the position (Ashforth, 2000; Wang, 2007). The roles that an individual holds change as they transition to retirement. This transitional process involves the weakening or letting go of working, organisational, and career roles, and an increase in family and community roles (Barnes-Farrell & Matthews, 2007; Wang & Shi, 2014). The transition of roles in the retirement process is postulated to have a link with overall well-being. Substituting employment roles for those involving family, social, or leisure pursuits may contribute to maintaining or improving well-being. Furthermore, for people in stressful or burdensome jobs, their well-being may improve as a result of retirement (Adams et al., 2002; Wang, 2007). Conversely, role theory also proposes that the loss of the employment role may lead to anxiety and depression, leading to low levels of well-being for some people in retirement. The disruption of work roles that are at the core of one's identity may be detrimental to their overall well-being (Burke, 1991). One way that retirees can maintain a functional self-image is to engage in post-retirement employment. It has been shown that people who participated in bridge employment had better physical and mental health when compared to those who had fully retired (Zhan et al., 2009). Role theory would suggest that individuals may participate in unretirement behaviours in an attempt to maintain a functional self-image.

The above two theoretical perspectives promote individual action, which can be argued has an effect on the retirement transition process and retirement satisfaction. The following sociological perspectives (life course perspective and resource perspective) place greater emphasis on the role of societal and cultural normative expectations that influence retirement choices and outcomes.

Life course perspective considers transitions and trajectories over an individual's lifespan. Life course perspective takes into account an individual's history or changes in status over time. Aspects including individual attributes, status and roles, social context, and retirement timing are considered. The interdependence of work life spheres and non-work life spheres are important (Wang, 2007). The life course perspective suggests that many factors, such as socioeconomic, individual attributes, social qualities, and health factors, influence an individual to unretire and re-enter the workforce.

Resource perspective is used by researchers to understand what variables have an association with the retirement adjustment process (Wang et al., 2011). Resources can be understood as the total capacity an individual has access to in order to meet the needs that are of central importance to them (Hobfoll, 2002). Resources that make up an individual's total capability could include physical health, cognitive well-being, motivation, financial resources, social support, and emotional resources (Hobfoll, 2002; Wang et al., 2011). The fundamental idea of this perspective is that the ability to adjust to retirement is directly tied to the resources available. Leading to the idea that, if an individual has better access to resources, then adjustment to retirement will be easier. Alternatively, decreased resource availability will adversely affect an individual's adjustment to retirement.

1.7 Retirement Adjustment

Retirement adjustment is the term used in this study to conceptualise the major life transition that individuals go through when adapting from employment to a retired lifestyle. There seems to be multiple patterns of adjustment to retirement, suggesting that people who retire can have different adjustment or transition processes

(Wang, 2007). In most psychological research, retirement is described in a few recurring transitional frameworks. The more popular frameworks will be described. These are retirement as a decision-making process, retirement as an adjustment process, retirement as a career development stage, and a resource-based dynamic model of retirement.

One way that retirement can be understood is as a decision-making process. This conceptualisation emphasises the worker's motivated choice for retirement as a rationalised behaviour. Once a decision has been reached the worker will decrease their commitment to working and begin to withdraw from employment-related activities (Shultz & Wang, 2011; Wang & Shi, 2014). Understanding reverse retirement from a decision-making perspective postulates that re-entering the workforce after retirement is a decision made by the retiree. The individual's decision to participate in employment will be shaped by both personal and circumstantial factors (Shultz & Wang, 2011; Wang & Shi, 2014).

Retirement can be also understood as an adjustment process. This conceptualisation is drawn from life course perspective theory, continuity theory, and role theory. Utilising this conceptualisation, researchers focus on the transition from employment to retirement and the adjustment to post-retirement life. The areas of interest that are investigated are the preparation and timing of retirement, and the resources available for retirement (Shultz & Wang, 2011; Wang & Shi, 2014). People may try to mitigate the retirement adjustment process by continuing to participate in the workforce (e.g., bridge employment or unretirement) (Wang & Shultz, 2010).

Another way to conceptualise retirement is as a career development stage. Viewing retirement through this lens means that retirement is not the end of the career, but a later career stage that still holds potential for growth and development, and perhaps

renewal or change of focus (Wang & Shultz, 2010). Retirement as a career development stage pays more attention to how career goals may align with leisure activities in later life which helps inform retirement adjustment patterns and workforce participation (bridge employment or unretirement) in retirement. Wang and Shultz (2010) outlined three areas that influence career development in the retirement stage of life; these being the individual, the job, and the organisational levels. At the individual level, aspects such as physical and cognitive ageing, experience, and expertise are relevant. On the job level, keeping up with technology and changes, desirable job characteristics, and handling job stressors are important. Finally, at the organisational level, factors such as age discrimination, a decrease in demand for certain skill-sets, downsizing, and treating older workers with respect and dignity, are important factors which influence decisions to work after retirement (Wang & Shultz, 2010).

The resource-based dynamic model for retirement adjustment looks at retirement adjustment as something that fluctuates over time. The fluctuation is a function of the changing levels of an individual's resources. The total value of resources that an individual has to fulfil the needs that are centrally important to them (e.g., financial, motivational, physical, cognitive, emotional, and social resources) (Wang et al., 2011). This model predicts that the ease of retirement adjustment will be related to the resources that the retiree has access to. This model can be used as a framework to examine factors such as economic resources, physical health, and mental well-being in retirement and the factors that have led to those outcomes (Wang & Shi, 2014).

It may be presumed that reverse retirement, like other forms of bridge employment, will have an influence on the retirement adjustment process. For example, those who engage in bridge employment have been noted to have an improved health and

well-being, and better financial adjustment throughout the retirement transition process (Wang, 2007; Zhan et al., 2009).

1.8 Prevalence of Retirement Reversal

Although unretirement is a relatively new area of research, several studies have begun looking at the phenomenon of returning to work after retirement. There is variation amongst these studies on how prevalent unretirement is between countries. In the United States of America (USA), the amount of people returning to work after retirement is increasing. It is estimated that over a quarter of retirees return to work in some form within six years of retirement (Maestas, 2010). In Sweden, the rate of unretirement was estimated to be between six to fourteen per cent, depending on the definition of unretirement used (Pettersson, 2014). It is estimated that between five per cent and thirteen per cent of people in the United Kingdom (UK) return to employment post retirement within the first year (Kanabar, 2015; Pattani et al., 2004; Smeaton et al., 2018), with around one quarter of retirees returning over a longer period of time (Platts et al., 2019). This gives an indication that unretirement is not uncommon, and shows retirement can be a fluid and flexible process. It also suggests that retired people represent a large resource of potential skills and labour.

The variation in rates between countries gives an indication of structural and cultural differences that influence the retirement process. Smeaton et al. (2008) compared the rates of reverse retirement between Italy, England, and the USA. The main focus of interest was on those who had returned to work after a self-disclosed period of retirement. The three countries were picked for their unique economic and retirement welfare policies, as well as their cultural differences. Italy was used as a contrast to the USA and England as it has a much better net pension replacement rate. They utilised information

gathered by The Survey of Health, Ageing and Retirement in Europe (SHARE), The English Longitudinal Study of Ageing (ELSA), and the American Health and Retirement Survey (HRS). All three surveys collect information every two years on individuals over fifty years of age. The research was also able to draw on a qualitative aspect that attempted to grasp information into the differences between cultural attitudes and experiences of retirement. This gave further insight into the cultural difference in meaning and value that retirement had for people across the three different countries. The data indicated that reverse retirement is very uncommon in Italy, with rates of less than two per cent. Reverse retirement was most common in the USA, with unretirement rates closer to ten per cent. The English results were the middle ground, with rates at about six per cent (Smeaton et al., 2018). A number of key determinants of unretirement were identified. These factors will be elaborated on in the following section.

1.9 Predictors of Retirement Reversal

A wide range of factors influence an individual's decision to work after retirement. These can include a range of individual factors, family factors, and job predictors, as well as economic and policy influences (Beehr & Bennett, 2015; Fisher et al., 2016; Shultz & Wang, 2011; Smeaton et al., 2018).

Several studies have indicated that there are four key individual indicators that increase the probability of unretirement. These individual factors are being younger, being male, having higher levels of formal education, and good physical health. Good health is a constant factor across the studies and appears to be a crucial prerequisite to returning to work (Kanabar, 2015; Maestas, 2010; Pettersson, 2014; Platts et al., 2019; Smeaton et al., 2018). A Swedish study by Pettersson (2014), found that reverse retirees are more likely to be male, younger, and have higher education levels. In a UK study,

Platts et al. (2019) found that unretirement was more common for men, people who were highly educated, and people with better health. Similarly, Smeaton et al., (2018) found that being younger and male was a significant predictor in the USA, England, and Italy. Education levels were also positively related to reverse retirement in the USA and England (Smeaton et al., 2018). It seems likely that consideration of family circumstances would have some predictive qualities for determining who is likely to unretire. Factors that have been found to influence reverse retirement include the employment status of a partner, and caregiving responsibilities. Having a partner who is in paid employment has been shown to increase the chance of returning to work (Platts et al., 2019; Smeaton et al., 2018). Pettersson (2014) used relationship status to give an indication of lifestyle factors that influence unretirement rates. They reported that women were more likely to unretire if their husband was working, and less likely if their husband retired. Husbands were more likely to unretire irrespective of their wives' work status. Additionally, volunteering in retirement also increases the probability of returning to paid work (Smeaton et al., 2018). Unretirement rates decrease if the person has a partner who is unwell. Having caregiver responsibilities for a partner who is unwell and requires assistance decreased that probability of returning to work after retirement (Smeaton et al., 2018). This relationship exists with partners, but no such relationship was found amongst caregivers who had unwell parents who needed support (Gonzales et al., 2017).

Qualitative interviews found that reverse retirees had many similarities. They tended to stay local for work, work reduced hours, and on a flexible basis. Amongst Americans, work orientation, a desire to take on 'new' challenges, and their dissatisfaction with retirement motivated them to unretire (Smeaton et al., 2018). Americans tended to have more general anxiety about having enough money for retirement. In England most retirees identified themselves as retired and saw their income

from work as supplementary (Smeaton et al., 2018). This is consistent with suggestions that unretirement is a lifestyle choice, rather than a supplement for low income or other financial reasons (Maestas, 2010).

However, research has also found financial motivations for unretiring. Financial factors have been examined to see if there are economic reasons that predict who returns to work out of retirement. Income has been suspected as a predictive factor for reverse retirement. For example, in Sweden, increased pension income has been negatively correlated to unretirement. Also, those who were more likely to come out of retirement had increased taxable wealth, suggesting that there are financial reasons for unretirement (Pettersson, 2014). In England, lower incomes were not predictive of unretirement. However, English retirees who owned a home and had a mortgage were more likely to return to work after retirement (Platts et al., 2019; Smeaton et al., 2018). It was found that levels of mortgage debt were correlated with a return to work (Smeaton et al., 2018). Debt being predictive of retirement decisions is consistent with a Finnish study by Leinonen et al. (2020). They discovered that people who rent, as well as those with high levels of household debt, tended to remain in post-retirement employment for longer. Another economic factor that was linked to unretirement was an increase in the number of children. In particular, having children who were still under the age of thirty was predictive of unretirement (Smeaton et al., 2018). In the USA, debt was not found to be a significant predictor of returning to the workforce, but income was predictive of unretirement. A 'U' shaped relationship was found, with the middle-income earners tending to return to work, and the lower and higher income earners remaining in retirement. It was suggested that strong financial anxiety within the USA sample motivated a return to work (Smeaton et al., 2018).

In summation, there does appear to be a relationship between certain socioeconomic conditions that will increase the chance of returning to work after retirement. However, rates of unretirement are not higher for those in lower income groups with higher financial need. This raises concerns that unretirement is undertaken by people who are already in an advantaged position and potentially worsens income inequality for older adults (Platts et al., 2019). Reliance on employment for older adults may cause difficulties and hardships for those who are unable to find suitable work and has the potential to exacerbate social inequalities.

1.10 Retirement and Health

There is a great deal of heterogeneity in health for older people (Lowsky et al., 2014), and the physical and cognitive declines that occur for some with ageing must be acknowledged (Laurence & Michel, 2017). Retirement has clear associations with old age and regardless of the expected age-related declines, speculation that retirement is bad for your health is common and persistent. Research from population studies have even suggested that retirement may have an adverse relationship with health (Dave et al., 2008; Moon et al., 2012; Stenholm et al., 2014), with early retirement being associated with poorer health outcomes compared to those who retire on time (Calvo et al., 2013). It has been stated that the physical functioning of older adults declined faster for retirees compared to those in full-time employment, and these differences could not be explained by controlling for chronic illness and lifestyle risks (Stenholm et al., 2014). There was also a link between retirement and an increase in cardiovascular disease (stroke or acute myocardial infarction) (Moon et al., 2012). Leading some researchers to postulate that retirement lifestyle changes, including a decline in physical activity and social interaction, may be underlying retirement health problems (Dave et al., 2008; Stenholm et al., 2014).

While it may be possible that the impact of retirement on health is mitigated by delaying retirement, it is not possible to rule-out reverse causation. For this reason, the circumstances of retirement are an important consideration. Worse post-retirement health outcomes may be predicted by retirement due to poor health, not by the age or timing of retirement (Dave et al., 2008; Iveson & Deary, 2019). In Aotearoa New Zealand, a strong link between poor health and retirement was observed (Pond et al., 2010). Additionally, those people who have involuntarily retired were found to have worse health outcomes (Dave et al., 2008). It was postulated that those who are not feeling well are self-selecting into retirement or being pushed into involuntary retirement (Dave et al., 2008; Moon et al., 2012).

In conflicting studies on retirement there has been little evidence of negative health effects (Bound & Waidmann, 2007; Mein et al., 2003; Sewdas et al., 2020). Encouragingly, Jokela et al. (2010) found those who have retired for poor health or statutory reasons did demonstrate improvements in their health after retirement, indicating that retirement due to poor health is a selective process and the retirement process is not a causative factor of health declines (Jokela et al., 2010). Also, there is emerging evidence that there are health benefits resulting from retirement, suggesting that early retirement can slow health decline (Bloemen et al., 2017; Eibich, 2015). This is supported by research from Marshall and Nazroo (2016) who indicated that health decline is slowed in people retiring from unfavourable circumstances (e.g., physically demanding jobs, or lower social class). Similar results were found in France, where retirement improved health in all people except those that came from ideal working conditions (Westerlund et al., 2009).

While physical and cognitive performance deteriorate with age, studies have found mixed results on the impact of ageing on mental health. Some researchers have found a paradoxical relationship, with mental health improving with age (Lorem et al., 2017; Thomas et al., 2016). Some researchers have described a 'U' shaped trajectory, where mental health declines from early adulthood to middle age, then improves as an older adult (Blanchflower & Oswald, 2008; Jeste & Oswald, 2014; López Ulloa et al., 2013; Stone et al., 2010). Other studies report that mental health has a flat trajectory, or a linear trajectory that improves or declines with age (Charles et al., 2001; López Ulloa et al., 2013). The variation between researchers may be due to inconsistencies in the measures used, with some looking at general well-being, and others looking at more specific domains of mental health (Springer et al., 2011). A systematic review of literature conducted on the relationship between retirement and mental health concluded there is strong support that retirement has a beneficial impact on mental health (van der Heide et al., 2013), and retirement has been associated with beneficial effects on cognitive functioning and improved mental health (Coe et al., 2012; Mein et al., 2003).

As discussed, the research into the influence of retirement on health has had varied results. With some studies indicating that retirement is related to poorer health outcomes and other studies showing positive health outcomes. This variation could be due to differences in the samples studied, hence considering demographic factors is important when conducting research on retirement and health (Iparraguirre, 2014; Sewdas et al., 2020; van der Heide et al., 2013).

Education is one demographic factor that appears to correlate to post-retirement health. Higher education has been linked to better retirement health outcomes (de Breij et al., 2020; Eibich, 2015). Childhood cognitive ability is another good predictor

of retiree health outcomes (Iveson & Deary, 2019). However, people with lower education levels were also found to have improved physical health after retirement (Eibich, 2015). Improvement in perceived health was strongest for those in physically demanding jobs. It was postulated that this might be due to relief from demanding roles, more sleep, and better engagement in physical activities (Wang, 2007; Westerlund et al., 2009).

Retirement health has also been shown to have a relationship with economic factors (de Breij et al., 2020; Jokela et al., 2010; Stephens et al., 2011; Wang, 2007). Within Aotearoa New Zealand, Stephens et al. (2011) analysed data from the HWR study and found that economic living standards (subjective socioeconomic status) remained a strong influence on health in old age. There is a perceived improvement in social economic circumstances after the age of 65 as a result of the universal superannuation scheme. Stephens et al. (2011) stated that perceived subjective socioeconomic status remained a strong influence on health in old age. Further support for the importance of considering socioeconomic and demographic factors has been uncovered by Szabo et al. (2019) in Aotearoa New Zealand, who found that retirement was helpful for those with worse health and less access to resources. Conversely, those described as healthy and wealthy had declining health after retirement (Szabó et al., 2019). These findings have a basis in resource theory, which suggests that disadvantages across the life course of an individual can lead to fewer social, economic, and health reserves. Countries with higher social expenditure on health, housing, education, and other areas are associated with better self-reported retirement health outcomes (de Breij et al., 2020). It has been suggested that, once socioeconomic and pre-existing health factors are taken into account, extending working lives beyond the age of pension entitlement probably does not have health benefits (Di Gessa et al., 2017). Relief from unfavourable working circumstances,

as well as financial assistance in the form of a superannuation scheme or retirement pension may help to ease disadvantages. Furthermore, increases in the age of eligibility for pension schemes could lead to increased inequality for already disadvantaged individuals (Marshall & Nazroo, 2016).

1.11 Reverse Retirement and Health

The relationship between retirement and health is complicated. However, the relationship between reverse retirement and physical health appears to be more straight forward. Those who unretire are usually in better health than those who remain retired. This has been repeatedly demonstrated in international research from a range of countries, including Sweden, England, USA, Germany, Canada, and the Netherlands, (Fasbender et al., 2015; Kanabar, 2015; Maestas, 2010; McDonald, 1997; Pettersson, 2014; Platts et al., 2019; Schuring et al., 2013; Smeaton et al., 2018). Those that are healthy appear to be in a better position to make reverse retirement decisions and re-enter the workforce. Ailing health may make it difficult to re-engage in the workforce and ill health can lead to labour force exits that may never be reversed (Pettersson, 2014).

Almost all research to date has looked at health as a predictive factor of reverse retirement decisions, with most research ignoring the effects that unretirement may have on health. As such, there is very little information on the impact of reverse retirement on health (Silver et al., 2018). A study by Silver et al. (2018) acknowledged this gap and looked at the impact of returning to work after retirement on self-rated health and depressive symptoms in the USA. An interesting aspect of Silver et al. (2018)'s study was the inclusion of depressive symptoms into their research, as mental health has mostly been overlooked in research on reverse retirement. They found returning to work had benefits on health, especially for reducing depressive symptoms.

There have been no studies in the Aotearoa New Zealand context that have looked at the physical or mental health of older adults who return to work after retirement in Aotearoa New Zealand.

1.12 Summary

Aotearoa New Zealand currently faces an ageing population, and the workplace participation rates of older adults have been increasing rapidly, more than doubling in the last two decades (Statistics New Zealand, 2016). Older adults are staying in employment longer and it is becoming clear that retirement is not a clean-cut process, but rather a dynamic one with people often taking various forms of employment during the retirement process or after retirement (Beehr & Bennett, 2015). Research into the topic of reverse retirement is sparse, but there is growing interest in the area. Most of the research to date has focused on the prevalence of unretirement, and the individual factors that make it more probable that someone may unretire. The health outcomes of unretirement have had less attention. This study saw an opportunity to replicate the international studies on reverse retirement in the Aotearoa New Zealand context, with the additional focus on what influence unretirement has on the health and well-being of older adults.

1.13 Research Aim

The aim of this research was to explore the phenomenon of unretirement in the Aotearoa New Zealand context. There was limited theoretical work on this topic within Aotearoa New Zealand, so the research was considered exploratory. This research aimed to investigate whether reverse retirement was happening and what proportion of older adults were unretiring within Aotearoa New Zealand. The characteristics of the

sample were examined to ascertain which factors increase the likelihood of somebody returning to the workforce after retirement. Finally, the study looked at the physical and mental health of the reverse retirees to further inform the literature on how the retirement process impacts health and well-being. The following section outlines the research questions and provides the key research hypothesis based on the literature reviewed.

1.13.1 Research Questions

1. How prevalent is the phenomenon of unretirement in Aotearoa New Zealand?

2. What are the factors that increase the likelihood of unretirement in Aotearoa New Zealand?

3. What impact does returning to the workforce after retirement have on physical and mental health?

1.13.2 Hypotheses

1. There will be demographic and health related reasons for retirement. As previously indicated in the literature review, there are four key individual indicators that increase the probability of unretirement. These individual factors are being younger, being male, having higher levels of formal education, and being in good health (Pettersson, 2014; Platts et al., 2019; Smeaton et al., 2018).

H1a: Age. The group of reverse retirees will be on average younger than those who remain retired.

H1b: Gender. Males will be more likely than females to undertake reverse retirement.

H1c: Education. Levels of education will be associated with unretirement behaviour. It is expected that higher levels of education will be associated with higher rates of unretirement.

H1d: Physical health. On average, those who report better physical health at baseline (T1) will be more likely to engage in unretirement behaviour at T2.

H1e: Mental health. On average, those who report better mental health at baseline (T1) will be more likely to engage in unretirement behaviour at T2.

2. There will be financial or economic factors that will influence unretirement behaviour. Levels of economic well-being will influence decisions to unretire. It is noted that those with higher levels of income or taxable wealth would be more likely to unretire (Pettersson, 2014; Platts et al., 2019). Additionally, it was found that mortgage debt was predictive of returning to work after retirement. Retirees who owned a home and had a mortgage, were more likely to undertake reverse retirement than those who owned a home without a mortgage (Platts et al., 2019; Smeaton et al., 2018).

H2a: Economic Living Standards. Reverse retirees will have higher baseline rates (T1) of economic well-being when classified using the Economic Standard of Living Index (ELSI-Sf).

H2b: Home ownership. There will be a relationship between baseline housing tenure (T1) and reverse retirement outcomes (T2). Individuals who own their own homes, mortgage-free, will be less likely to unretire. On the contrary, those who have outgoings in the form of mortgage payments, or rent, will unretire at a higher rate.

3. Research from population studies have suggested that retirement may have an adverse relationship with health (Dave et al., 2008; Moon et al., 2012; Stenholm et al., 2014). Leading some researchers to postulate that retirement lifestyle changes, including a decline in physical activity and social interaction, may be underlining retirement health problems (Dave et al., 2008; Stenholm et al., 2014). There is limited information on the impact of returning to work after retirement on health. One of the few studies by Silver et al. (2018) found that returning to work had benefits on health, especially for reducing depressive symptoms

H3a: Physical health outcomes for the unretired. Reverse retirement will be related to improved physical health outcomes when compared to those who have remained retired.

H3b. Mental health outcomes for the unretired. Reverse retirement will be related to improved mental health outcomes when compared to those who have remained retired.

Chapter 2: Method

2.1 Research Background

This chapter provides an overview of the research design, the survey sample, variables and measures, and the statistical data analysis procedures that were utilised in this study.

This study was a secondary analysis of information collected for the Health, Work and Retirement (HWR) study. The HWR is a longitudinal research project that has been conducted by Massey University's Health and Ageing Research Team (HART). The Health and Ageing Research Team (HART) was established in 2004 in the School of Psychology at Massey University. The HWR was designed to be similar to other international studies of older adults and ageing, such as the US Health and Retirement Study, and the English Longitudinal Study of Ageing. In 2005, initial funding was received from the Health Research Council of New Zealand to create and carry out the HWR study. The HWR aims to identify psychosocial factors that are related to health and well-being in older adults. Of particular interest to the HWR study is understanding how the transition from the workforce into retirement impacts the well-being and independence of older people in Aotearoa New Zealand. This sample of older adults gives a unique insight into the key transitions that occur in later life.

The participants in the HWR sample are randomly selected from the Aotearoa New Zealand electoral roll. People of Māori descent are over-sampled to ensure that there is adequate representation of this group within the research.

Fundamentally, the HWR operates as a biennial postal survey with the basic aim to capture information on the experience of ageing within three domains: health and

well-being (physical, cognitive, emotional), social participation (family support, social capital participation), and economic participation (meaning of work, employment, retirement) (see Appendix A). Additionally, each survey contains a more in-depth section pertaining to a currently relevant area of focus within Aotearoa New Zealand, such as: work and retirement (2006), retirement planning (2008), social connectedness (2010), living standards (2012), nutrition (2014), housing and neighbourhood quality (2016), and older workers (2018, 2020). The HWR study has also included off-wave surveys on retirement (2009) and social connectivity (2013), cognitive assessments (2010, 2012), qualitative interviews on a range of topics, telephone interviews, an online survey pilot, and permission to link study data with the anonymised national health and mortality records.

The HWR research has been funded by the Health Research Council of New Zealand, the Foundation for Research, Science, and Technology, the Ministry of Science and Innovation, the Ministry of Business, Innovation and Employment, and the New Zealand Earthquake Commission. Ethical Approval was granted by the Massey University Human Ethics Committee: Southern B, Application 13/30; Southern A Application 15/72.

2.2 Data

As of 2020, there have been over twelve thousand individuals who have participated in the HWR study. The participants in the HWR study are drawn from the Aotearoa New Zealand electoral roll. The Aotearoa New Zealand electoral roll is a representative source of participants as it is compulsory for all Aotearoa New Zealanders eligible to vote to be registered on the electoral roll. Participants are approached every second year to complete the HWR survey. A random sample of people aged 55-70 years

of age was initially recruited in 2006 (n=6,661). Further participant cohorts have been added over time to maintain the capacity of the study and to broaden its scope. Extra cohorts of people aged 50-55 years and 80-84 years were recruited in 2009 (n=1,980), and 2010 (n=568). Additional participants sampled in 2014 (n=773), and 2016 (n=1,271) were 55-65 years of age. The 2018 survey saw the addition of more recruits (n=598) that were aged between 55-57 years. The most recent cohort to be recruited was the 2020 refresh, which targeted persons aged 55-65 years old (n=871).

This current study used data from HWR participants from the 2006 - 2020 waves of data collection. Of particular interest were those participants who had indicated that they had retired, and those who had transitioned from retirement back into the workforce.

2.3 Procedure

Since 2006, postal surveys have been carried out on a biennial basis to collect data for the HWR. The initial method of data collection was based on the Tailored Design Method. This approach utilised a five-stage posting schedule and incorporated more than one contact point between researchers and the study participants to maximise response return rates. A brief letter was the first point of contact, the contents of the letter informed the potential participant of the study and that a postal survey would be sent to them shortly after. The second point of contact was a cover letter, letter of consent, and the postal survey/questionnaire. The consent form covered the rights and expectations of the participants and requested consent for face-to-face interviews for future research. A postcard expressing gratitude was the third point of contact for those who had completed the survey, reminders were sent to everyone else who had yet to complete the questionnaire. Replacement questionnaires were sent to those who needed a fourth point

of contact to encourage them to participate. The fifth and final point of contact consisted of further reminders to try and encourage participation in the survey.

2.4 Measures

2.4.1 Variables

Reverse Retirement: Following the Platts et al. (2019) definition, reverse retirement is defined as the full or partial reversal of a retirement transition. Within each survey, participants are asked to report on their employment status. Participants report on whether they are employed (either full-time or part-time employment), retired, a homemaker, unemployed, or involved in 'other' employment. Survey data from 2006 to 2020 was used to look for evidence of unretirement or reverse retirement transitions. Participants were categorized into two main groups. Participants were identified as being fully retired if they had indicated that they had been retired in a previous survey and had then reported that they had remained retired in a subsequent survey (retirement group). This method of capture was chosen to ensure that the retirement group was as inclusive as possible, as to not exclude anyone transitioning from anything other than employment into retirement. Reverse retirement was operationalised as an event that occurs if a participant had indicated that they were retired in a previous survey and had indicated they had resumed full-time or part-time employment in a subsequent survey (unretirement group).

2.4.2 Covariates

Between 2006 and 2020, participants have provided socio-demographic information when completing the HWR survey. The socio-demographic information

captured includes age, gender, ethnicity, marital status, highest education achievement, home ownership status, and economic living standards.

Participant age was recorded as their age at the time of taking the HWR survey. This was calculated by subtracting the participants' year of birth from the survey year.

Gender was indicated by participants as male/tāne, female/wāhine, or gender diverse.

Ethnicity was indicated by the participants. Ethnicity was categorised as: New Zealand European; Māori; Pacific Islander; Asian, Middle Eastern, Latin American, or African (MELAA); or 'Other'. Where more than one ethnicity was indicated, participants were prioritised to a single category based on prioritisation rules. The priority was allocated in the following order: Māori, Pacific Islander, Asian, MELAA, New Zealand European, and 'Other' (Ministry of Health, 2004).

Marital status was indicated within five categories: legally married, civil union/de facto/partnered relationship, single, divorced or permanently separated, and widower/widow.

Highest educational achievement was indicated within four category options: No qualifications; secondary school qualifications; post-secondary certificate, diploma, or trade diploma; and university degree.

Economic well-being was measured using the Economic Living Standards Index Short Form (ELSI-Sf). The ELSI-Sf is a 25-item shortened form of the 40 item Economic Living Standards Index (ELSI). The ELSI is an Aotearoa New Zealand

measure originally developed by the Ministry of Social Development (Jensen et al., 2002). Within Aotearoa New Zealand, older adults are able to access a universal superannuation scheme. Due to this universal payment, income may not be an accurate reflection of the adequacy of a person's material wealth. Thus, the levels of economic living standards are considered a good measure to assess the material wealth of older Aotearoa New Zealand adults (Jensen et al., 2005). Rather than being a measure of resources, such as income or asset accumulation, the items within the scale survey assess levels of consumption, personal belongings, restrictions on social participation, parsimony, and self-ratings of living standards (Jensen et al., 2005). Jensen et al. (2005) demonstrated strong construct validity and reliability of the ESLI-Sf. Additionally the Cronbach alpha coefficient was found to be 0.88 which indicates good internal consistency (Jensen et al., 2005).

Home ownership arrangements were indicated by the survey participants. Housing tenure was coded into five categories. Participants indicated whether their primary residence was either owned with a mortgage, owned without a mortgage, owned by family or family trust, or rented. A category of ‘other’ captured those who did not fit into one of the aforementioned groups. Of note, home ownership information was not collected in the 2006 or 2008 waves of the HWR survey, making housing tenure the only variable in this research where a full dataset was not available. Where data was missing or inconsistencies were observed, information was taken from the nearest survey wave. If housing tenure information was completely absent across survey waves, the participant was categorised as ‘other’.

Physical and mental health was assessed through the Medical Outcomes Study Short Form (12) Version Two Health Survey (SF-12v2). The SF-12v2 is a

multipurpose 12-item measure that cavasses eight domains of physical and mental health. The measure is scored and weighted; and provides two component scores. The Physical Component Summary Score (PCS) and the Mental Component Summary Score (MCS) (Cheak-Zamora et al., 2009). The PCS items assess physical ability, limits on ability to perform usual roles, general health, and pain. The MCS scores are an assessment of feelings of calm, vitality, and depression, limits on ability to perform usual roles, and interference with social life.

Validity of the SF-12v1 was demonstrated by comparison with the larger 36-Item Short Form Survey (SF-36) measure. The SF-12 produced T squares of 0.911 and 0.918 in prediction of the PCS and MCS summary scores in the SF-36 (Ware et al., 1996). Test-retest with a two-week interval gave correlations of 0.89 for PCS and 0.76 for the MCS. The SF-12v2 has been standardised for Aotearoa New Zealand normative physical and mental health scores, this was achieved using information from the 2008 New Zealand General Social Survey and factor score coefficients from the 2006-07 New Zealand Health Survey (Frieling et al., 2013).

2.5 Data Analysis

Statistical analyses were completed using IBMS SPSS Version 26. The composition of the sample was evaluated using descriptive statistics and frequencies. Chi-Square tests of independence and independent samples t-tests were used to test bivariate relationships. Binomial logistic regressions were utilised to examine the bivariate and multivariate assumptions. Paired samples t-tests were conducted to compare physical and mental health status over time. Finally, a hierarchical multiple regression was performed to assess the relative contribution of the significant bivariate predictor variables.

Descriptive statistics and bivariate relationships were tested with original categorical variables. In order to conduct multiple regression analyses, the categorical variables required recoding into dichotomous variables (Tabachnick & Fidell, 2013). The independent variables that required transformation were gender, ethnicity, marital status, education, and home ownership status. Gender was already dichotomous as no gender diverse participants were identified in the final sample. Ethnicity was collapsed into two groups: 1 = Māori, and 2 = non-Māori. Non-Māori was inclusive of New Zealand European, Pacific Islander, Asian, MELAA, and 'Other'. Marital status was categorised into two groups: 1 = Married/de facto, and 2 = not married/de facto. Education was consolidated into two groups, with 1= no formal qualification and secondary school qualifications, and 2 = post-secondary school qualification (inclusive of post-school qualifications and tertiary qualifications). Home ownership tenure was also consolidated into two categories. Further analysis of this variable occurred to justify the forming of the dichotomous housing variable. To inform the decision a one-way between subjects ANOVA was conducted to compare the effect of housing tenure on economic well-being (ELSI-Sf). There was a significant effect of housing tenure on ELSI-Sf, ($F(4, 1499) = 41.02$, $p = .000$). Post hoc tests using Bonferroni correction revealed no significant difference in ELSI-Sf between ownership without a mortgage ($M=25.38$, $SD=4.58$) and ownership by a family or family trust ($M=25.43$, $SD=4.79$) (see Appendix B). The final dichotomous groups were categorised as: 1 = home ownership without a mortgage, including owned by family or family trust, and 2 = all other forms of housing tenure (inclusive of ownership with a mortgage, rented accommodation, and any 'other' forms of housing).

Chapter 3: Results

3.1 Data Screening

The final sample group consisted of HWR participants from the years 2006, 2008, 2010, 2012, 2014, 2016, 2018, and 2020. The off-wave survey years (2009 and 2013) were excluded. The participants were selected for the final sample through inclusion into two main groups. Participants were categorised as ‘unretired’ if they had indicated that they were retired in a previous survey and then indicated they had resumed full-time, or part-time, employment in an immediately subsequent survey. Participants were categorised as ‘retired’ if they had indicated that they had been retired in a previous survey and then indicated that they had remained retired in an immediately subsequent survey.

3.1.1 Missing Data

Prior to analysis, data was inspected for accuracy, missing values, and the nature of the variables were explored. Missing data from categorical variables such as gender, ethnicity, marital status, and education level was backfilled using information from other survey waves where appropriate. When backfilling, if changes or inconsistencies in the information were noticed in other survey waves, the variable was coded using the information provided nearest to the wave that granted them inclusion to the final sample group.

The missing data ranged between 0.0% - 7.2% on each key variable. Missing data can be described by three patterns. It may be missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR) (Tabachnick & Fidell, 2013). The dataset underwent a missing values analysis to understand the

pervasiveness of the missing data. Twenty-one participants were missing key information from three out of the four continuous independent variables (age, ELSI-Sf, Sf-PCS, and Sf-MCS). The 21 participants who were missing over 50% of this important continuous variable data were removed from the whole sample.

Little's MCAR test was utilised, and it demonstrated that there was a significant effect (χ = 11.702, df = 3, p = 0.008), suggesting ELSI-Sf, Sf-PCS, and Sf-MCS were not missing completely at random. Further tests were carried out to determine the pattern of missingness. Dichotomous dummy variables were created for ELSI-Sf, Sf-PCS, and Sf-MCS. None of the Chi-square tests for independence demonstrated a significant relationship between the missing data and the dependent variable. Furthermore, independent t-tests showed that there were no significant relationships between the missing continuous variables. As Little's MCAR was statistically significant, but there was no relationship between missing data, non-missing data, and the dependent variable, the data can be inferred to be MAR (an ignorable nonresponse). Based on the missing data analysis, a decision was made to apply the Expectation Maximization (EM) technique to estimate the missing values. EM works by assuming the shape of the distribution and making inferences on the missing values. It is an iterative procedure that imputes a value based on other variables (expectation), then checks for the likelihood of that value (maximisation) until convergence is achieved. EM imputation has the advantage of using all the data that is available and works with the assumption that data is missing at random (MAR) (Tabachnick & Fidell, 2013). Reassuringly, the EM technique for missing data is the same method that was used by Platts et al. (2019) in their investigation of unretirement behaviour.

3.1.2 Outliers

Continuous data were considered to be potential univariate outliers if the z scores were above 3.29 ($p < .001$, two-tailed) (Tabachnick & Fidell, 2013). Under these conditions, five participants scored above the threshold for age. These participants were aged 85.19 or above and were removed from the distribution. Normality was assessed using histograms. Age was shown to have a small peak over the age of 80 years old which impacted the distribution curve. According to the research conducted by Platts et al. (2019), no unretirement events were observed 15 years after retirement. For this research it was decided that a cut off age of 80 years (15 years past superannuation eligibility age) would be appropriate and would also remove the abnormality in the distribution curve.

Multivariate outliers were evaluated using Mahalanobis Distance for the continuous variables (age, ELSI, PCS, MCS). Alpha was set at a conservative level of $p < 0.01$. A total of 15 multivariate outliers were detected using this method. Upon further examination of the histograms and descriptive statistics it was decided that the outliers were not detached from the distribution. A decision was made to keep the outliers to retain as much information in the dataset as possible.

3.1.3 Assumptions of the Multivariate Analyses

The sample distribution was assessed for normality, linearity, and homoscedasticity through examination of histograms, skewness, kurtosis, and normal probability plots. Negative skewness and positive kurtosis indicated a departure from normality for ELSI-Sf, MCS, and PCS. However, as the sample size is considered large, the departure from normality is less problematic according to the Central Limit Theorem (Hoeffding & Robbins, 1948).

A Test of Homogeneity of Variances demonstrated that the dependent variables (retired or unretired) were approximately the same across all independent variables. This indicated no significant difference between dependent variable groups despite ELSI-Sf, Sf-MCS, and Sf-PCS not following a normal distribution. Homoscedasticity and linearity were evaluated by observation of residual scatterplots. These indicated that the dependent variable was linearly related to the independent variables.

Multicollinearity issues were not detected in the sample. Table 1 presented below is a correlation matrix that shows the relationship between all the dichotomous and continuous variables used in this study. There were a number of small but significant correlations between the variables. This indicated that the variables chosen were related, but not so strongly as to cause problems with multicollinearity. The correlation coefficients that were highly correlated were between the Physical Health Component Score (Sf-PCS) at baseline (T1) and T2. The Mental Health Component Score (Sf-MCS) was also moderately correlated between T1 and T2. This was to be expected as they are measuring the same construct at different time points. Other moderate correlations worth noting were between Economic Living Standard Index (ELSI-Sf) and Sf-PCS at T1 and T2, as well as ELSI-Sf and Sf-MCS at T1 and T2. Finally, there was a moderate correlation noted between Sf-MCS (T1) and Sf-PCS (T2).

Table 1

Correlation Matrix for all Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Unretired/Retired	1											
2. Age	.112**	1										
3. Gender^	.047	-.75**	1									
4. Māori/non-Māori^	.045	-.069**	-.015	1								
5. Marital Status^	.019	.151**	.142**	-.111**	1							
6. Education^	-.022	-.030**	.068**	-.095**	-.085**	1						
7. Home Ownership^	-.097**	-.051*	-.003	-.197**	.169**	-.053*	1					
8. ELSI-Sf	-.004	-.019	-.052*	.171**	-.224**	.115**	-.305**	1				
9. Sf-PCS (T1)	-.069**	-.151**	.012	-.155**	-.108**	.134**	-.197**	.361**	1			
10. Sf-PCS (T2)	-0.75**	-.155**	.012	.128**	-.083**	.125**	-.172**	.313**	.740**	1		
11. Sf-MCS (T1)	-.007	-.025	.011	.080**	-.108**	.119**	-.190**	.376**	.294**	.330**	1	
12. Sf-MCS (T2)	-.019	-.012	-.003	.076**	-.089**	.114**	-.149**	.338**	.291**	.237**	.595**	1

N=1504, **. $p < 0.01$ level (2-tailed), *. $p < 0.05$ (2-tailed); ^ dichotomised variables

3.2 Sample Description

The final sample consisted of a total of 1,504 participants (*N*=1,504). The ages of the participants ranged from 53 to 79 years old. The mean age of this sample was 67.34 (*SD* = 4.59) (see Table 2).

Table 2

Descriptive Statistics for Continuous Variables for the Sample

Continuous Variables	Mean	*SD*
Age	67.34	4.59
ELSI-Sf	24.50	5.32
Sf-PCS (T1)	45.36	10.02
Sf-PCS (T2)	44.71	10.43
Sf-MCS (T1)	50.77	9.30
Sf-MCS (T2)	50.89	9.26

Notes: *N* = 1,504. No missing data.

The demographics of the sample participants are reported in Table 3. The sample was slightly biased toward females/wāhine at 55.1% (*N*=828), compared to males/tāne at 44.9% (*N*=676).

The majority of the sample identified their ethnicity as NZ European (65.7%, *N*=988). Over a quarter of the participants identified as Māori (28.4%, *N*=427). Pacific People, Asian, and other ethnicities rounded out the sample (5.9%, *N*=89).

Over three quarters of the sample were partnered, with 76.3% reporting that they were either married or in a de facto relationship (*N*=1148).

The group's level of educational achievement was well represented across the four categories. Those with tertiary qualifications made up the smallest group at

16.4% (*N*=247) of the final sample. The largest group were those who had completed post-secondary school/trade qualification with 32.8% (*N*=493). Just under a quarter (23.6%) had completed secondary school (*N*=355), and just over a quarter of the group, 27.2%, had no academic qualification (*N*=409).

Table 3

Descriptive Statistics of Categorical Variables for the Sample

Categorical Variables		Number	Percentage
Gender	Male/tāne	676	44.9%
	Female/wāhine	828	55.1%
Ethnicity	NZ European	988	65.7%
	Māori	427	28.4%
	Pacific Peoples	6	0.4%
	Asian	8	0.5%
	MELAA	0	0.0%
	Other	75	5.0%
Marital Status	Married or de facto	1148	76.3%
	Not married or de facto	356	23.7%
Highest Educational Achievement	No qualifications	409	27.2%
	Secondary school	355	23.6%
	Post-secondary/trade	493	32.8%
	Tertiary	247	16.4%
Home Ownership Status	Home with mortgage	149	9.9%
	Home without mortgage	930	61.8%
	Family Trust	229	15.2%
	Rented	102	6.8%
	Other arrangements	94	6.3%

Notes: *N* = 1,504. No missing data.

In regard to housing tenure, almost two thirds (61.8%) of the sample owned a home without a mortgage (*N*=930), and homeowners who still had a mortgage totalled 9.9% of the final sample (*N*=149). Family trust arrangements made up another 15.2% of the group (*N*=229). Rental agreements accounted for only 6.8% of the sample (*N*=102), and other arrangements rounded out the group with 6.3% of the final sample (*N*=94) (see Table 3).

3.3 Bivariate Analyses

3.3.1 Prevalence of Unretirement

The first research question addressed the prevalence of unretirement within Aotearoa New Zealand. The sample consisted of two groups, those who were identified as retired, and those who had indicated they had retired, and then returned to either part-time or full-time employment in a subsequent wave of the survey. In total 190 participants were observed to return to employment after retirement (unretired, *N*=190), equating to 12.6% of the final sample (*N*=1,504).

3.3.2 Predictors of Unretirement

The second research question was to explore the factors that increase the likelihood of unretirement in Aotearoa New Zealand. Descriptive statistics and frequencies were evaluated. Pearson's Product Moment Correlation and independent samples t-tests were utilised to examine bivariate relationships.

H1a: Age. It was hypothesised that the group of reverse retirees would be on average younger than those who remain retired.

An independent-samples *t*-test was conducted to compare age for the unretired and the retired conditions. There was a significant difference in the age of the unretired and retired sample groups (see Table 4). The unretired group ranged from 54 to 78 years of age and the mean age for those in unretirement was 65.99 years old (*SD*=5.33). The retired group ranged from 53 to 79.85 years old and had a mean age of 67.54 years (*SD*=4.44); $t(1502) = -4.38$, p=.000. The hypothesis that the unretired sample would be on average younger than those who remained retired was supported.

H1b: Gender. It was hypothesised that males would be more likely to unretire than females. A chi-squared test of independence was performed to examine the relation between gender and unretirement. There was a slight trend towards males returning to work at a higher rate with 14.3% of males unretiring, compared to 11.2% females. However, the difference was not statistically significant ($\chi^2(1, N=1504) = 3.27$, p=.070). This hypothesis was not supported.

H1c: Education. It was expected that education would play a role in the decision to return to work after retirement. It was hypothesised that people with higher levels of educational achievement would unretire at a higher rate. A chi-squared test of independence was performed to examine the relationship between education and unretirement. There was no significant relationship between education and unretirement within the sample ($\chi^2(3, N=1504) = 3.56$, p=.313). This hypothesis was not supported.

H1d: Physical Health. It was expected that people with better physical health would be more likely to return to work. An independent samples t-test was conducted to compare Physical Component Scores (Sf-PCS) for the unretired and the retired sample at baseline (T1) (see Table 4). There was a significant difference in physical health scores between those who remained retired and those participants in the

unretired group. For the unretired group, the mean score was 47.18 (*SD*=9.91) compared to 45.10 (*SD*=10.01) for the retired group; *t*(1502)=2.68, *p*=.007 (see Table 4). The hypothesis that people with better physical health would be more likely to return to work was supported.

H1e: Mental health. It was expected that people with better mental health would be more likely to return to work. An independent samples t-test was conducted to compare Mental Component Scores (Sf-MCS) for the unretired and the retired sample at baseline (see Table 4). There was no significant difference in mental health scores at baseline between those who remained retired (*M*=50.79, *SD*=9.29) and those who unretired (*M*=50.59, *SD*=9.34), *t*(1502)=-.279, *p*=.78. This hypothesis was not supported.

The demographic variables of ethnicity (χ^2(4 *N*=1504) =6.92, *p*=.140) and marital status (χ^2(1 *N*=1504) =.526, *p*=.468) were not associated with returning to work after retirement.

H2a: Economic Living Standards. It was hypothesised that reverse retirees would have higher rates of economic well-being at baseline as calculated by the Economic Standard of Living Index. An independent samples t-test was conducted to compare The Economic Living Standards Index Short-Form (ELSI-Sf) score for the unretirement and retirement conditions at baseline (see Table 4). There was no significant difference between the ELSI scores for the unretired (*M*=24.55, *SD*=4.84), and the retired (*M*=24.49, *SD*=5.39) groups; *t*(1502)=.139, *p*=.890. The hypothesis that perceived economic well-being would have an association with unretirement was not supported.

H2b: Home ownership. It was hypothesised that there would be a relationship between home ownership without a mortgage and reverse retirement. It was

expected that individuals with mortgage-free homes would be less likely to return to work, and those with outgoings such as a mortgaged home or rent would be more likely to unretire after retirement. A chi-squared test of independence was performed to examine the relationship between housing tenure and unretirement. It was found that mortgage debt was associated with unretirement. Unretirement was more common for those who indicated they had mortgage debt on their home. Proportionally 22.8.% of those with mortgage debt unretired, compared to only 9.7% of those with no mortgage debt. Participants who lived in homes owned by family trusts were likely to unretire at a rate of 15.7%, and those who rented unretired slightly less frequently than those with mortgages at 20.6%. The remainder categorised in other living situations unretired around 9.6% of the time (χ^2(4 N=1504) =29.99, p= .000). The hypothesis that home ownership without a mortgage would be related to returning to work after retirement was supported.

Table 4

Results of t-tests for Continuous Variables with Retirement Status as the Dependent Variable

	Unretired		Retired		
	Mean	SD	Mean	SD	*t*-test
Age	65.99	5.335	67.54	4.44	-4.38**
ELSI-Sf	24.55	4.840	24.50	5.39	.139
Sf-PCS (T1)	47.18	9.91	45.10	10.01	2.68**
Sf-PCS (T2)	46.76	9.47	44.42	10.53	2.90**
Sf-MCS (T1)	50.59	9.34	50.79	9.29	-.279
Sf-MCS (T2)	51.35	8.57	50.82	9.36	.7.33

Notes: N = 1,504 (N = 190 unretired, N = 1314 retired); **. $p < 0.01$ level (2-tailed), *. $p < 0.05$ (2-tailed).

3.4 Multivariate Analyses

3.4.1 Predictors of Unretirement

The independent variables were recoded as dichotomous variables. The significance of bivariate predictor variables was checked using chi square tests of independence and independent samples t-tests.

The relationship between home ownership without a mortgage and retirement was found to still be significant ($\chi^2(1, N=1504) = 14.21$, $p = .000$). Age, Sf-PCS (T1), and Sf-PCS (T2) were previously all found to have a significant relationship with the unretired and retired conditions (see Table 4).

A hierarchical multiple regression was performed to assess the relative contribution of the significant bivariate predictor variables on the unretirement and retirement conditions (see Table 5). The independent variables were entered in three stages. The first stage included the significant demographic variable of age. The regression equation was significant, ($F(1,1502) = 19.221$, $p < .000$), with an R^2 of .013. Age explained 1.3% of the variance in retirement status. The second stage included the significant economic factor of home ownership without a mortgage. The regression equation was significant, ($F(2,1501) = 12.851$, $p < .000$), with an R^2 of .021. The model now explained 2.1% of the total variance in retirement status. After controlling for age, an additional 0.8% of the variance was accounted for by the home ownership variable. In the final stage, the variable included was baseline Sf-PCS(T1). The regression equation was significant, ($F(3,1500) = 8.281$, $p < .004$), with an R^2 of .0.024. The total model explained 2.4% of total variance. Therefore, the Sf-PCS(T1) variable accounted for 0.5% of the variance in retirement status.

Table 5

Hierarchical Multiple Regression of Demographic, Economic, and Baseline Health Factors on Retirement Status

	Unstandardised Coefficients			Standardised Coefficients		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Age	.008**	.008**	.007**	.112**	.108**	.095**
Home Ownership		.008**	.085**		.092**	.107**
Sf-PCS T1			-.003*			-.076*
R				.075	.235	.390
Total R^2				.013	.021	.026
Adjusted R^2				.012	.020	.024
R^2 Change				.013	.008	.005

Notes: N = 1,504. **. $p < 0.01$, *. $p < 0.05$.

3.4.2 Unretirement and Health:

The final research question asked whether returning to work after retirement had any impact on the health and well-being of the survey participants. It was hypothesised that retirement would be accompanied with a decline in perceived health, whilst unretirement would be associated with no decline, or a decline at a slower rate. The physical and mental health scores were taken from the group from the time when they were first included in the sample (T1) and then compared to the outcome scores that were measured in the subsequent survey (T2). This question was approached in two stages. First, paired samples t-tests were conducted to compare health outcomes between the points in time. This aimed to assess if there was any significant change in health across time. Secondly, to answer the question of whether unretirement was responsible for any observed change in the health variables, a hierarchical multiple regression was performed to assess the impact of significant bivariate predictor variables on health at T2 while controlling for baseline health measures.

H3a: It was hypothesised that physical health (Sf-PCS) would be better for the unretired group when compared to those who have remained retired. For the people that had returned to work, there was no significant difference in their physical health at T1 (*M*=47.18, *SD*=9.91) and T2 (*M*=46.76, *SD*=9.47) conditions; (*t*(189) =.807, *p*=.224). Yet, there was a significant difference in the physical health between samples in the group that were retired. T1 (*M*=45.09, *SD*=10.01) and T2 (*M*=44.42, *SD*=.10.53) conditions; *t*(1313) =3.34, *p* =.001 (see Table 6).

Table 6

Paired Samples t-test Comparing Physical and Mental Health Differences Over Time

					Paired *t*-test		
			Mean	SD	*t*	*df*	*p*
Physical Health Component Score	Unretired	T1	47.18	9.91	.807	189	.224
		T2	46.76	9.47			
	Retired	T1	45.09	10.01	3.34	1313	.001
		T2	44.42	10.53			
Mental Health Component Score	Unretired	T1	50.56	9.34	-1.61	1313	.872
		T2	51.35	8.57			
	Retired	T1	50.79	9.29	-1.22	189	.224
		T2	50.83	9.36			

Notes: *N* = 1,504 (Unretired *N* = 190, Retired *N* =1314)

In the second stage of this analysis, a hierarchical linear regression on Sf-PCS(T2) as the dependent variable was undertaken. Bivariate analysis was used to determine which variables would be entered into the regression. Independent samples *t*-tests were carried out which found the variables of retirement status, ethnicity, marital status, education, and home ownership to have significant differences on Sf-PCS scores

at T2 (see Table 7). A correlation matrix indicated that age, ELSI-Sf, Sf-PCS (T1), Sf-MCS(T1), and Sf-MCS(T2) were significantly correlated to the dependent variable (see Table 1).

Table 7

Independent Samples t-test for Sf-PCS(T2) as the Dependent Variable

		N	*M*	*SD*	*t*-test
Retirement Status	Unretired	190	46.76	9.47	2.90*
	Retired	1314	44.42	10.53	
Gender	Male/ tāne	676	44.58	10.23	-.451
	Female/ wāhine	828	44.82	10.60	
Ethnicity	Māori	427	42.57	10.50	-4.99**
	Non-Māori	1077	45.55	10.29	
Marital Status	Married/defacto	1148	45.19	10.19	3.47**
	Not Married/defacto	356	43.16	11.03	
Education	Secondary qualification or lower	764	43.43	10.75	-4.87**
	Post-secondary qualification or higher	740	46.03	9.92	
Home Ownership	Homeowner without mortgage	1159	45.74	10.98	6.75**
	All other forms of tenure	345	41.27	10.04	

Notes: N = 1,504. **. $p < 0.01$ level (2-tailed), *. $p < 0.05$ (2-tailed).

The hierarchical multiple regression was completed in four stages. The retirement status variable was entered at stage one. The regression equation was significant, ($F(2,1502) = 8.429$, $p = .004$), with an R^2 of .006. Retirement status explained 0.6% of the variance in the Sf-PCS(T2). The second stage included the significant demographic variables of age, ethnicity, marital status, and education. The regression equation was significant, (R^2 change = .050, F change (4,1498) =19.649, $p < .000$). The

demographic variables explained a further 5.0% of the variance in Sf-PCS(T2). The third stage included the significant economic factors of ELSI-Sf and home ownership status. The regression equation was significant, (R^2 change = .089, F change (2,1496) =77.673, p <.000). An additional 8.9% of the variance was accounted for by the economic variables. In the final stage, the variables included were the significant baseline health variables of Sf-PCS (T1) and Sf-MCS (T2). The regression equation was significant, (R^2 change = .42, F change (2,1494) =723.988, p <.000). The baseline health variables accounted for 42% of the variance in Sf-PCS (T2). The final model explained 56.5% of the total variance (F= (9,1494) =215.893, p <.000). Of note, the inclusion of the Sf-PCS (T1) variable in the final step resulted in the retirement status variable becoming non-significant (see Table 8).

To summarise, in the reverse retiree group there was no significant difference in their physical health (Sf-PCS) between T1 and T2. This showed that the physical health of this group had not declined. Further analysis found that retirement status explained only 0.6% of the variance in the Sf-PCS(T2), and the effect of retirement status was not significant when demographic, economic, and baseline health variables were controlled for. Therefore, the hypothesis that reverse retirement would be related to improved physical health outcomes when compared to those who had remained retired was not supported.

H3b. It was hypothesised that mental health (Sf-MCS) would be better for the unretired group when compared to those who had remained retired. Mental health was found to remain relatively stable with no significant difference in the retired group between T1 (M =50.79, SD =9.29) and T2 (M =50.83, SD =9.36) conditions; t(1313)=-1.61, p=.872. The unretired group was also found to have no significant

difference between T1 (*M*= 50.56, *SD*= 9.34) and T2 (*M*= 51.35, *SD*= 8.57) conditions; *t*(189) =-1.22, *p*=.224 (see Table 6). Therefore, the hypothesis that reverse retirement would be related to improved mental health outcomes when compared to those who remained retired was not supported.

Table 8

Hierarchical Multiple Regression of Demographic, Economic, and Baseline Health Factors on Physical Health Scores

	Unstandardised Coefficients				Standardised Coefficients			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
Retirement Status	-2.34**	-1.93*	-2.15*	-0.80	-0.08**	-0.06**	-0.07*	-0.03
Age		-0.30**	-0.33**	-0.11*		-0.13**	-0.15**	-0.05*
Ethnicity		2.47**	1.17*	0.07		0.11**	0.05*	0.00
Marital Status		-1.00	0.75	0.54		-0.04	0.03	0.02
Education		2.20**	1.67*	0.32		0.11**	0.08*	0.02
ELSI-Sf			0.52**	0.03			0.27**	0.02
Home Ownership Status			2.57**	0.68			0.10**	-0.03
Sf-PCS T1				0.71**				0.69**
Sf-MCS T1				0.13**				0.12**
R					.075	.235	.390	.752
Total R^2					0.006	0.055	0.144	0.565
Adjusted R^2					0.005	0.052	0.140	0.563
R^2 Change					0.006	0.050	0.089	0.421

Notes: N = 1,504. **. $p < 0.01$, *. $p < 0.05$.

Chapter 4: Discussion

4.1 Summary

This is the first study that looked at the phenomenon of unretirement on a sample of the general population within Aotearoa New Zealand. It contributes to the burgeoning body of international research on unretirement and labour force participation by older adults. This study was exploratory and aimed to understand unretirement behaviour, looking at the prevalence, predictive factors, and what impact unretirement had on physical and mental health in older Aotearoa New Zealand adults. This was achieved through a secondary analysis of survey data from the Health, Work and Retirement study (HWR). This chapter includes a summary of the results, an interpretation of findings, and limitations and strengths of the study. The discussion will be presented in same order as the research questions.

4.1.1 Prevalence Rate of Unretirement

The first research question asked how prevalent the phenomenon of unretirement was in Aotearoa New Zealand. The final sample included 190 unretired participants out of a total of 1504 participants, implying a reverse retirement prevalence rate of 12.6 per cent. In other words, almost thirteen per cent of Aotearoa New Zealand retirees had transitioned from retirement back into the workforce in either a part-time or full-time employment capacity. The prevalence rates found in this study fall near the middle of the range indicated by international research. Smeaton et al. (2018) found a two per cent prevalence rate in Italy, six per cent in the UK, and ten per cent in the USA, while Maestas (2010) for the USA, and Platts et al. (2019) for the UK estimated over a quarter of their samples were unretired.

The difference in prevalence rates when compared to international research could be due to the definition of unretirement used. For example, Meatas (2010) had a broad definition of retirement that included partially retired people who remained working part time. The current study defined retirement as a complete withdrawal from the workforce, where participants identified as being fully retired in two subsequent surveys.

The lower prevalence rate in the current study compared to the Maestas (2010) USA and Platts et al. (2019) UK studies may also be due to the biennial nature of the HWR survey. This may mean short span retirement events could be missed due to the size of the gap between survey waves. Other research has found that unretirement usually occurs shortly after retirement events (Hayward et al., 1994; Kail & Warner, 2013; Pleau, 2010; Schuring et al., 2019). Platts et al. (2019) used data that had been collected on an annual basis. Smeaton et al. (2018) utilised a similar timeframe to the one that was employed in the present study and acknowledge this may underestimate the prevalence of unretirement, as brief periods of employment may be missed. Thus, the two-year gap present within this study may have resulted in an under-estimate of unretirement rates in Aotearoa New Zealand.

Another explanation for the lower observed reverse retirement rate could be due to socio-economic differences between the countries observed. Smeaton et al. (2018) explained the low rates of unretirement in Italy were due to an adequate welfare system that paid a generous pension. The Aotearoa New Zealand superannuation scheme is considered universal, in that it is not means tested, and not dependent on previous work history or income. However, the Aotearoa New Zealand superannuation scheme is not as generous as the Italian pension when comparing net pension replacement rates and would

be considered one of the less generous pension schemes in the OECD, more akin to the generosity seen by the pensions in the USA and UK (OECD, 2019).

Culturally, the Italians also expressed a narrative that perceived retirement as an earned right, an opportunity to make way for younger workers, and embraced the traditional concepts of winding down and focusing on family (Smeaton et al., 2018). The current research did not explore the narratives on retirement in Aotearoa New Zealand. However, a summary of qualitative interviews for the HWR study by Keeling, Davey, and Glasgow (2009) captured attitudes and values towards retirement from older adults in Aotearoa New Zealand. Two main narratives were reported, with some viewing retirement in a traditional sense, as something that is supposed to be done at a certain age, and others refusing to be defined by their age, seeing themselves as a new generation that aimed to continue with mid-life pursuits in later life (Keeling, Davey, & Glasgow, 2009). It may be assumed that cultural attitudes towards retirement for some Aotearoa New Zealanders are moving away from traditional concepts, and towards those expressed in the UK and the USA, where there is considerable diversity in retirement transitions. Modern views of retirement may be made up of a number of activities spread across family, work, and civil domains, with ‘productive ageing’ being a common aspiration for older people (Smeaton et al, 2018).

The prevalence rate of 12.6 per cent found in this paper demonstrates that this form of retirement behaviour occurs within the Aotearoa New Zealand context and provides a baseline for comparison for future research.

4.1.2 Predictive Factors of Unretirement

The second research question asked what factors increase the likelihood of unretirement in Aotearoa New Zealand

H1a: Age. The results from this study showed that the group of reverse retirees were on average younger than those who remained in retirement. Retirees had an average age of sixty-seven and a half years old, just over a year and a half older than the unretirement group. The age difference between retirement conditions remained when other significant variables were controlled for. However, the predictive value of age was very small, contributing just over one per cent of the variance between the two retirement conditions.

The range of ages indicated that decisions to retire and reverse retire occur both before and after the age of superannuation eligibility within Aotearoa New Zealand. The earliest retiree was fifty-three years old and the earliest unretirement was observed at fifty-four years old. The oldest reverse retiree in this sample was seventy-eight years old. The range of these results suggest that any future analysis of unretirement behaviour needs to capture a wide age range and not focus only on those who are eligible for superannuation. It may be that individuals are forced into retirement because of difficulty finding new employment. What could have been considered a period of unemployment by a younger adult, may be classed as retirement by older adults (Pettersson, 2014). The younger age of reverse retirees is consistent with what has been identified in several international studies (Kanabar, 2015; Maestas, 2010; Pettersson, 2014; Smeaton et al., 2018), indicating that those who leave the labour force at a younger age may have more interest in returning to the labour force at some point in the future.

H1b: Gender. In the current study there was no significant difference in unretirement rates between genders. There was a slight non-significant trend that appeared to favour males returning to work at a higher rate. Previous international research had indicated that males undertake reverse retirement at higher rates (Pettersson, 2014; Platts et al., 2019; Smeaton et al., 2018), with Platts (2019) finding that males were 25 per cent more likely to unretire than women.

Differences in gender found in international studies may be explained by factors not included in the scope of this study. Not included in the present study were caring responsibilities within the family, where women usually take up more responsibility for looking after older relatives, grandchildren, and the unwell. Platts et al., (2019) suggested that gender differences in unretirement may be explained by females having weaker attachment to the labour force (beginning in the maternal years). Older female workers may also face higher levels of discrimination when re-entering the workforce.

The lack of gender differences in unretirement in Aotearoa New Zealand may be due to efforts to tackle age and gender discrimination in recent policy development. It is also possible that the absence of a gender difference in Aotearoa New Zealand found in the present study was because the analysis was under-powered, with an insufficient sample size e.g., the unretired group was relatively small.

H1c: Education. The current study did not find a significant relationship between levels of education and unretirement within the Aotearoa New Zealand context. Other research had built an expectation that higher levels of education would be associated with higher rates of unretirement (Pettersson, 2014; Platts et al., 2019; Smeaton et al., 2018). Platts (2019) found that those with lower education were 50 per cent less

likely to unretire when compared to people with post-secondary qualifications. The reasoning offered was that education levels influence opportunities to work, and those of lower education may be disadvantaged in other areas that impact their ability to join (or rejoin) the workforce (Smeaton et al., 2018).

The result from the current study is similar to the findings by Maestas (2010), who found no educational effect when looking at unretirement. Maestas (2010) suggested that a lack of an influence from education indicated unretirement decisions were not strongly correlated to wealth accumulation or poor retirement planning. Leinonen et al. (2020) also found that education had very little impact on post-retirement employment levels.

H1d: Physical health. The results from this study demonstrated that baseline health measures had a significant relationship with unretirement. Those who were in the unretirement condition reported better baseline physical health. These results are consistent with previous international research from Sweden, England, USA, Germany, Canada, and the Netherlands, (Fasbender et al., 2015; Kanabar, 2015; Maestas, 2010; McDonald, 1997; Pettersson, 2014; Platts et al., 2019; Schuring et al., 2013; Smeaton et al., 2018). The results from this study add to the growing body of evidence that retirement decisions may be influenced by physical health status (Dave et al., 2008; Iveson & Deary, 2019; Moon et al., 2012; Pond et al., 2010). Before drawing any conclusions, these results were further examined, and the results are discussed later in the section on unretirement and health.

H1e: Mental health. The present study did not find a relationship between unretirement and mental health. Mental health is usually overlooked in the international research on unretirement. It is noted that retirement usually has a beneficial impact on

mental health (Coe et al., 2012; Mein et al., 2003; van der Heide et al., 2013). The discussion on mental health and unretirement will be continued in the later section on health factors related to unretirement.

The predictive factors found in the current study support the life course perspective theory of retirement. Life course perspective suggests that many factors, such as socioeconomic, individual attributes, social qualities, and health factors, influence an individual to unretire and return to the workforce. In this study it was found that younger age and better physical health were significant contributors to unretirement events. This implies that individuals who unretire are in a stage of life where they are still young enough, and have maintained the physical capability, to support their choice to engage in the labour market.

H2a: Economic Living Standards. Socioeconomic status, as measured by the Economic Standard of Living Index (ELSI), was not associated with unretirement in the Aotearoa New Zealand context. It was postulated that reverse retirees would have higher rates of economic well-being as research from Sweden and the USA had alluded to income levels as a factor in decisions to unretire (Pettersson, 2014; Smeaton et al., 2018). The results from this study were in line with previous research from England and Germany (Fasbender et al., 2015; Platts et al., 2019). As aforementioned, Aotearoa New Zealand has a universal superannuation scheme which helps to balance inequalities in old age. This may contribute to reducing workplace attachment and financial anxiety that motivate people to return to work after retirement. However, it is possible that economic well-being may not capture the economic complexities associated with retirement. One of these complexities is having higher financial outgoings. This will be discussed below.

H2b: Home ownership. The results from this study indicated that there was a significant negative relationship between owning a home without a mortgage and unretirement. Unretirement was more likely to be undertaken by those in any other forms of housing tenure, which included those with continuous outgoing payments such as renters and those with a mortgage. This suggests that there is a financial motivation for returning to work. This finding supports overseas research which found correlations between mortgage holders and unretirement (Platts et al., 2019; Smeaton et al., 2018). Leinonen et al. (2020) also found that those who rent, or have high levels of household debt, tended to retire later, and remain in post-retirement employment for longer. From this it could be inferred that unretirement may be an effort to maintain mortgage or rent payments and slow the decumulation of assets.

The relationship between economic factors and retirement adjustment has a basis in resource theory (Hobfoll, 2002; Wang et al., 2011). The fundamental idea of this perspective is that the ability to adjust to retirement is directly tied to the resources available. In this study, owning a home without debt appeared to allow individuals to better adjust to retirement and not reverse their retirement decisions. The economic freedom of owning a home and not having significant financial outgoings is an economic resource that appears to make the retirement transition easier.

The predictive factors of unretirement found in this study were age, health, and financial outgoings. This fits with the resource-based dynamic model for retirement adjustment (Wang et al., 2011; Wang & Shi, 2014). This model predicts that retirement adjustment will be related to the resources that the retiree has access to. In this study, the ability of an individual to adjust to retirement fluctuated as a function of age, health, and economic resources.

4.1.3 Unretirement and Health

The final research question sought to understand the impact of reverse retirement on the physical and mental health of reverse retirees.

H3a: Physical health outcomes for the unretired. As discussed previously, the unretirement group had better baseline physical health than the retirement group. It was found that the unretirement group's health did not change between surveys, thus returning to work had not impacted on their health. However, the retirement group's health did decline between surveys. This appears to support an argument that delaying retirement is beneficial for maintaining health (Calvo et al., 2013; Dave et al., 2008; Moon et al., 2012; Stenholm et al., 2014). There was a suggestion from other researchers that those who have declining physical health are either self-selecting or being forced into retirement (Dave et al., 2008; Moon et al., 2012). Pre-existing health status, and a number of other significant variables were examined to understand their impact on physical health outcomes. Further analysis helped to provide a better explanation for the variance in health between retirement conditions.

The status of retirement explained barely one per cent of the variance in physical health outcomes. Bearing in mind that retirement is often cited as having a relationship with health, this amount of variance between retirement conditions indicates that retirement does not have a big impact on health status and other variables play more crucial determinants in physical health variance. Demographic and economic factors such as age, ethnicity, education, economic living standards, and home ownership status also made small contributions to the variation in physical health outcomes. All demographic and economic factors included explained around 14 per cent of the variance in physical health. This supports previous research that found higher education and improved

childhood cognitive ability was linked to better retirement health outcomes (de Breij et al., 2020; Eibich, 2015; Iveson & Deary, 2019). It also aligns with research suggesting retirement health has a relationship with economic factors (de Breij et al., 2020; Jokela et al., 2010; Marshall & Nazroo, 2016; Stephens et al., 2011; Szabó et al., 2019; Wang, 2007; Westerlund et al., 2009).

Baseline physical health was by far the strongest predictive factor of physical health outcomes. Of note, retirement status, education, and economic living standards were no longer significant factors when baseline physical and mental health scores were taken into consideration. This implies that retirement status no longer had a relationship with physical health outcomes when demographic, economic, and previous health scores were taken into consideration. Not surprisingly, baseline physical health was the best predictor of future physical health.

The findings support the idea that the circumstances of retirement must be considered when looking at the impact of health on retirement (Iveson & Deary, 2019). A strong link between poor health and retirement has been observed in Aotearoa New Zealand (Pond et al., 2010). It is possible that those with declining health are self-selecting into retirement, or being pushed into involuntary retirement (Hyde et al., 2004; Jokela et al., 2010). Post-retirement health changes may be representative of selection effects and demonstrate the importance of considering previous health and the circumstances of retirement when examining retirement outcomes (Boissonneault & de Beer, 2018).

The results from this study suggest that once socioeconomic and pre-existing health factors are taken into account, reverse retirement does not have health benefits. Rather than a group that has benefited from engaging in employment, the reverse retirees could be a self-selecting group consisting of those who still have the physical

vigour to engage in the workforce. This supports research that suggests that extending working lives beyond the age of pension entitlement probably does not have health benefits (Di Gessa et al., 2017) and increases in the age of eligibility for pension schemes could lead to increased inequality for already disadvantaged individuals (Marshall & Nazroo, 2016).

H3b. Mental health outcomes for the unretired. As discussed previously, there was no significant difference in mental health between the retirement conditions. Furthermore, mental health was found to remain relatively stable with no significant change across time. This implies that the mental health of the sample was not impacted by changes in employment status and did not improve or deteriorate over time.

A systematic review on health and retirement indicated that retirement has a beneficial impact on mental health (van der Heide et al., 2013), and retirement has been associated with beneficial effects on cognitive functioning and improved mental health (Coe et al., 2012; Mein et al., 2003). However, it must also be considered that mental health naturally improves with age, with a positive relationship observed between mental health and age in older adults (Blanchflower & Oswald, 2008; Jeste & Oswald, 2014; López Ulloa et al., 2013; Lorem et al., 2017; Stone et al., 2010; Thomas et al., 2016). The lack of difference between the samples in this study may be due to the short duration between sampling. Observations over a longer time period may produce a significant result. There is very little research on the impact of returning to work after retirement on mental health. One study found returning to work had benefits on health, especially for reducing depressive symptoms (Silver et al., 2018). The absence of change in mental health observed in the current study when compared to Silver et al. (2018) could be due

to the broad measures used in this study, which may be less precise at measuring change than the more specific measures of particular mental health conditions such as depression.

4.2 Limitations and Strengths

This study contributed to the growing body of research on older adults in Aotearoa New Zealand. It lays foundational work for future research into reverse retirement behaviour within Aotearoa New Zealand. The following limitations must be acknowledged when interpreting the findings from this study.

Firstly, this study was a secondary analysis of the data collected by the Health, Work and Retirement (HWR) study. As a consequence, the author had no discretion over measures employed or procedure for collecting data. One constraint was the two-year timeframe between survey waves. This gap could result in time sensitive data being overlooked such as brief unretirement events remaining unmeasured. Additionally, it is difficult to determine the reason for missing data on a number of variables, although this was largely overcome by using the most appropriate statistical methods.

This study looked at the health outcomes over a two-year period. Observation over a larger period of time may capture health changes that were outside of the scope of this study. Future studies could also utilise survival analytic approaches which would inform the duration of time until an unretirement event occurs.

The HWR study has a large sample size. Despite this, the HWR study produced a limited sample of unretired participants. This may have limited the significance of covariates with smaller effect sizes. This study grouped all participants who had returned to work into one category. Future research with a larger sample could

compare those who have unretired to part-time employment, and those who have returned to work in a full-time capacity.

A further limitation was that the data was not collected specifically to answer the research questions in this study. For example, the results concerning the home ownership variable used in this study were limited by the method of data collection. Housing tenure has only been included in later HWR surveys, so was not available from the 2006 or 2008 waves. Also, tenure categories did not always provide meaningful information about the presence of mortgage debt. One of the selection criteria was to indicate whether the primary residence was owned by family or family trust. Although ownership by a trust may imply a level of wealth, owning a home in a trust does not actually indicate a mortgage-free status, so this category did not give a true indication of debt levels or continuous outgoing payments. Around 15 per cent of survey respondents indicated that their primary residence was in a family trust. These participants may have been a mix of people with or without mortgages. After further analysis, it was decided that people with houses owned by family or family trust had very similar economic well-being scores as homeowners without a mortgage. Thus, a decision was made to combine people with a family trust with the homeowners without a mortgage. Furthermore, the housing tenure question has evolved over different survey waves and, at times, has separated ownership with a trust into a mortgage and mortgage-free category. This means future research may be able to get a clearer understanding of the association between mortgage debt and reverse retirement.

There are a number of unmeasured variables that may be useful in future studies on unretirement. For instance, information about how much control participants have over the retirement decision could be useful when looking at health outcomes and

unretirement behaviour. Previous research has suggested that those who have declining physical health are either self-selecting or being forced into retirement (Dave et al., 2008; Moon et al., 2012) and retirement due to poor health may predict worse post-retirement health outcomes (Dave et al., 2008; Iveson & Deary, 2019).

Finally, this study has several strengths that are worth noting. The HWR is a longitudinal study, and the only such study of ageing in Aotearoa New Zealand. It has a large sample of older adults that has been refreshed over multiple cohorts. The sample is a nationally representative sample, being drawn from random sampling of the Aotearoa New Zealand electoral roll and the HWR study over-samples for Māori to ensure adequate representation of this group.

4.3 Implications

This study was unique from other research on unretirement as it investigated the health outcomes of the two retirement groups. This supported the growing international body of research on reverse retirement, as well as contributing to research on how health is related to reverse retirement in older adults.

Almost thirteen per cent of Aotearoa New Zealanders engaged in reverse retirement, implying that there is a pool of older adults who remain willing to re-engage in the labour market. These potential job seekers highlight the importance of policies that protect older adults against age discrimination in the recruitment process and whilst they are employed.

Those who unretired were younger and in better physical health. Despite this, reverse retirement status was not a significant factor when examining the variance in physical health. In other words, returning to work after retirement does not make a

significant difference to one's health. This implies that capacity to return to work is related to an individual's physical health resource, or their capability to do so. The eligibility of the Aotearoa New Zealand superannuation scheme is fixed at a static age, which is currently 65 years old. The on-going affordability of the superannuation scheme is often cited as a talking point for raising the age of eligibility. Given that physical health appears to be related to work-force engagement, raising the age of eligibility of superannuation may disadvantage those who need to leave the workforce for health-related reasons.

This study also implies that there was often financial motivation to return to work after retirement. Motivation for unretirement appears to be related to debt or rental outgoings, and unretirement may be an effort to boost income as an older adult, or a final push to accumulate wealth while still physically able. Within Aotearoa New Zealand, in 2018, home ownership was at the lowest rate in almost 70 years, with housing inflation making it difficult for young adults to raise a deposit (Statistics New Zealand, 2020). This crisis of housing affordability is likely to adversely impact the future economic well-being of older adults, and further exacerbate inequalities for those who are disadvantaged. When discussing superannuation eligibility, and the on-going affordability of the superannuation scheme, an important consideration should be the economic disparity between those that have accumulated considerable assets across their lifetime, and those who have not.

4.4 Conclusion

The aim of this study was to explore the phenomenon of unretirement in the Aotearoa New Zealand context, an area of research that has not previously been examined.

The results from this study demonstrated that reverse retirement was a behavioural feature of the retirement adjustment process in Aotearoa New Zealand. The evidence suggested that those who are younger and in better health had more likelihood of unretiring. There was also a suggestion that retirement was not directly related to standards of economic well-being, but was related to the financial outgoings in the form of mortgage or rent.

Finally, the study demonstrated that health outcomes were only negligibly related to reverse retirement. The impact of unretirement on health was very small, and demographic and economic factors contributed more to the explained variance in health. Furthermore, once pre-existing health factors were taken into consideration, the status of retirement was no longer a significant factor. This implies that health status upon retirement is a good predictor of future health and the ability to re-engage in the workforce.

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Appendix A: Health, Work and Retirement Survey

The information used in this research was collected between 2006 and 2020 by Massey University for the New Zealand Health, Work and Retirement (HWR) longitudinal study. Online access to all HWR surveys is available through the Massey University website.

https://www.massey.ac.nz/massey/learning/departments/school-of-psychology/research/hart/new-zealand-health-work-and-retirement-study/health-work-and-retirement-questionnaires.cfm

General instructions for completing the survey

Please read the following carefully

- You can decline to answer any particular question. If you choose not to answer a question, please leave it blank.
- There are no right or wrong answers; we want the response that is best for you.
- It is important that you give your own answers to the questions.
- Do not linger too long over each question; usually your first response is best.
- Completion and return of this survey implies consent to take part in this component of the study.

For each question in the survey you will be asked to provide either:

- a single response. Please mark with a cross (e.g. ×) inside one box on each line in pen. If you make a mistake, simply scribble it out and mark the correct answer.
- one or more responses, as appropriate. For these items you will be instructed to *'Please cross all that apply'*.
- a written answer. To provide words, please print your answer as clearly as possible on the line provided.

Example question and response: Please cross 'Yes' to indicate if a health professional has told you that you have any of the following conditions:

(Please cross one box on each line)	No	Yes, in the last 12 months	Yes, prior to the last 12 months
Sleep disorder	☒ 1	☐ 2	☐ 3
Stroke	☒ 1	☐ 2	☐ 3
Cancer	☐ 1	☒ 2	☐ 3
Please specify cancer type:	melanoma		

- a number: where a number or date is required, print the figure in the box provided.

Example question and response: How many of the following people are you in regular contact with? Please place a zero or a number in the squares as appropriate:

Adult child(ren) and/or grandchild(ren)/mokopuna		5

Thank you for taking the time to complete this questionnaire.

If you need help to answer any questions, please contact us either on the HART free-phone line 0800 100 134 or via email: hart@massey.ac.nz

YOUR HEALTH, WELLBEING AND QUALITY OF LIFE

Q1 In general, would you say your health is: *(Please cross one box)*

Excellent	Very good	Good	Fair	Poor
☐	☐	☐	☐	☐

Q2 All things considered, how satisfied are you with your life as a whole these days? *(Please cross one box)*

Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
☐	☐	☐	☐	☐

Q3 How would you rate your quality of life? *(Please cross one box)*

Very poor	Poor	Neither good nor poor	Good	Very good
☐	☐	☐	☐	☐

The following questions are about activities you might do during a typical day.

Q4 Does your health now limit you in these activities? If so how much?

(Please cross one box on each line)	Yes, limited a lot	Yes, limited a little	No, not limited at all
Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	☐	☐	☐
Climbing several flights of stairs	☐	☐	☐

Q5 During the past 4 weeks, how much of the time have you had any of the following problems with your work, or other regular daily activities as a result of your physical health?

(Please cross one 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
Accomplished less than you would like	☐	☐	☐	☐	☐
Were limited in the kind of work or other activities	☐	☐	☐	☐	☐

Q6 During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

(Please cross one 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
Accomplished less than you would like	☐	☐	☐	☐	☐
Did work or other activities less carefully than usual	☐	☐	☐	☐	☐

Q7 During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? *(Please cross one box)*

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐	☐	☐	☐	☐

Q8 These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much time during the past 4 weeks:

(Please cross one 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
Have you felt calm and peaceful?	☐	☐	☐	☐	☐
Have you felt downhearted and depressed?	☐	☐	☐	☐	☐
Did you have a lot of energy?	☐	☐	☐	☐	☐

Q9 During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, whānau, etc.)? *(Please cross one box).*

All of the time	Most of the time	Some of the time	A little of the time	None of the time
☐	☐	☐	☐	☐

Q10 How would you rate your memory at the present time? *(Please cross one box).*

Excellent	Very good	Good	Fair	Poor
☐	☐	☐	☐	☐

Q11 Would you say your memory at the present time is better, about the same, or worse now than it was 2 years ago? *(Please cross one box).*

Better	Same	Worse
☐	☐	☐

Q12 Please answer the following questions about yourself by indicating the extent of your agreement.

(Please cross one box on each line)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is not enough purpose in my life.	☐	☐	☐	☐	☐
To me, the things I do are all worthwhile.	☐	☐	☐	☐	☐
Most of what I do seems trivial and unimportant to me.	☐	☐	☐	☐	☐
I value my activities a lot.	☐	☐	☐	☐	☐
I don't care very much about the things I do.	☐	☐	☐	☐	☐
I have lots of reasons for living.	☐	☐	☐	☐	☐

Q13 Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week (7 days).

(Please cross one box on each line)	Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of the time	All of the time
I was bothered by things that usually don't bother me.	☐	☐	☐	☐
I had trouble keeping my mind on what I was doing.	☐	☐	☐	☐
I felt depressed.	☐	☐	☐	☐
I felt that everything I did was an effort.	☐	☐	☐	☐
I felt hopeful about the future.	☐	☐	☐	☐
I felt fearful.	☐	☐	☐	☐
My sleep was restless.	☐	☐	☐	☐
I was happy.	☐	☐	☐	☐
I felt lonely.	☐	☐	☐	☐
I could not "get going."	☐	☐	☐	☐

Q14 Please answer the items according to how you've felt in the last week. Indicate 'agree' if you mostly agree that the item describes you or indicate 'disagree' if you mostly disagree that the item describes you.

(Please cross one box on each line)	Agree	Disagree
I worry a lot of the time.	☐	☐
Little things bother me a lot.	☐	☐
I think of myself as a worrier.	☐	☐
I often feel nervous.	☐	☐
My own thoughts often make me nervous.	☐	☐

Q15 How often do you take part in sports or activities that are:

(Please cross one box on each line)	More than once a week	Once a week	One to three times a month	Hardly ever or never
...vigorous (e.g., running or jogging, swimming, aerobics)	☐	☐	☐	☐
...moderately energetic (e.g., gardening, brisk walking)	☐	☐	☐	☐
...mildly energetic (e.g., vacuuming, laundry/washing)	☐	☐	☐	☐

Q16 Here is a list of statements that people have used to describe their lives or how they feel. We would like to know how often, if at all, you think the following applies to you.

(Please cross one box on each line)	Often	Sometimes	Not often	Never
My age prevents me from doing the things I would like to.	☐	☐	☐	☐
I feel that what happens to me is out of my control.	☐	☐	☐	☐
I feel left out of things.	☐	☐	☐	☐
I can do the things that I want to do.	☐	☐	☐	☐
I feel that I can please myself what I do.	☐	☐	☐	☐
Shortage of money stops me from doing things I want to do.	☐	☐	☐	☐
I look forward to each day.	☐	☐	☐	☐
I feel that my life has meaning.	☐	☐	☐	☐
I enjoy the things that I do.	☐	☐	☐	☐
I feel full of energy these days.	☐	☐	☐	☐
I feel that life is full of opportunities.	☐	☐	☐	☐
I feel that the future looks good for me.	☐	☐	☐	☐

Q17 In the last 12 months, how many times 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 cross one box)*

Never	1 time	2 times	3-5 times	6-11 times	12 times or more
☐	☐	☐	☐	☐	☐

Q18 In the last 12 months, how many times have you yourself:

(Please cross one box on each line)	Never	1 or 2 times	3 or 4 times	5 or more times
Been admitted to hospital for one night or longer	☐	☐	☐	☐
Used a service at, or been admitted to, a hospital	☐	☐	☐	☐
Gone to a hospital emergency department as a patient	☐	☐	☐	☐
Consulted another health professional other than the above	☐	☐	☐	☐
Sought medical treatment for an accident or injury (including any of the above contacts)	☐	☐	☐	☐

Q19 To what degree would you say the COVID-19 pandemic has had a negative impact on your overall:

(Please cross one box on each line)	Not at all	A little bit	Moderately	Quite a bit	Extremely
Physical health	☐	☐	☐	☐	☐
Mental health	☐	☐	☐	☐	☐

Q20 Has a health professional or government health agency ever told you that you have COVID-19?

☐ No ☐ Yes

We are interested in hearing about your experiences of the COVID-19 pandemic. There is space on the back page of the survey to write about these experiences if you wish.

Q21 Please indicate whether a health professional has ever told you that you have any of the following conditions.

(Please cross one box on each line)	No	Yes, in the last 12 months	Yes, prior to the last 12 months
Arthritis or rheumatism	☐	☐	☐
Disorder of the neck or back. (e.g. lumbago, sciatica, chronic back or neck pain, vertebrae or disc problems)	☐	☐	☐
Diabetes	☐	☐	☐
A disability	☐	☐	☐
Please specify disability: _____			
Heart trouble (e.g., angina or heart attack)	☐	☐	☐
High blood pressure or hypertension	☐	☐	☐
Depression	☐	☐	☐
Other mental illness	☐	☐	☐
Please specify other mental illness: _____			
Respiratory condition (e.g., bronchitis, asthma)	☐	☐	☐
Sleep disorder	☐	☐	☐
Stroke	☐	☐	☐
Active or chronic gout	☐	☐	☐
Active/chronic hepatitis, cirrhosis or other liver condition	☐	☐	☐
Cancer	☐	☐	☐
Please specify cancer (e.g. lung, leukaemia, melanoma): _____			
Other illness	☐	☐	☐
Please specify other illness: _____			

Q22 Can you see ordinary newsprint? (with glasses or contact lenses if you usually wear them)
(Please cross one box)

Easily	With difficulty	Not at all
☐	☐	☐

Q23 Can you hear a conversation with one other person (whether or not you usually wear a hearing aid)?
(Please cross one box)

Easily	With difficulty	Not at all
☐	☐	☐

Q24 In the past six months, have you had any falls including a slip or trip in which you lost your balance and landed on the floor or ground (e.g., trip over on a footpath, slip down some stairs, fall from a ladder)? (*Please cross one box*)

No, not at all	Yes, once	Yes, twice	Yes, 3 or more times
☐	☐	☐	☐

Q25 In the past six months, have you slipped or tripped but managed to stop yourself falling (e.g., by grabbing furniture for support, or, regaining your balance)? (*Please cross one box*)

No, not at all	Yes, once	Yes, twice	Yes, 3 or more times
☐	☐	☐	☐

Q26 How many hours of sleep do you usually get in a 24-hour period, including all naps and sleeps?

☐☐ **Hours (range 1 – 24)**

Q27 How satisfied are you with your sleep? *(Please cross one box).*

Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
☐	☐	☐	☐	☐

Q28a What is your current driving status? *(Please cross one box)*

☐ **Current driver** ☐ **Past driver** ☐ **Never been a driver (please go to Q29)**

Q28b In the last two years, have you been a driver in an auto accident (including minor bumps)? If so, in how many accidents? *(Please cross one box)*

☐ **Yes, one** ☐ **Yes, two or more** ☐ **No, I have not (please go to Q29)**

Q28c Within these accident(s), in how many:

(Please cross one box on each line)	None	One	Two or more
Was an insurance claim submitted?	☐	☐	☐
Were the police contacted?	☐	☐	☐
Did someone need urgent medical attention or treatment?	☐	☐	☐

The following questions are about your health and health related behaviours. Please cross the box that best answers each question.

Q29 Have you, at any stage of your life, ever been a regular smoker? (*Please cross one box*)

☐ **Yes** ☐ **No**

Q30 If you currently consider yourself a regular smoker, how many do you think you would smoke on an average day? (*Please cross one box*)

1 to 10	11 to 20	21 to 30	31 or more	Not a regular smoker
☐	☐	☐	☐	☐

Q31 How often do you have a drink containing alcohol? (*Please cross one box*)

Never	Monthly or less	Two to four times per month	Two to three times per week	Four or more times a week
☐	☐	☐	☐	☐

Q32a If you answered 'Never' at Q31, have you ever drunk alcohol in the past? (*Please cross one box*)

Yes	No	
☐	☐	If 'No', go to Q33a

Q32b How many drinks containing alcohol do you have on a typical day when drinking? (*Please cross one box*)

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

Q32c How often do you have six or more drinks on one occasion? (*Please cross one box*)

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
☐	☐	☐	☐	☐

Q33a Have you ever used or tried smoking cannabis (marijuana, grass, dope etc.)? (*Please cross one box*)

☐ Yes ☐ No If 'No', go to Q34

Q33b How often do you use cannabis at present? (*Please cross one box*)

Not at all	Less than once a month	At least once a month	At least once a week	Several times a week	Daily	Several times a day
☐	☐	☐	☐	☐	☐	☐

Q33c If you do use cannabis what reason are you most likely to use it for? (*Please cross one box*)

☐ For recreational purposes

☐ For physical pain relief

☐ For mental health purposes

☐ Other (please specify): _____

WHĀNAU, FAMILY AND FRIENDS

Q34 Do you provide unpaid care for:

(Please cross one box on each line)	Yes, daily	Yes, weekly	Yes, occasionally	No, never	Not applicable (I have none)
Your mokopuna/grandchildren?	☐	☐	☐	☐	☐
Other people's whāngai/children?	☐	☐	☐	☐	☐

Q35 I contribute my time and/or labour to volunteer activities: (*Please cross one box*)

Very often	Often	Sometimes	Rarely	Never
☐	☐	☐	☐	☐

Q36 How many hours do you contribute to volunteer activities per week?

☐☐ **Hours per week**

Q37 Please indicate whether or not you belong to any of these types of organisations:

(Please cross one box on each line)	No	Yes
Sports clubs	☐	☐
Community or service organisations that help people	☐	☐
Political party, or professional association, or business organisation	☐	☐
A trade union	☐	☐
Religious, church, or other spiritual organisation	☐	☐
Hobby, leisure time, or arts association/group	☐	☐
Group that supports cultural traditions, knowledge or arts	☐	☐
Any other, club, lodge or similar organisation	☐	☐

Q38 Please indicate for each of the statements below, the extent to which they apply to the way you feel now.

(Please cross one box on each line)	Yes	More or less	No
I experience a general sense of emptiness.	☐	☐	☐
There are plenty of people I can rely on when I have problems.	☐	☐	☐
There are many people I can trust completely.	☐	☐	☐
There are enough people I feel close to.	☐	☐	☐
I miss having people around.	☐	☐	☐
I often feel rejected.	☐	☐	☐

Q39 Think about your current relationships with friends, whānau/family members, co-workers, community members and so on. To what extent do you agree that each statement describes your current relationships with other people?

(Please cross one box on each line)	Strongly Disagree	Disagree	Agree	Strongly Agree
There are people I can depend on to help me if I really need it.	☐	☐	☐	☐
I feel that I do not have close personal relationships with other people.	☐	☐	☐	☐
There is no one I can turn to for guidance in times of stress.	☐	☐	☐	☐
There are people who depend on me for help.	☐	☐	☐	☐
There are people who enjoy the same social activities I do.	☐	☐	☐	☐
Other people do not view me as competent.	☐	☐	☐	☐
I feel personally responsible for the well-being of another person.	☐	☐	☐	☐
I feel part of a group of people who share my attitudes and beliefs.	☐	☐	☐	☐
I do not think other people respect my skills and abilities.	☐	☐	☐	☐
If something went wrong, no one would come to my assistance.	☐	☐	☐	☐
I have close relationships that provide me with a sense of emotional security and well-being.	☐	☐	☐	☐
	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
There is someone I could talk to about important decisions in my life.	☐	☐	☐	☐
I have relationships where my competence and skills are recognised.	☐	☐	☐	☐
There is no one who shares my interests and concerns.	☐	☐	☐	☐
There is no one who really relies on me for their wellbeing.	☐	☐	☐	☐
There is a trustworthy person I could turn to for advice if I were having problems.	☐	☐	☐	☐
I feel a strong emotional bond with at least one other person.	☐	☐	☐	☐
There is no one I can depend on for aid if I really need it.	☐	☐	☐	☐
There is no one I feel comfortable talking about problems with.	☐	☐	☐	☐
There are people who admire my talents and abilities.	☐	☐	☐	☐
I lack a feeling of intimacy with another person.	☐	☐	☐	☐
There is no one who likes to do the things I do.	☐	☐	☐	☐
There are people I can count on in an emergency.	☐	☐	☐	☐
No one needs me to care for them.	☐	☐	☐	☐

CAREGIVING

These questions are about providing care for someone with a long-term illness, disability or frailty. By 'providing care', we mean practical assistance for at least 3 hours a week.

Q40 Have you provided care for someone with a long-term illness, disability or frailty within the last 12 months? (*Please cross one box*)

☐ Yes ☐ No **If 'No', go to Q63 on page 14**

Q41 In total, how many people with a long-term illness, disability or frailty do/did you regularly provide care for in the last 12 months? (*Please cross one box*)

One person	Two people	More than two people
☐	☐	☐

Q42 Do you receive a *Supported Living Payment* for providing care for another person?

☐ Yes ☐ No

Please select the person you spent the most time caring for within the last 12 months. Tell us about that person and their circumstances at the time of care.

Q43 Approximately how old is/was the person you care(d) for?

☐☐ Years

Q44 How long have/had you been caring for this person?

☐☐ Years ☐☐ Months

Q45 How often on average do (did) you provide this care or assistance? (*Please cross one box*)

Every day	Several times per week	Once a week	Once every few weeks	Less often
☐	☐	☐	☐	☐

Q46 On average, how many hours per week did/do you care for this person?

☐☐☐ Hours per week

Q47 Is the person you care(d) for your: *(Please cross one box)*

☐ Spouse or partner	☐ Mother-in-law or father-in-law
☐ Mother or father	☐ Brother or sister
☐ Son or daughter	☐ Friend
☐ Other whanau member/relative	☐ Other

Q48 Does/did the person you care(d) for: (*Please cross one box*)

☐ Live with you	☐ Live alone
☐ Live with their whānau/family	☐ Live in a nursing home or care facility
☐ Live with their friends	☐ Other

Q49 Does/did the person you care(d) for have any of the following major medical conditions or disabilities? *(Please cross all that apply)*

☐ Frailty in old age	☐ Stroke
☐ Intellectual disability	☐ Mental health problem (e.g., depression)
☐ Visual impairment	☐ Cancer
☐ Alzheimer's disease/dementia	☐ Respiratory condition (e.g., asthma, emphysema)
☐ Severe arthritis / rheumatism	☐ Other (please specify): _____

Q50 In your opinion, how severe are the symptoms of these major medical conditions or disabilities experienced by the person you care(d) for? (*Please cross one box*)

None	Mild	Moderate	Severe	Very severe
☐	☐	☐	☐	☐

Q51 Have there been occasions during the past 12 months when you provided help for the person you cared for in a crisis (e.g. an illness, accident, or family crisis) that has interfered with your other commitments?

☐ **Yes** ☐ **No**

Q52 How many separate crises did you help with in the past 12 months?

☐☐☐ **Number of crises in the past 12 months**

Q53 In all, how many days in the past 12 months were you away from work because of these crises?

☐☐☐ **Days in the past 12 months** OR ☐ **N/A**

Q54 Has the person you cared for been admitted to hospital in the past 12 months? (*Please cross one box*)

No	Yes	Yes, spent one night or more	Don't know
☐	☐	☐	☐

Q55 Do you provide help to the person you care(d) for with any of the following activities?

(Please cross one box on each line)	Yes	No
Dressing (including putting on shoes and socks)	☐	☐
Eating (such as cutting up food)	☐	☐
Drinking	☐	☐
Using the toilet (including getting up and down)	☐	☐
Managing continence	☐	☐
Bathing and showering	☐	☐
Getting in and out of bed	☐	☐
Getting in and out of a chair	☐	☐
Personal grooming	☐	☐
Preparing meals	☐	☐
Shopping for groceries	☐	☐
Making telephone calls	☐	☐
Managing their money (e.g., paying bills, keeping track of expenses)	☐	☐
Housekeeping	☐	☐
Laundry	☐	☐
Transportation	☐	☐
Mobility (walking, wheelchair or stairs)	☐	☐
Taking medications	☐	☐
Recreation or hobbies	☐	☐

Q56 Do you receive help in providing this care from any of the following?

(Please cross one box on each line)	Yes	Help is needed but not provided	Help is not needed	N/A
Your children	☐	☐	☐	☐
Your siblings	☐	☐	☐	☐
Your spouse/partner	☐	☐	☐	☐
Other whānau/family	☐	☐	☐	☐
Friends	☐	☐	☐	☐
Neighbours	☐	☐	☐	☐
Publicly funded services	☐	☐	☐	☐
Support agencies you or your family pay for	☐	☐	☐	☐
Voluntary support agencies	☐	☐	☐	☐
Other	☐	☐	☐	☐

Q57 If the person you care for **does not live with you**, please indicate the time it usually takes you to travel from your home and your work to the residence of the person you care for:

(a) Time it usually takes you to travel from your home to the person's residence?

☐ Hours ☐☐ Minutes

(b) Time from your workplace to the person's residence.

☐ Hours ☐☐ Minutes OR ☐ I am not in the work force (go to Q59)

Q58 In the last 12 months, please indicate if you used any of the following methods to provide help and support to the person you care for:

(Please cross one box on each line)	Never	Once	More than once	No, I do not have access to this
Taken leave without pay	☐	☐	☐	☐
Taken annual leave	☐	☐	☐	☐
Used your own sick leave	☐	☐	☐	☐
Taken "domestic" leave	☐	☐	☐	☐
Taken time in lieu, or worked flexitime in consultation with supervisor/colleagues	☐	☐	☐	☐
Paid someone else to provide care which you would have preferred to provide yourself	☐	☐	☐	☐
Arranged with another whānau/family member to provide the care you normally provide	☐	☐	☐	☐
Made phone calls or provided care yourself in work time	☐	☐	☐	☐
Reduced hours of work	☐	☐	☐	☐
Formalised care leave arrangement with employer	☐	☐	☐	☐
Working more from home	☐	☐	☐	☐
Flexible work hours	☐	☐	☐	☐
Changed work role or tasks to be less demanding (temporarily)	☐	☐	☐	☐
Postponement of certain tasks/activities	☐	☐	☐	☐

Q59 Do you have a good relationship with the person you care for? *(Please cross one box)*

Never	Sometimes	Often	Always
☐	☐	☐	☐

Q60 Overall, what is the effect on your life of providing care? My life is: (*Please cross one box*)

A lot better for it	A little better for it	Neither better nor worse for it	A little worse for it	A lot worse for it
☐	☐	☐	☐	☐

Q61 In the past 12 months, has assisting someone caused you:

(Please cross one box on each line)	No	Yes
To reduce the time spent on social activities?	☐	☐
To cancel holiday plans?	☐	☐
To postpone plans to enrol in education or training programme?	☐	☐
To move in with him or her?	☐	☐
To turn down a job offer or a promotion?	☐	☐
To have extra expenses?	☐	☐

Q62 In the past 12 months, has assisting someone:

(Please cross one box on each line)	No	Yes
Caused your health to suffer?	☐	☐
Caused you to miss full days of work?	☐	☐
Caused you to reduce your hours of work?	☐	☐
Caused you to quit your job?	☐	☐
Caused you to lose your job?	☐	☐
Caused you to spend less time with your tamariki/children?	☐	☐
Caused you to spend less time with spouse/partner?	☐	☐

WHERE YOU LIVE

Q63 Which one of the following options best describes the type of residence that you currently live in (your primary residence)? *(Please cross one box)*

- ☐ House or townhouse (detached or 'stand alone')
- ☐ House, townhouse, unit or apartment (joined to one or more other houses, townhouses, units or apartments)
- ☐ Unit, villa or apartment in Retirement Village
- ☐ Moveable dwelling (e.g., caravan, motor home, boat, tent)
- ☐ Rest home or continuing care hospital
- ☐ Other (Please specify): _____

Q64 In terms of the ownership arrangements your primary residence is: *(Please cross one box)*

- ☐ Owned by yourself and/or spouse/partner **with a mortgage**
- ☐ Owned by yourself and/or spouse/partner **without a mortgage**
- ☐ Owned by whānau/family
- ☐ Owned by a whānau/family trust
- ☐ Private rental
- ☐ State, Council or Kaumātua housing
- ☐ Licence to occupy
- ☐ Other (Please specify): _____

Q65 How long have you lived in your present home?

	Years		Months

Q66 Please rate your level of agreement to each of these statements in relation to your present home.

(Please cross one box on each line)	No, definitely not		Neutral		Yes, definitely
I am satisfied with my house.	☐	☐	☐	☐	☐
I am satisfied with my neighbourhood.	☐	☐	☐	☐	☐
I am happy with the living conditions of my house.	☐	☐	☐	☐	☐
My house enables me to see friends and whānau/family as often as I like.	☐	☐	☐	☐	☐
My house enables me to participate in community activities as often as I like.	☐	☐	☐	☐	☐
My house supports all my daily activities.	☐	☐	☐	☐	☐
My home does not meet all my needs.	☐	☐	☐	☐	☐
I am able to keep my house warm.	☐	☐	☐	☐	☐
My house is difficult for me to clean.	☐	☐	☐	☐	☐
I can get to the shops easily.	☐	☐	☐	☐	☐
I am close enough to any help I need.	☐	☐	☐	☐	☐
I am close enough to important facilities.	☐	☐	☐	☐	☐
I feel safe at home.	☐	☐	☐	☐	☐
I feel safe in my neighbourhood.	☐	☐	☐	☐	☐
The neighbourhood is peaceful.	☐	☐	☐	☐	☐
I have peace of mind at home.	☐	☐	☐	☐	☐

Q67 How would you describe the condition of your current residence? (*Please cross one box*)

No repairs or maintenance needed right now	Minor maintenance needed	Some repairs and maintenance needed	Immediate repairs and maintenance needed	Immediate and extensive repairs and maintenance needed
☐	☐	☐	☐	☐

Q68 Does your residence have a problem with dampness or mould? (*Please cross one box*)

No	Minor problem	Moderate problem	Major problem
☐	☐	☐	☐

Q69 In winter, is your current residence colder than you would like? (*Please cross one box*)

Yes - always	Yes - often	Yes - sometimes	No
☐	☐	☐	☐

Q70 Please rate your level of agreement to each of these statements in relation to your present neighbourhood:

(Please cross one box on each line)	Strongly disagree		Neutral		Strongly Agree
People in this area would do something if a house was being broken into.	☐	☐	☐	☐	☐
In this area people would stop children if they saw them vandalising things.	☐	☐	☐	☐	☐
People would be afraid to walk alone after dark.	☐	☐	☐	☐	☐
People in this area will take advantage of you.	☐	☐	☐	☐	☐
If you were in trouble, there are lots of people in this area who would help you.	☐	☐	☐	☐	☐
Most people in this area can be trusted.	☐	☐	☐	☐	☐

WORK AND RETIREMENT

Q71 Since the COVID-19 pandemic was declared by the World Health Organisation (WHO) on March 11, 2020:

(Please cross one box on each line)	Yes	No
Have you engaged in any paid employment?	☐	☐
Have you been considered an essential worker?	☐	☐
Have you worked from home?	☐	☐
Has your hourly wage or salary been reduced?	☐	☐
Have your hours of paid employment been reduced?	☐	☐
Have you lost or left your job?	☐	☐
Have you been offered skills training from your employer to support how you do your job during the COVID-19 pandemic?	☐	☐

Q72 Has/will the COVID-19 pandemic be a factor in your decision to retire (i.e., earlier or later than you had previously planned)?

☐ **Yes, plan to retire *earlier*** ☐ **No change to plans** ☐ **Yes, plan to retire *later***

Q73 Have you received any hardship assistance as a result of the COVID-19 pandemic?

(Please cross <u>one</u> box on each line)	**No**	**Yes**
Government assistance to support your business (if applicable)	☐	☐
Government assistance such as welfare benefits	☐	☐
Material assistance from non-government organisations, such as food banks	☐	☐
Assistance from lenders, such as a mortgage holiday from your bank	☐	☐
A Kiwisaver hardship withdrawal	☐	☐

Q74 If you are retired, at what age did you retire?

☐☐ **Age at retirement** ☐ **I am not retired**

Q75 How many hours do you currently work in paid employment per week?

☐☐ **Hours**

Q76 Which of the following best describes your **<u>preferred</u>** work status? (i.e., what you would like to be doing)
(Please cross <u>one</u> box)

Full-time paid work, for an employer	☐
Part-time paid work, for an employer	☐
Full-time self-employed paid employment	☐
Part-time self-employed paid employment	☐
Flexible work schedule negotiated with employer	☐
Project or contract work (short term and full-time)	☐
Project or contract work (short term and part-time)	☐
Fully retired, no paid work	☐
Full-time homemaker	☐
Full-time student	☐
Other (Please specify): _____	☐

Q77 Which of the following best describes your **current** work status? *(Please cross one box in this column)*

Full-time paid work, for an employer	☐	go to Q79
Part-time paid work, for an employer	☐	
Full-time self-employed paid employment	☐	
Part-time self-employed paid employment	☐	
Flexible work schedule negotiated with employer	☐	
Project or contract work (short term and full time)	☐	
Project or contract work (short term and part time)	☐	
Fully retired, no paid work	☐	go to Q107
Full-time homemaker	☐	
Full-time student	☐	
Unable to work due to health or disability issue	☐	
Unemployed and seeking work	☐	go to Q78
Other (Please specify): _____	☐	go to Q107

Q78 Please indicate how much you agree with the following statements about your own job-search process.

(Please cross one box on each line)	Strongly disagree				Strongly agree
I have had one or more job applications rejected based on my age.	☐	☐	☐	☐	☐
I have omitted or modified my age/job history in an application out of concern that I would be discriminated against based on my age.	☐	☐	☐	☐	☐

Thank you. If you were instructed to go to Q78 from Q77, please now go to Q107.

Q79 Which of the following best describes your current occupation? *(Please cross one box)*

- ☐ Labourer (e.g., cleaner, food packer, farm worker)
- ☐ Machinery operator/driver (e.g., machine operator, store person)
- ☐ Sales worker (e.g., insurance agent, sales assistant, cashier)
- ☐ Clerical/administrative worker (e.g., administrator, personal assistant)
- ☐ Community or personal service worker (e.g., teacher aide, armed forces, hospitality worker, carer)
- ☐ Technician/trades worker (e.g., engineer, carpenter, hairdresser)
- ☐ Professional (e.g., accountant, doctor, nurse, teacher)
- ☐ Manager (e.g., general manager, farm manager)
- ☐ Other (Please specify): _____

Q80 How long have you worked for your current employer?

	Years		Months	OR		N/A

Q81 If you are self-employed, how long have you been self-employed?

	Years		Months

Q82 Which of the following best describes your current work?

(Please cross one box on each line)	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	N/A
I feel fairly well satisfied with my present job						
Work should only be a small part of one's life						
I am satisfied with the progress I have made toward meeting my overall career goals						
I find my job to be very stressful						
My job makes it difficult to be the kind of spouse or parent I'd like to be						

Q83 Assume that your ability to work at your best has a value of 10 points. How many points would you give your current work ability? (0 means that you cannot currently work at all) (*Please cross one box*)

0	1	2	3	4	5	6	7	8	9	10

Q84 How do you rate your current work ability with respect to the **physical** demands of your work? (*Please cross one box*)

Very good	Rather good	Moderate	Rather poor	Very poor

Q85 How do you rate your current work ability with respect to the **mental** demands of your work? (*Please cross one box*)

Very good	Rather good	Moderate	Rather poor	Very poor

The following questions relate to health and work impairment due to diseases

Q86 Is any illness or injury a hindrance to your current job? (*cross more than one alternative if needed*)

There is no hindrance/I have no diseases.	
I am able to do my job, but it causes some symptoms.	
I must **sometimes** slow down my work pace or change my work methods.	
I must **often** slow down my work pace or change my work methods.	
Because of my disease, I feel I am able to do only part time work.	
In my opinion, I am entirely unable to work.	

Q87 How many whole days have you been off work because of a health problem (disease or health care or for examination) during the past year (12 months)? (*Please cross one box*)

None at all	☐
At the most, 9 days	☐
10 – 24 days	☐
25 – 99 days	☐
100 – 365 days	☐

Q88 Do you believe that – from the standpoint of your health – you will be able to do your current job **two years from now?** (*Please cross one box*)

Unlikely	Not certain	Relatively certain
☐	☐	☐

Q89 Have you recently been able to enjoy your regular daily activities? (*Please cross one box*)

Often	Rather often	Sometimes	Rather seldom	Never
☐	☐	☐	☐	☐

Q90 Have you recently been active and alert? (*Please cross one box*)

Often	Rather often	Sometimes	Rather seldom	Never
☐	☐	☐	☐	☐

Q91 Have you recently felt yourself to be full of hope for the future? (*Please cross one box*)

Continuously	Rather often	Sometimes	Rather seldom	Never
☐	☐	☐	☐	☐

Q92 Please indicate how much you agree or disagree with the following statements.

(Please cross one box on each line)	Strongly disagree						Strongly agree
I value being a member of my age group.	☐	☐	☐	☐	☐	☐	☐
My age group membership is important to me.	☐	☐	☐	☐	☐	☐	☐
My age group is central to who I am as a person.	☐	☐	☐	☐	☐	☐	☐
I have a strong sense of belonging to my own age group.	☐	☐	☐	☐	☐	☐	☐
I identify with being a member of my age group.	☐	☐	☐	☐	☐	☐	☐

Q93 Please indicate how much you agree or disagree with the following statements.

(Please cross one box on each line)	Strongly disagree				Strongly agree	N/A
Some people in my workplace feel I have less ability because of my age.	☐	☐	☐	☐	☐	☐
Younger people find it easier to work at my workplace than older people do.	☐	☐	☐	☐	☐	☐
My manager expects me to do poorly because of my age.	☐	☐	☐	☐	☐	☐
At my workplace, people my age often face biased evaluations.	☐	☐	☐	☐	☐	☐
My age does not affect people's perception of my ability.	☐	☐	☐	☐	☐	☐

Q94 Please indicate to what degree you agree with each item.

(Please cross one box on each line)	Totally disagree				Totally agree
Older workers are passed over or left out in cases of promotion or internal recruitment.	☐	☐	☐	☐	☐
Older workers do not have equal opportunities for training during work time.	☐	☐	☐	☐	☐
Younger workers are preferred when new equipment, activities or working methods are introduced.	☐	☐	☐	☐	☐
Older workers less often take part in development appraisals with their superior than younger workers.	☐	☐	☐	☐	☐
Older workers have less wage increases than younger workers.	☐	☐	☐	☐	☐
Older workers are not expected to take part in change processes and new working methods to the same degree as their younger peers.	☐	☐	☐	☐	☐

Q95 The following statements refer to your current occupation. Please indicate the extent to which you disagree or agree with each statement.

(Please cross one box on each line)	Strongly disagree				Strongly agree	N/A
I have constant time pressures due to a heavy work load.	☐	☐	☐	☐	☐	☐
I have many interruptions and disturbances while performing my job.	☐	☐	☐	☐	☐	☐
Over the past few years, my job has become more and more demanding.	☐	☐	☐	☐	☐	☐
I receive the respect I deserve from my superior or a respective relevant person.	☐	☐	☐	☐	☐	☐
My job promotion prospects are poor.	☐	☐	☐	☐	☐	☐
I have experienced or I expect to experience an undesirable change in my work situation.	☐	☐	☐	☐	☐	☐
My job security is poor.	☐	☐	☐	☐	☐	☐
Considering all my efforts and achievements, I receive the respect and prestige I deserve at work.	☐	☐	☐	☐	☐	☐
	Strongly disagree				**Strongly agree**	**N/A**
Considering all my efforts and achievements, my job promotion prospects are adequate.	☐	☐	☐	☐	☐	☐
Considering all my efforts and achievements, my salary/income is adequate.	☐	☐	☐	☐	☐	☐
I get easily overwhelmed by time pressures at work.	☐	☐	☐	☐	☐	☐
As soon as I get up in the morning I start thinking about work problems.	☐	☐	☐	☐	☐	☐
When I get home, I can easily relax and 'switch off' work.	☐	☐	☐	☐	☐	☐
People close to me say I sacrifice too much for my job.	☐	☐	☐	☐	☐	☐
Work rarely lets me go, it is still on my mind when I go to bed.	☐	☐	☐	☐	☐	☐
If I postpone something that I was supposed to do today, I'll have trouble sleeping at night.	☐	☐	☐	☐	☐	☐

Q96 The following questions are about flexibility in the work place. Do you have access to the following options at your work place? If yes, do you take advantage of these options?

(Please cross one box on each line)	Yes, I have access to this, and I do this	Yes, I have access to this, but I do not do this	No, I do not have access to this	N/A
If you do shift work, can you choose which shift you work.	☐	☐	☐	☐
Choose a work schedule that varies from the typical schedule at your worksite.	☐	☐	☐	☐
Control when you take breaks.	☐	☐	☐	☐
Have input into the amount of overtime hours you work.	☐	☐	☐	☐
Have input into the number of hours you work.	☐	☐	☐	☐
Take extra "unpaid" vacation days.	☐	☐	☐	☐
Take paid time off to volunteer in the community.	☐	☐	☐	☐
Occasionally request changes in starting and quitting times.	☐	☐	☐	☐
Frequently request changes in starting and quitting times, such as on a daily basis.	☐	☐	☐	☐
Reduce your work hours and work on a part-time basis while remaining in the same position or at the same level.	☐	☐	☐	☐
Structure jobs as a job share with another person where both receive their "fair share" of compensation and benefits.	☐	☐	☐	☐
Compress the work week by working longer hours on fewer days for at least part of the year.	☐	☐	☐	☐
Take sabbaticals or career breaks. That is, take leave, paid or unpaid, of one or more months and return to a comparable job.	☐	☐	☐	☐
Take paid or unpaid time for education or training to improve job skill.	☐	☐	☐	☐
Take a paid leave for care giving or other personal or whānau/family responsibilities (e.g., parental or elder caregiving responsibilities).	☐	☐	☐	☐
Work part-year; that is work for a reduced amount of time on an annual basis (e.g., work full-time during the autumn, winter, and spring and then take the summer off).	☐	☐	☐	☐
Work for part of the year at one worksite, and then part of the year at another worksite.	☐	☐	☐	☐
Work from an off-site location (such as home) for part (or all) of the regular work week, possibly linked by telephone and computer.	☐	☐	☐	☐
Transfer to a job with reduced responsibilities and reduced pay, if you want to.	☐	☐	☐	☐
Phase into retirement by working reduced hours over a period of time prior to full retirement.	☐	☐	☐	☐

Q97 To what extent do you have access to the flexible work options you need to fulfil your work and personal needs? *(Please cross one box)*

Not at all	To a limited extent	To a moderate extent	To a great extent
☐	☐	☐	☐

Q98 Please indicate how much you agree or disagree with the following statements about your workplace.

(Please cross one box on each line)	Strongly disagree						Strongly agree	N/A
I am very happy being a member of this organisation/business.	☐	☐	☐	☐	☐	☐	☐	☐
I enjoy discussing about my organisation/business with people outside it.	☐	☐	☐	☐	☐	☐	☐	☐
I really feel as if this organisation/businesses' problems are my own.	☐	☐	☐	☐	☐	☐	☐	☐
I do not feel like 'part of the family' at my organisation/business.	☐	☐	☐	☐	☐	☐	☐	☐
I do not feel 'emotionally attached' to this organisation/business.	☐	☐	☐	☐	☐	☐	☐	☐
This organisation/business has a great deal of personal meaning for me.	☐	☐	☐	☐	☐	☐	☐	☐
I think that I could easily become as attached to another organisation/business as I am to this one.	☐	☐	☐	☐	☐	☐	☐	☐

Q99 The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have had this feeling, indicate how often you felt it by indicating the option that best describes how frequently you feel that way. If you have never had this feeling, indicate "Never".

(Please cross one box on each line)	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
At my work, I feel that I am bursting with energy.	☐	☐	☐	☐	☐	☐	☐
At my job, I feel strong and vigorous.	☐	☐	☐	☐	☐	☐	☐
I am enthusiastic about my job.	☐	☐	☐	☐	☐	☐	☐
My job inspires me.	☐	☐	☐	☐	☐	☐	☐
When I get up in the morning, I feel like going to work.	☐	☐	☐	☐	☐	☐	☐
I feel happy when I am working intensely.	☐	☐	☐	☐	☐	☐	☐
I am proud of the work that I do.	☐	☐	☐	☐	☐	☐	☐
I am immersed in my work.	☐	☐	☐	☐	☐	☐	☐
I get carried away when I'm working.	☐	☐	☐	☐	☐	☐	☐

Q100 The following questions ask about opportunities for training available to you.

(Please cross one box on each line)	Yes	No	N/A
Have you received training from your employer/business in the past 12 months?	☐	☐	☐
Have you been offered training by your employer/business, but not trained in the past 12 months?	☐	☐	☐
Have you ever been offered training by your employer/business?	☐	☐	☐

Q101 Please rate your level of agreement to each of these statements in relation to training opportunities in your present employment situation:

(Please cross one box on each line)	Strongly disagree				Strongly agree
I try to learn as much as I can from training programmes.	☐	☐	☐	☐	☐
I tend to learn more from training programmes than most people.	☐	☐	☐	☐	☐
I am usually motivated to learn the skills emphasised in training programmes.	☐	☐	☐	☐	☐
I am willing to exert considerable effort in training programmes in order to improve my skills.	☐	☐	☐	☐	☐
I believe I can improve my skills by participating in training programmes.	☐	☐	☐	☐	☐
I believe I can learn the material presented in most training programmes.	☐	☐	☐	☐	☐
Participation in training programmes is of little use to me because I have all the knowledge and skills I need to successfully perform my job.	☐	☐	☐	☐	☐
I am willing to invest effort to improve skills and competencies related to my current job.	☐	☐	☐	☐	☐
I am willing to invest effort to improve skills and competencies in order to prepare myself for a promotion.	☐	☐	☐	☐	☐

Q102 How often do you consider leaving your current job? *(Please cross one box)*

Never					Always
☐	☐	☐	☐	☐	☐

Q103 What is the likelihood that you will be looking for a new job within the next year? *(Please cross one box)*

Low					High
☐	☐	☐	☐	☐	☐

Q104 The following section contains questions that ask you to describe your thoughts and feelings toward retirement. It is important that you respond to a question even it if appears similar to others

(Please cross one box on each line)	Disagree strongly						Agree strongly
I would like to retire in the near future.	☐	☐	☐	☐	☐	☐	☐
I expect to retire in the near future.	☐	☐	☐	☐	☐	☐	☐

Q105 Please indicate how much you agree or disagree with the following statement: *(Please cross one box)*

	Strongly disagree	Somewhat disagree	Moderately disagree	Neither agree nor disagree	Moderately agree	Somewhat agree	Strongly agree
I can financially afford to retire now	☐	☐	☐	☐	☐	☐	☐

Q106 At what age do you intend to permanently retire from paid work?

☐☐ Years of age OR ☐ I never intend to retire from paid work

YOUR FINANCIAL WELLBEING

In this section we ask about your financial circumstances. Please be assured that your answers to these questions are completely confidential.

Please see notes at the back of the questionnaire to help work out your income, if needed.

Q107a From all sources of income, what do you expect your annual personal income before tax to be this financial year?
(Please cross one box)

- ☐ loss
- ☐ zero income
- ☐ $1 - $5,000
- ☐ $5,001 - $10,000
- ☐ $10,001 - $15,000
- ☐ $15,001 - $20,000
- ☐ $20,001 - $25,000
- ☐ $25,001 - $30,000
- ☐ $30,001 - $35,000
- ☐ $35,001 - $40,000
- ☐ $40,001 - $50,000
- ☐ $50,001 - $60,000
- ☐ $60,001 - $70,000
- ☐ $70,001 - $100,000
- ☐ $100,001 - $150,000
- ☐ $150,001 - $200,000
- ☐ $200,001 or more

Q107b From all sources of income, what do you expect your annual household income before tax to be this financial year?
(Please cross one box)

- ☐ loss
- ☐ zero income
- ☐ $1 - $5,000
- ☐ $5,001 - $10,000
- ☐ $10,001 - $15,000
- ☐ $15,001 - $20,000
- ☐ $20,001 - $25,000
- ☐ $25,001 - $30,000
- ☐ $30,001 - $35,000
- ☐ $35,001 - $40,000
- ☐ $40,001 - $50,000
- ☐ $50,001 - $60,000
- ☐ $60,001 - $70,000
- ☐ $70,001 - $100,000
- ☐ $100,001 - $150,000
- ☐ $150,001 - $200,000
- ☐ $200,001 or more

Q108 Do you currently receive New Zealand Superannuation? *(Please cross one box)*

Single rate	Couple rate	No

Q109 Do you currently receive a Veteran's Pension? *(Please cross one box)*

Single rate	Couple rate	No

Q110 Other than New Zealand Superannuation, please indicate what sources of financial support you and your partner (if applicable) currently have which will support you in your retirement years:

(Please cross all that apply)	Yourself	Your partner (if applicable)
None		
Kiwisaver		
Other employer sponsored superannuation		
Overseas superannuation or pension		
Other pension or superannuation		
Personal savings		
Inheritance or trust fund		
Iwi dividends		
Rental income (from property you own)		
Other personal investments		

Q111 For the following questions, please indicate whether or not you have (or have access to) the item:

(Please cross one box on each line)	Yes, I have it	No, because I don't want it	No, because of the cost	No, for some other reason
Telephone				
Washing machine				
At least two pair of good shoes				
Suitable clothes for important or special occasions				
Personal computer				
Home contents insurance				
Enough room for whānau/family to stay the night				

Q112 For the following questions, please indicate whether or not you do the activity:

(Please cross one box on each line)	Yes, I do it	No, because I don't want to	No, because of the cost	No, for some other reason
Keep the main rooms of your home adequately heated	☐	☐	☐	☐
Give presents to whānau/family or friends on birthdays, Christmas or other special occasions	☐	☐	☐	☐
Visit the hairdresser at least once every three months	☐	☐	☐	☐
Have holidays away from home for at least a week every year	☐	☐	☐	☐
Have a holiday overseas at least every three years	☐	☐	☐	☐
Have a night out for entertainment or socialising at least once a fortnight	☐	☐	☐	☐
Have whānau/family or friends over for a meal at least once every few months	☐	☐	☐	☐

Q113 The following are a list of things some people do to help keep costs down. In the last 12 months, have you done any of these things?

(Please cross one box on each line)	Not at all	A little	A lot
Gone without or cut back on fresh fruit and vegetables to help keep down costs	☐	☐	☐
Continued wearing clothing that was worn out because you couldn't afford a replacement	☐	☐	☐
Put off buying clothes for as long as possible to help keep down costs	☐	☐	☐
Stayed in bed longer to save on heating costs	☐	☐	☐
Postponed or put off visits to the doctor to help keep down costs	☐	☐	☐
NOT picked up a prescription to help keep down costs	☐	☐	☐
Spent less time on hobbies than you would like to help keep down costs	☐	☐	☐
Gone without or cut back on trips to the shops or other local places to help keep down costs	☐	☐	☐

The following questions are about your material standard of living – the things that money can buy. Your material standard of living does NOT include your capacity to enjoy life. You should NOT take your health into account.

Q114 Generally, how would you rate your material standard of living? (*Please cross one box*)

High	Fairly high	Medium	Fairly low	Low
☐	☐	☐	☐	☐

Q115 Generally, how satisfied are you with your current material standard of living? (*Please cross one box*)

Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
☐	☐	☐	☐	☐

Q116 How well does your total income meet your everyday needs for such things as accommodation, food, clothing and other necessities? (*Please cross one box*)

Not enough	Just enough	Enough	More than enough
☐	☐	☐	☐

Q117 Below are statements that people have made about their standard of living. Please indicate how true these statements are for you.

(Please cross one box on each line)	Not true for me at all				Definitely true for me
I can afford to go to a medical specialist if I need to.	☐	☐	☐	☐	☐
I am able to visit people whenever I wish.	☐	☐	☐	☐	☐
I am able to give to others as much as I want.	☐	☐	☐	☐	☐
I am able to do all the things I love.	☐	☐	☐	☐	☐
I expect a future without money problems.	☐	☐	☐	☐	☐
My choices are limited by money.	☐	☐	☐	☐	☐
I can afford to go to a dentist if I need to.	☐	☐	☐	☐	☐

Q118 To what degree has the COVID-19 pandemic had a negative impact on your economic wellbeing? (*Please cross one box*)

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐	☐	☐	☐	☐

We are interested in hearing about your experiences of the COVID-19 pandemic. There is space on the back page of the survey to write about these experiences if you wish.

YOUR PERSONAL SITUATION

Q119 What gender do you identify as? (*Please cross one box*)

- ☐ Tāne/Male
- ☐ Wāhine/Female
- ☐ Gender diverse (please specify) _____

Q120 Do you identify as: (*Please cross one box*)

☐ Heterosexual/Straight	☐ Gay/Lesbian
☐ Bisexual	☐ Other sexual identity
☐ Uncertain	☐ Prefer not to answer

Q121 When were you born?

Day: ☐☐ Month: ☐☐ Year: 1 9 ☐☐

Q122 Which one of these statements is true about you? (Please answer for your **current** marriage, partnership or situation). (*Please cross one box*)

- ☐ I am married.
- ☐ I am in a civil union/de facto/partnered relationship.
- ☐ I am divorced or permanently separated from my legal husband or wife.
- ☐ I am a widow or widower.
- ☐ I am single.

Q123 What is your highest educational qualification? (*Please cross one box*)

- ☐ No qualifications
- ☐ Secondary school qualifications (e.g., School Certificate, University Entrance, NCEA)
- ☐ Post-secondary certificate, diploma, or trade diploma
- ☐ University degree

Q124 Please cross as many options as you need to indicate all the people who live in the same household as you. Please also put in the number of people. If you live alone, please cross the option at the top of the table.

(Please cross all that apply)	Yes	Number 18yrs or over		Number under 18yrs	
I live alone	☐				
My spouse, partner or de facto, boyfriend or girlfriend	☐				
My parent(s) and/or parent(s)-in-law	☐				
My son(s) and/or daughter(s)	☐				
My sister(s) and/or brother(s)	☐				
My flatmate(s)	☐				
My mokopuna/grandchild(ren)	☐				
My friend(s)	☐				
My boarder(s)	☐				
Others (Please specify):	☐				

Q125 Please indicate below which ethnic group or groups you belong to: (*Please cross all that apply*)

- ☐ Māori
- ☐ New Zealand European
- ☐ Samoan
- ☐ Cook Island Māori
- ☐ Niuean
- ☐ Chinese
- ☐ Indian
- ☐ Tongan
- ☐ Other (please specify e.g., Dutch, Japanese, Tokelauan):

Q126a Which country were you born in? (*Please cross one box*)

☐ 1	New Zealand	☐ 7	India
☐ 2	Australia	☐ 8	South Africa
☐ 3	England	☐ 9	Samoa
☐ 4	People's Republic of China	☐ 10	Cook Islands
☐ 5	Other (print the name of the country):		

Q126b If you were **not** born in New Zealand, please indicate below the approximate date that you first arrived to live in New Zealand.

☐☐ **Month (e.g. 04)** ☐☐☐☐ **Year (e.g. 1985)**

Q127 What term best describes how you generally identify yourself when asked what your religion or belief system is? (*Please cross one box*)

☐ 1	Rātana	☐ 6	Islam	☐ 11	Hinduism
☐ 2	Ringatū	☐ 7	Sikh	☐ 12	Judaism
☐ 3	Christianity	☐ 8	Buddhism	☐ 13	Taoism
☐ 4	Agnostic	☐ 9	Atheist		
☐ 5	Other (please specify):				

Q128 How often do you take part in religious services? (*Please cross one box*)

More than once a week	Once a week	One or three times a month	A few times a year	Less often	Never
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Q129 How often do you pray? (*Please cross one box*)

Several times a day	Once a day	More than once a week	Once a week	One to three times a month	A few times a year	Less often	Never
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8

Q130 How often do you meditate? (*Please cross one box*)

Several times a day	Once a day	More than once a week	Once a week	One to three times a month	A few times a year	Less often	Never
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8

Q131 How important is it to take part in religious services? (*Please cross one box*)

Very much so	Quite a bit	Moderately	Not very much	Not at all
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Q132 How important is personal prayer for you? *(Please cross one box)*

Very much so	Quite a bit	Moderately	Not very much	Not at all
☐	☐	☐	☐	☐

Q133 How important is meditation for you? *(Please cross one box)*

Very much so	Quite a bit	Moderately	Not very much	Not at all
☐	☐	☐	☐	☐

Q134 To what extent does any connection to a spiritual being help you to get through hard times? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q135 To what extent does faith give you comfort in daily life? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q136 To what extent do you feel your life has a purpose? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q137 How much does spiritual strength help you to live better? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q138 To what extent do you have inner peace? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q139 To what extent are you hopeful about your life? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q140 How satisfied are you that you have a balance between mind, body and soul? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q141 To what extent are you able to experience awe? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

Q142 To what extent do you feel life to be meaningful? *(Please cross one box)*

Not at all	A little	Moderately	Mostly	Completely
☐	☐	☐	☐	☐

If you have Māori ancestry, continue with Q143,
if you DO NOT, please turn to page 33.

Q143 How would you rate your overall ability with Māori language? (*Please cross <u>one</u> box*)

Excellent	Very good	Good	Fair	Poor	None
☐	☐	☐	☐	☐	☐

Q144 The scale has been designed so that you will probably find that you agree with some statements but disagree with others to varying degrees. There are no right or wrong answers.

(Please cross <u>one</u> box on each line)	Strongly disagree						Strongly agree
I reckon being Māori is awesome.	☐	☐	☐	☐	☐	☐	☐
I love that I am Māori.	☐	☐	☐	☐	☐	☐	☐
Being Māori is NOT important to who I am as a person.	☐	☐	☐	☐	☐	☐	☐
I try to kōrero (speak) Māori whenever I can.	☐	☐	☐	☐	☐	☐	☐
I know how to behave the right way when I am on a marae.	☐	☐	☐	☐	☐	☐	☐
I have a clear sense of my Māori heritage and what it means for me.	☐	☐	☐	☐	☐	☐	☐
I believe that my taha wairua (my spiritual side) is an important part of my Māori identity.	☐	☐	☐	☐	☐	☐	☐
I can sometimes feel my Māori ancestors watching over me.	☐	☐	☐	☐	☐	☐	☐
I have never felt a spiritual connection with my ancestors.	☐	☐	☐	☐	☐	☐	☐
	Strongly disagree						Strongly agree
I stand up for Māori rights.	☐	☐	☐	☐	☐	☐	☐
What the European settlers did to Māori in the past has nothing to do with me personally. I wasn't there and I don't think it affects me at all.	☐	☐	☐	☐	☐	☐	☐
I think that Māori have been wronged in the past, and that we should stand up for what is ours.	☐	☐	☐	☐	☐	☐	☐
I think it is easy to tell that I am Māori just by looking at me.	☐	☐	☐	☐	☐	☐	☐
People would never know that I am of Māori descent just by looking at me.	☐	☐	☐	☐	☐	☐	☐
I think it is hard to tell that I am Māori just by looking at me.	☐	☐	☐	☐	☐	☐	☐
If a problem arises that people cannot solve by themselves, the whānau as a whole will be able to solve it.	☐	☐	☐	☐	☐	☐	☐
People in my whānau have always been able to discuss problems that affect everyone.	☐	☐	☐	☐	☐	☐	☐
Whenever my whānau undertake a project together, we know that we will all work hard until it is accomplished.	☐	☐	☐	☐	☐	☐	☐

INTERVIEW INVITATION

To better understand people's experiences, we sometimes invite participants in the Health, Work and Retirement study to take part in face to face interviews based on their responses to the survey.

If you are interested in being asked to participate in an interview (after receiving more information about it), please cross the box below and provide a phone number and/or email address in the boxes below.

☐ **Yes, I am willing to be contacted regarding an interview**

CONTACT DETAILS

Whether or not you are interested in an interview, please consider providing us with a phone or email contact, in case you are no longer reachable at your current address. These details are stored separately to survey data.

Phone number:

Email address:

If you need to change your address, please enter your new address in the space below.

Street:

Suburb

Town/City

Postal code

GUIDE NOTES

Why do you want to know my income?

Information such as income are used to help determine how well respondents to the New Zealand Health, Work and Retirement survey represent the general New Zealand population and whether income is a feature in ageing well. All of the answers you give are kept confidential.

How do I work out my annual personal/household income?

Remember:

- If you and your spouse/partner earn income jointly, only include your part of that income when reporting your personal income.
- Count any payments that are taken out of your income before you get it, such as repayments of student loans, union fees, fines or child support.
- DON'T count loans (including student loans), inheritances, sale of household or business assets, lottery wins, matrimonial / civil union / de facto property settlements or one-off lump sum payments.
- DON'T count money given by members of the same household to each other. For example, pocket money given to children, or money given for housekeeping expenses by a flatmate.

Calculating annual income before tax: If you know your weekly or fortnightly income after tax, use this table to work out your annual income before tax.

After tax weekly income$	After tax fortnightly income $	Before tax annual income $
up to 86	up to 172	21 – 5,000
87 – 172	173 – 343	5,001 – 10,000
173 – 256	344 – 512	10,001 – 15,000
257 – 335	513 – 671	15,001 – 20,000
336 – 414	672 – 829	20,001 – 25,000
415 – 493	830 – 987	25,001 – 30,000
494 – 573	988 – 1,145	30,001 – 35,000
574 – 652	1,146 – 1,303	35,001 – 40,000
653 – 805	1,304 – 1,610	40,001 – 50,000
806 – 939	1,611 – 1,879	50,001 – 60,000
940 – 1,074	1,880 – 2,147	60,001 – 70,000
1,075 – 1,459	2,148 – 2,918	70,001 – 100,000
1,460 – 2,102	2,919 – 4,203	100,001 – 150,000
2,103+	4,204+	150,001+

Standard NZ Super: these are the approximate standard before tax rates for NZ Super.

	Fortnightly before tax	Annual before tax
Single, living alone	$981.46	$25,517.96
Single, sharing accommodation	$902.58	$23,467.08
Married person or partner in a civil union or de facto relationship	$705.26	$18,336.76
Married or in a civil union or de facto relationship, both qualify	$744.54	$19,358.04

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Appendix B: Dichotomous Housing Variable

Table A1

Descriptive Statistics for ELSI-Sf as a Function of Home Ownership

	N	Mean	*SD*
Owned with a mortgage	149	22.24	6.44
Owned without a mortgage	930	25.37	4.59
Owned by Family or Family Trust	229	25.43	4.79
Rented	102	20.28	5.64
Other	94	21.75	6.76

Notes: *N*=1504

Table A2

Post Hoc Tests Using Bonferroni Correction for Home Ownership With ELSI-Sf as the Dependent Variable.

					95% Confidence Interval	
		Mean Difference	Std. Error	Sig.	Lower Bound	Upper Bound
Owned with a mortgage	w/o mortgage	-3.14*	.446	.000	-4.39	-1.88
	trust	-3.19*	.533	.000	-4.69	-1.69
	rented	1.96*	.650	.026	.130	3.79
	other	.494	.666	1.00	-1.38	2.37
Owned without a mortgage	w/ mortgage	3.14*	.446	.000	1.88	4.39
	trust	-.054	.373	1.00	-1.10	.995
	rented	5.09*	.528	.000	3.61	6.58
	other	3.63*	.548	.000	2.09	5.17
Owned by Family or Family Trust	w/ mortgage	3.19*	.533	.000	1.69	4.69
	w/o mortgage	.054	.373	1.00	-.995	1.10
	rented	5.15*	.602	.000	3.45	6.84
	other	3.68*	.619	.000	1.94	5.43
Rented	w/ mortgage	-1.96*	.650	.026	-3.79	-.131
	w/o mortgage	-5.09*	.528	.000	-6.58	-3.61
	trust	-5.15*	.602	.000	-6.84	-3.45
	other	-1.46	.723	.431	-3.50	.569
Other	w/ mortgage	-.494	.666	1.00	-2.36	1.38
	w/o mortgage	-3.63*	.548	.000	-5.17	-2.09
	trust	-3.68*	.620	.000	-5.43	-1.94
	rented	1.46	.723	.431	-.569	3.50

Notes: N = 1,504, * The mean difference is significant at the 0.05 level.