The health effects of forced retirement on older New Zealanders

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Abstract

This study investigated the relationship between forced retirement and physical and mental health of older New Zealanders. As well, individuals' social support, socioeconomic status, and participation in employment and voluntary and recreational activities also impacted health and adjustment to retirement. Participants who responded to all three surveys conducted by the Health, Work, and Retirement (HWR) study, and the New Zealand Longitudinal Study of Ageing (NZLSA), over 2006, 2008, and 2010 were included in the study. Bivariate and multivariate methods were applied to data from 2006 and 2010. The findings showed a negative relationship between forced retirement and mental health at 2010 when health and age at 2006 were held constant. High social support was associated with better physical and mental health, and low and high socioeconomic status showed physical health benefits. Employment in retirement was positive for physical health, and participation in recreational activities was positive for mental health and adjustment to retirement. Participation in voluntary activities was associated with adjustment difficulties. It is argued that the loss of control associated with forced retirement is regained through participation in meaningful employment and recreational activities.

Acknowledgements

"… and His grace which was bestowed upon me was not in vain … 1 Cor.15:10.

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1. Introduction and Background

Most New Zealanders will experience some form of retirement in later life, and the nature of that retirement, whether voluntary or forced may affect their health and subsequent adjustment to retirement. Forced retirement refers to leaving work earlier than traditionally expected or desired (van Solinge & Henkens, 2007). The lack of control over this significant life event can lead to poor physical and mental health, a predictor of retirement adjustment (van Solinge & Henkens, 2008).

People tend to see themselves as being in control of the forces that significantly affect their lives (van Solinge, 2007) and having choices over what they do and how much they are involved (Quine, Wells, De Vaus, & Kendig, 2007). Not having control, as in the process of forced retirement can affect a person's sense of meaning in life, their purpose, and their faith in their ability to cope, for example, with changes in retirement (van Solinge, 2007).

The ongoing process through which the individual gets used to the changing circumstances in retirement life is described by van Solinge and Henkens (2008) as retirement adjustment. Such circumstances can be shaped by the individual's resources such as social support, socioeconomic status, and post-retirement paid or unpaid activities, all of which, at some level, have an impact on the individual's health (Jensen, Ryom, Christensen, & Andersen, 2012; Leitner & Leitner, 2012; Zhan, Wang, Liu, & Shultz, 2009).

International research suggests that forced retirement reflects restricted choices (e.g. organizational policies) off-time retirement, and social forces (Szinovacz & Davey, 2005; van Solinge & Henkens, 2007). Retirement adjustment problems (van Solinge & Henkens, 2005), adverse health operating through life-style changes (Dave et al., 2008), and long lasting negative effects on post-retirement health (van Solinge & Henkens, 2007) have also been found in the event of forced retirement.

The New Zealand literature reveals a scarcity of studies on the impact of forced retirement on the physical and mental health of older New Zealanders. Alpass, Neville, and Flett (2000) investigated the contribution of forced retirement to health in a group of retired, older New Zealand males, and suggested that forced retirement was unrelated to well-being (including physical and mental health). The authors, however, queried their samples' interpretation of "forced" retirement given that mandatory retirement was legally enforceable in New Zealand until 1999. Other New Zealand studies that have

included the experience of forced retirees have focused on redundancy amongst older workers (Brazzale, 2011; Cameron & Waldegrave, 2009; Davey, 2008; Macky, 2004), and retirement due to poor health (McGregor & Gray, 2003). The present study intends to explore further, Alpass, Neville, and Flett's (2000) findings on forced retirement, using data from the New Zealand Health, Work and Retirement study collected in 2006 and 2010. This data, based on a representative sample of older New Zealanders, will also investigate the influence of social support and socioeconomic status on the relationship between retirement reason (forced vs voluntary) and health. In addition, the contribution of bridge employment, and voluntary and recreational activities to the health and retirement adjustment of forced retirees will be examined.

Based on approaches that seek to understand retirement adjustment, i.e., life course perspective and continuity theory, this study hypothesizes that:

(1) retirees who are forced to retire will have poorer health in post-retirement,

(2) social support will influence the relationship between retirement (forced vs voluntary) and subsequent health status,

(3) socioeconomic status will influence the relationship between retirement (forced vs voluntary) and subsequent health status, and

(4) forced retirees who participate in bridge employment or voluntary and recreational activities will have better health and subsequent adjustment to retirement.

Thesis Outline.

The present study is organised in the following way: Chapter two reviews the relevant literature on retirement, retirement adjustment, social support, socioeconomic status, bridge employment, and voluntary and recreational activities, in relation to retirement reason (forced vs voluntary) and physical and mental health in retirement. Chapter three outlines the method, while chapter four describes the analysis of the data, and the findings of this study. Finally, chapter five presents the discussion of the findings in relationship to existing literature, looks at practical applications of the findings, states the limitations of the current study and suggests future research directions.

2. **Literature Review and Theoretical Framework**

The current project investigates the health effects of forced retirement on older New Zealanders. This chapter will review relevant literature on retirement, retirement type (voluntary and forced), physical and mental health, social support, socio-economic status, bridge employment, and voluntary and recreational activities. Specifically, this section will examine the relationship between retirement type and health in terms of adjustment to retirement. Hypotheses were developed to guide the current research and and are based on theories relevant to the study of retirement as a process that evolves over time. In the following chapter, the relevance of this literature to these hypotheses will be highlighted.

Retirement

The study of the concept of retirement has not led to a consensus on its definition, although a number of conceptualisations have been developed. Multiple definitions and conceptualizations of retirement exist in the literature, and while researchers are unable to agree on a single definition of what constitutes retirement there is a clear consensus that retirement is a process (Beehr, 1986) that occurs over time. The retirement process for older people may involve transitioning from work to other paid or unpaid activity, a decrease in psychological commitment to work (Shultz & Wang, 2011), receiving a retirement pension, and declaring that one is temporarily or permanently retired. Conceptualizations of retirement include describing retirement as a decision making process, and as an adjustment process (Shultz & Wang, 2011). Retirement as adjustment process assumes that retirees become accustomed to the changes brought about by the transition from work to retirement and achieve psychological comfort with their life in retirement (van Solinge & Henkens, 2008). The present study conceptualizes retirement as a process that incorporates both the retirement transition and the postretirement trajectory.

Retirement Adjustment

Adjustment to retirement is also an individualized process (van Solinge & Henkens, 2005), and impacted by a number of situational characteristics including retirement type, and retiree resources. The impacts on retirement adjustment relevant to the present study will be outlined after a review of theoretical perspectives.

Theoretical Perspectives

Three key theoretical perspectives in the retirement literature are the life course perspective, continuity theory, and role theory (Wang, Zhan, Liu, & Shultz, 2008).

A challenge to the adaptability of role theory to the focus of the present study is presented by Wong and Earl (2009). These authors challenge the assumption that loss of the work role predicts poorer health and subsequent adjustment to retirement. They suggest that the direct, linear relationships predicted by a role theory approach counter the evidence that retirement adjustment follows a non-linear trajectory.

In line with the focus of the present study, Elder's (1995) life course perspective and Atchley's (1989) continuity theory provide a background for interpreting the consequences of forced retirement on physical and mental health.

Life Course Perspective

The life course perspective provides a general framework for analysing development and change over the individual's life span (Szinovacz, 2003). As a theoretical orientation to explain retirement, the life course draws attention to a number of concepts including (a), trajectories and transitions (b), life events (c), contextual embeddedness of life transitions (d), linked lives (e), timing of transitions, and (f), human agency (Elder, 1995).

Trajectories and Transitions. Multiple retirement paths exist, some, involving work engagement (de Wind, van der Pas, Blatter, & van der Beek, 2016) others, variations in health over time. (Jokela et al., 2010).

Transitions. Transitions refer to a change in state or states (with an exit and entry) such as leaving work to retire. Changes are discrete and bounded, ending an old phase of life and beginning a new. For example, retirement transitions that are complete, partial, or gradual are core elements of a retirement-life trajectory (Calvo & Sarkisian, 2011). The function of transitions is crucial to the continuities and discontinuities over the individual's life span (Pearlin, 2010).

Life Events. A life event is a significant, more or less abrupt change that may produce serious and long-lasting effects in the life of the individual. Several life events occur across the life span of the individual, and these events are theorized to signal transitions. A life event such as retirement might be considered stressful by some but a relief by others, depending, according to Behncke (2012) upon people's coping resources.

Contextual Circumstances. Features of the retirement transition include job-related characteristics (e.g., age, and retirement norms), worker characteristics (e.g., age, health, and financial status), the individual's social context, the extent to which retirement is expected or unexpected, the voluntariness of retirement (Beehr, 1986), and perceived control over when retirement takes place (Fisher, Chaffee, & Sonnega, 2016; van Solinge & Henkens, 2008).

Linked Lives. The concept of linked lives denotes how individuals are connected through interactions with significant people in their lives (Winterton & Warbuton, 2015). These authors theorize that lives are linked by changing times, places, institutions, and shared social and historical influences. According to Szinovacz (2003) peoples' developmental experiences in one sphere of life (e.g., nonwork) influence and are influenced by their experiences in other spheres (e.g., retirement).

Timing. In many countries older peoples' personal expectations, and established social and cultural norms signal the appropriate time to retire, and influence both the meaning people attach to retirement and how retirement is experienced (van Solinge & Henkens, 2007). For example, a study by Calvo, Sarkisian, and Tamborini (2013) using data from 6,624 older American's and their spouses, found deviating from conventional retirement age by retiring early appeared to have detrimental effects on their subjective physical and emotional health. These authors suggested that such off-time transitions were a potential source of stress; stress lessened, according to van Solinge and Henkens (2007) when transitions adhered to age norms.

Human Agency. People are capable of planning their lives and making choices within the constraints of their social worlds (Elder, 1995). Human agency implies that people can serve their own interests and direct their lives in order to fulfil their values and goals (Pearlin, 2010). For example, Australian focus group participants who had been forced to retire regained a sense of control over their working lives by taking up meaningful activity (e.g., voluntary work) where they could once again exert personal choice over what they did and how frequently they participated (Quine, Wells, de Vaus, & Kendig, 2007).

In summary, the life course perspective assumes that retirement is one of multiple transitions, previously signalled by relevant life events, and later life trajectories. The experience of retirement is contingent on individual, institutional, social, and other external constraints under which the retirement process occurs. Individuals transitioning to retirement do not act independently of their social

relationships, but rather are influenced by the interdependent functioning of experiences in their own lives and in the lives of their significant others. The timing of retirement also influences how retirement is experienced and the meaning individuals attach to the process. Within the constraints of the retirement process, individuals are capable of planning and making choices for themselves.

Continuity Theory

Retirement studies use continuity theory as a general framework for analysing retirement adjustment and to explain why most adults show consistency in their life patterns of thought, behaviour and relationships in later life (Atchley, 1989). The initial development of continuity theory is attributed to Robert Atchley. He proposed that both internal and external continuity were central to coping with change in the midlife and later. Continuity theory posits that as long as people maintain their usual pattern of activities, drawing on past experiences and applying familiar strategies to situations they encounter, non-pathological declines in overall physical and mental activity will not be met with a sense of discontinuity in their lifestyle.

Internal and External Continuity. Atchley (1989) described continuity in terms of both internal and external continuity. He viewed internal continuity as fundamental to decision-making, ego integrity, self-esteem, and meeting one's basic needs. External continuity, on the other hand, was viewed as the driver behind people's preservation of lifestyle and personal goals, which in turn would give them a degree of predictability in lives (Atchley, 1989). Continuity theory posits that stability and consistency allow the individual to accommodate high amounts of evolutionary change without experiencing serious disruption to life as he or she knows it. For example, rather than viewing retirement as a major crisis, retirement is viewed as an opportunity to maintain social relationships and lifestyle patterns (Atchley, 1989).

Discontinuity. A lack of continuity in life can lead to discontinuity. Discontinuity, Atchley (1989) defined in terms of an individual's self-constructs. If serious enough, internal discontinuity could destroy mental health (e.g., Alzheimer's disease), and external discontinuity (e.g., failing skills) could have serious implications for adaptation.

In summary, continuity theory is an adaptive strategy for dealing with changes due to normal ageing (Atchley, 1989). For older adults, adaptation takes the form of maintaining stability and achieving a balance between sameness and change in life. While normal ageing persists, adaptation is determined by the individual's past, lifestyle

preferences, and resources (van Solinge & Henkens, 2005). However, individuals who experience pathological ageing are considered to be limited in their ability to maintain continuity; serious health problems likely to cause irreversible disruption in their lives. Continuity theory and the life course perspective help explain retirees' adjustment to retirement. The concept of retirement adjustment is discussed in the next section.

Retirement Adjustment.

Adjustment to retirement is an ongoing process through which retirees get used to the changing circumstances encountered in retirement life (van Solinge & Henkens, 2008). As an individualized process (van Solinge & Henkens, 2005), adjustment to retirement can be assessed directly or indirectly, varies across time, and be impacted by a number of situational characteristics including retirement type, and retiree resources.

Adjustment Inferred.

The adjustment process can be assessed directly (Leung & Earl, 2012) through inventories (Donaldson, Earl, & Muratore, 2010) and self-evaluations of retirement. For example, 778 Dutch retirees were asked how long it took for them to get used to retirement, and how difficult it had been for them to adjust (van Solinge & Henkens, 2008). These authors reported that about 13% reported severe difficulties in adjusting to retirement, and almost 50% adjusted reasonably quickly to non-working life.

Indirect Inference. Adjustment to retirement can also be inferred indirectly by means of indicators of difficult retirement experiences and physical and mental health. For example, using data provided by Australian retirees, Donaldson, et al. (2010) suggested that those who adjusted well to retirement reported better mental and physical health. The authors found that conditions of workforce exit (e.g., voluntary versus forced) and mastery (i.e., personal control) were the best predictors of retirement adjustment.

Adjustment Across Time. Retirement is a process that older people go through over a number of years (Shultz & Wang, 2011). For example, Gall, Evans, and Howard's (1997) study of Canadian, male retirees, found that physical and mental health peaked at 1 year post-retirement, and slowly but progressively diminished over time. These authors suggested that the short-term adjustment in retirees' health was due to release from the daily pressures of work, and the freedom to pursue other interests, and that the gradual decrease in retirees' health (at 6-7 year follow-up) was due to the ageing process.

Determinants of Retirement Adjustment

Factors that may account for why adjustment to retirement is easier in some situations and more difficult in others include situational characteristics such as voluntary or forced retirement, the timing of the retirement transition, and the individual's access to resources (van Solinge, & Henkens, 2005).

Retirement Types. Among retirement types are on-time retirement, which tends to be expected, and off-time retirement, which tends to be unexpected and unplanned (Calvo, Sarkisian, & Tamborini, 2013). Retirement that occurs earlier than expected, may also be perceived as forced (van Solinge & Henkens, 2007; Szinovacz & Davey, 2005) and have negative effects on retirement adjustment (van Solinge & Henkens, 2008). These effects can be due to individuals not having peers to support them during the retirement transition (van Solinge & Henkens, 2007), or being reluctant to retire (Quine, Wells, de Vaus, & Kendig, 2007). These factors along with unintended unemployment in retirement, and stress following off-time retirement can lead to poor adjustment in retirement (van Solinge & Henkens, 2005). In support of the life course perspective, the effects of retirement timing on retirement adjustment influence and are influenced (Fisher, Chaffee, & Sonnega, 2016) by these contextual factors.

Operational definitions. Operational definitions of on-time retirement include age at the point of retirement (Beehr, 1986), mandatory retirement age (Mein, Martikainen, Hemingway, Stansfeld, & Marmot, 2003), and the retirement age norm for the industry/occupation/or culture (Calvo, Sarkisian, & Tamborini, 2013). Early and late retirement definitions are described as taking place before or later than on-time retirement (e.g., retirement prior to the individual's expected retirement age and retirement past the individual's expected retirement age).

Resources. The experience of retirement and adjustment to retirement is reported to be contingent upon the contexts in which these transitions occur (Shultz, & Wang, 2011). Such contexts are shaped by retirees' resources (van Solinge & Henkens, 2005) which in turn, influence retirement adjustment. Resources (e.g., health, social support) may allow the individual the capacity to fulfil his or her valued needs, and achieve desired ends. For example, Leung and Earl (2012) using data provided by Australian retirees aged 50 years or older found that the more retirement resources a retiree had, the greater retirement adjustment he or she was likely to experience.

Availability, access to, and change in resources. Leung and Earl (2012) also found that retirement resources (e.g., health, mental capacity, and social support) accounted for 22% of the variance in retirement adjustment. Importantly, decreases in retirees' resources in the form of declines in health (van Solinge & Henkens, 2005), and the unavailability of social support (Hershey & Henkens, 2014) could lead to negative evaluations of retirement (van Solinge & Henkens, 2005) and adversely affect adjustment.

Health and Retirement Adjustment. As a resource, and an individual attribute relevant to the retirement transition, health has been found to be a significant predictor of retirement adjustment (Leung & Earl, 2012). In terms of subjective health, van Solinge (2007) found that 25% of 778 Dutch, older workers reported improvements once retired, and 19% reported deteriorations in their health. Health problems, however, were not found to hamper adjustment (van Solinge & Henkens, 2008). Van Solinge (2007) suggested that actual and perceived control over the transition to retirement influenced the incidence of health problems after retirement. Older workers who were forced to retire were considered at risk in terms of health, contrariwise, "people for whom retirement was a conscious, positive choice tend[ed] to feel better after retirement" (van Solinge, 2007, p. 251). These effects are illustrated in Figure 1.

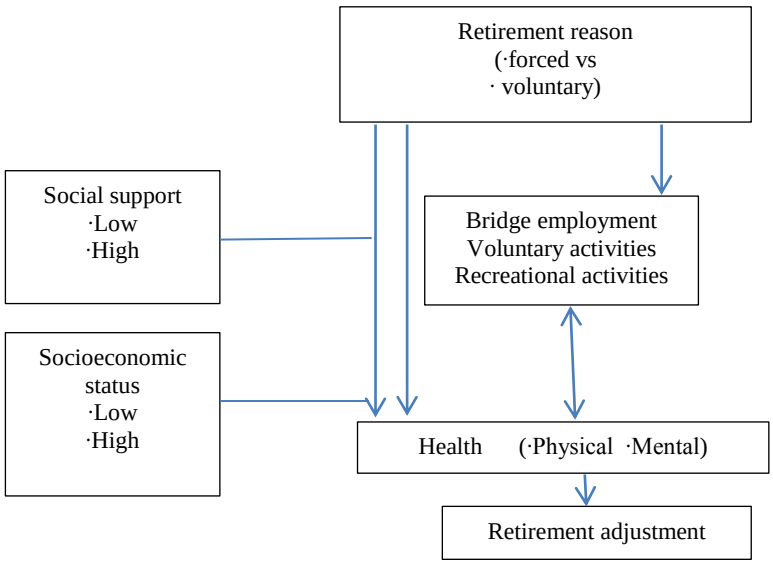

Figure 1. Hypothesized associations between retirement reason and post-retirement health and adjustment.

In summary, adjustment to retirement is described in the literature as a process of becoming familiar with new experiences in retirement. Adjustment may be directly assessed or inferred via measures of psychological comfort. During retirement, retirees report both initial and later adjustments to their experiences of retirement. The context and circumstances in which the transition to retirement is made also influences adjustment. Contexts are shaped by retirees' resources (van Solinge & Henkens, 2005) which allows access to and the potential to achieve objectives in retirement.

A life course perspective on retirement adjustment underscores the influences of events leading to the transition to retirement and characteristics of the transition. A retirement trajectory can include synchronized and unsynchronized events of voluntary or forced exits from the workforce leading to retirement. Forced retirement can be experienced as stressful if it is unwanted and experienced as a relief if retirement is from a stressful job. Retirement resources, and control over when retirement occurs (van Solinge, 2007) are protective factors (Bamberger & Bacharach, 2014). The argument is that individuals who voluntarily retire, control when they retire, and have good physical and mental health, adjust better to retirement than individuals who are forced to retire, have inadequate control over when they retire, and declining health. Figure 2 locates the retirement adjustment – health relationship in the broader context of historical as well as current circumstances, which in turn, shape the timing of and choice of retirement, as well as the nature of postretirement physical and mental health.

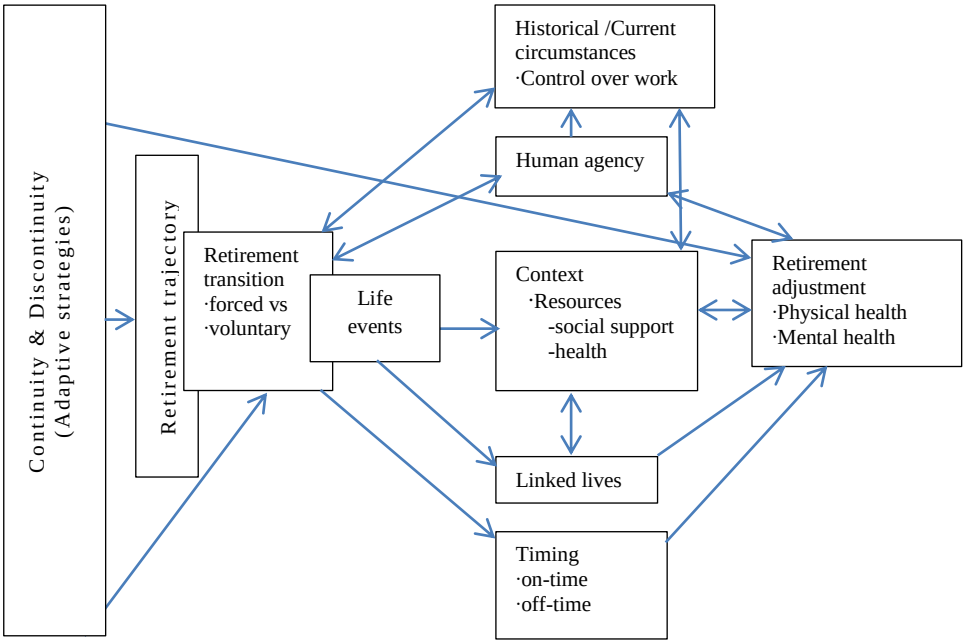

Figure 2. A life course perspective linking retirement, retirement adjustment, and health. Adapted from, A life course perspective on retirement, gender, and well-being, by P. Moen (1996), Journal of occupational health Psychology, 1(2), 131-144. Copyright (1996) by the Educational Publishing Foundation.

Continuity theory recognizes that people, when making adaptive choices in retirement attempt to preserve and maintain their self-concept, their relationships, and that which is familiar and unique (Atchley, 1989). At the same time, people recognize that changes within themselves and/or their lifestyle will tend to be consistent with their past experiences (Atchley, 1999). The argument is that individuals make adaptive choices, a strategy developed prior to the retirement transition (see Figure 2), in order to manage life events, maintain their lifestyle patterns, and avoid serious disruption (Atchley, 1999). In addition, continuity theory argues severe difficulty in maintaining continuity leads to discontinuity resulting in lower levels of physical and mental health. Retirement reasons, namely voluntary and forced retirement, as mentioned, also have an impact on the transition to retirement and post-retirement life. Retirement reasons are therefore investigated next.

Retirement Reasons

Retirement is reported in the literature to be mainly a voluntary transition with a smaller proportion of retirees experiencing retirement as forced.

Voluntary/forced retirement may be defined by subjective and objective criteria however both classifications are reported to yield similar outcomes (Dorn & Sousa-Poza, 2010). These outcomes are influenced by conditions leading to perceptions of voluntary/forced retirement or specific circumstances that prompt voluntary/forced retirement. Voluntariness (Beehr, 1986) is one such condition, and refers to retirees' perceptions of whether retirement is voluntary or forced. A variety of circumstances can push or pull retirees into retirement and affect how they perceive the retirement transition (Shultz, Morton, & Weckerle, 1998). Involuntary and forced retirement terminology tends to be used interchangeably in the literature, however, the present study has used the term forced retirement to refer to both forced and involuntary retirement.

Subjective and Objective Measures. Given that 'voluntary' and 'forced' are intrinsically subjective concepts, retirement is classified as voluntary or forced according to individuals' self-assessment of their transition to retirement (Dorn & Sousa-Poza, 2010). A range of self-assessment measures are found in the literature including retirement by choice or not by choice (Dorn & Sousa-Poza), and retirement in agreement with, or against, the retiree's will (van Solinge & Henkens, 2007). Voluntary and forced retirements have also been operationalized using objective classifications (Dorn & Sousa-Poza, 2010). Studies indicate that subjective and objective definitions of forced early retirements yield similar results. For example, studies using an objective measure (e.g., retirement preceded by job loss or the onset of health problems) in order to capture the external circumstances of retirees, reported a frequency of about one third of forced exits for Germany, Spain, and the United States (Heisig, 2015). Applying a subjective measure (i.e., was retirement something you wanted to do or something you felt you were forced into?) to the Health and Retirement Study (HRS) data, Szinovacz and Davey (2005) also found about one third of forced retirements.

Voluntariness. The voluntariness of retirement has been referred to by Beehr (1986) as retirees' perceptions of whether retirement is voluntary or forced. These perceptions include concepts of choice and control (Szinovacz & Davey, 2005; van Solinge, 2007).

Choice. Szinovacz and Davey (2005) view choice on a continuum i.e., no choice, low and high choice, and restricted choice. Restrictions might arise from personal, family, organizational, or societal circumstances (van Solinge & Henkens, 2007). According to Szinovacz and Davey (2005), the concept of choice referred to circumstances (e.g., health and job loss) that eliminated older workers' ability to remain in their preretirement job. Not being able to exercise choice in the retirement process has been found to predict poor physical and mental health, and poor adjustment to retirement (Quine, Wells, de Vaus, & Kendig, 2007.).

Control. According to van Solinge (2007) the incidence of health problems after retirement was influenced not only by the actual control the individual had over the transition but also by their perceived control. The author argued that personal control was associated with meaning, and that control affected health indirectly through the individual's sense of personal meaning in life. Van Solinge (2007) also proposed that a lack of of control (as in the case of forced retirement) led to individuals to have little faith in the ability to cope with changes in retirement.

Maintaining control over significant life events and exercising the ability to shape life's circumstances are reported to be major determinants of physical health and psychological well-being (Szinovacz, 2003). Accordingly, low personal control over aspects of the retirement transition have negative consequences for retirees, including poorer physical and mental health (Dave et al., 2008; Quine et al., 2007), and adjustment to retirement (Wong & Earl, 2009). Improvements in perceived general health after retirement and, in the main, favourable adjustment to retirement have been reported by individuals reporting voluntary retirement.

Voluntary Retirement. Most people who retire report retiring voluntarily. Retirement that is wanted by the individual, freely chosen, or of one's own volition has been described as voluntary retirement. Reasons for voluntary retirement may include health, a preference for leisure (Dorn & Sousa-Poza, 2010), and a desire to do other things. Van Solinge & Henkens (2007) has suggested that voluntary retirement is externally structured and constrained by any number of conditions and circumstances (mentioned earlier in this section).

Forced Retirement. Forced retirees are reported to be those who exit the workforce earlier than anticipated. Forced retirement may be prompted by circumstances and conditions such as employment constraints (Dorn & Sousa-Poza, 2010), the timing of the transition (i.e., earlier or later than social prescribed or

personally expected; van Solinge & Henkens, 2007), and health limitations (Szinovacz & Davey 2005

Forced retirees comprise between 20% and 30% of retirees in both the U.S. and Australia (Barrett & Brzozowski, 2010; Raymo, Warren, Sweeney, Hauser, & Ho, 2011). Using data from the 1997 International Social Survey Program (ISSP), Dorn and Sousa-Poza (2010) found one out of 26 early retirements in New Zealand was reported as forced. By 2006, data from the HWR survey suggested one in 24 retirements was forced (Alpass, 2008)

Push Pull Factors. The push pull model of retirement suggests that some workers leave the workforce because they are pushed out (Shultz et al., 1998). Push factors may include negative considerations such as age, health, job characteristics, social circumstances and economic factors. For example, personal health problems can affect an individual's choice between retirement and ongoing employment, and lead to perceptions of forced retirement (van Solinge & Henkens, 2007). Other workers may leave the workforce feeling pulled toward retirement by positive considerations, for example, a preference for bridge employment (Zhan, Wang, Liu, & Shultz, 2009) and free time for leisure activities or volunteer work can contribute to retirement appearing more attractive to some people than remaining in full-time employment. Positive pull factors (Shultz et al., 1998) can lead to voluntary withdrawal from the labor force in order to pursue personal interests in retirement.

Shultz et al. (1998) argued that perceptions of pushes and pulls occur in context; the same event may be rated as either a push or a pull by different workers. For example, some people might consider retiring because their good health (a pull factor) allows them to live well in retirement, but more often poor health will tend to push people to consider retirement.

Terminology. Push factors may lead retirees into forced retirement and pull factors, into voluntary retirement. As terms, forced, and involuntary retirement are not used consistently in the literature to describe the same experiences. They may be used interchangeably (e.g., Dorn & Sousa-Poza, 2010), or to refer to retirement as a result of employment constraints (e.g., Quine, Wells, de Vaus, & Kendig, 2007) or to describe retirement resulting from ill health (e.g., Hershey & Henkens, 2014; van Solinge & Henkens, 2005). As mentioned, the present study has used the term forced retirement to refer to both forced and involuntary retirement.

Most people who retire report retiring voluntarily, but a substantial minority feel they were forced to retire. Subjective and objective measures of voluntary and forced retirement indicate near similar results. Health, age, retirement timing, and social and economic resources are among conditions and circumstances associated with the perception of retirement as voluntary or forced, and the prompting of retirement. Explanations of voluntariness include retirees' ability to choose whether to retire or not, and personal control over when to retire. These factors tend to differentiate voluntary from forced retirement. However, not all circumstances promoting free choice reveal policy and political agendas and therefore voluntary retirement may ultimately be perceived as forced by some retirees. For this reason, despite the absence, in the present study of objective indicators of choice regarding retirement, retirees' self-assessments of their retirement as voluntary or forced are considered sufficient to assess their reason for retirement. Such reasons may be influenced by the health of the individual.

In summary, retirement reasons (forced vs voluntary) are assessed with subjective and objective measure; however both measures yield similar outcomes, i.e., approximately a third of a given sample may report forced retirements. Among the conditions and circumstances of the retirement process, the voluntariness of the person and push pull factors influence individuals' perceptions whether their retirement is forced or voluntary.

Retirement and Health

Retirement studies have suggested that retirement affects health in multiple ways, and that the mixed and inconsistent findings of some studies, regarding the association between retirement and health, may be due to the use of different research methodologies (Behncke, 2012).

The Effect of Retirement on Health. Correlational relationships (Mein, Martikainen, Hemingway, Stansfeld, & Marmot, 2003) as well as causal relationships (Jokela et al., 2010) between retirement and health have been found in the literature. These relationships suggest both improvements and deterioration in physical and mental health, as well as no effects of health on retirement.

Causal relationships. Assessing the causal effect of retirement is often aggravated by other variables that confound the relationship between retirement and health (Dave, Rashad, Spasojevic, 2008). In order to control for confounding variables Dave et al. (2008) using HRS data stratified their sample between individuals with and

without serious health problems during the period immediately before retirement. The authors argued that the reason for retirement could be causally independent to their health, in contrast to those who had previously experienced health problems. Their study concluded that retirement had a negative effect on health outcomes, and that the effects tended to operate through lifestyle changes. Jokela et al. (2010) also argued a causal relationship between retirement and health in their analyses of data from the Whitehall II cohort study (1991-2006). These authors found that for a given individual, mental health and physical functioning were better after statutory and early retirement rather than before. Multiple repeated measurements of retirement and health strengthened this causal association.

Adverse Health Effects. Behncke (2012) used data from the English Longitudinal Study of Ageing (ELSA) to estimate the health effects of retirement and suggested that retirement increased the risk of being diagnosed with a chronic condition, and having worse health than those who continued to work. However, a problem exists with using diagnoses as a health measure, for example, the onset of some illnesses (e.g., cancer) and their diagnosis can be separated in time. In Behncke's (2012) study, it was uncertain whether the retirement effect was on true health or on the probability of a health diagnosis. Roy (2014) also found that retirement adversely affected the physical and mental health of some retirees (Roy, 2014). Roy analysed data from ten longitudinal waves of HRS (1992-2010) conducted by the University of Michigan, and found that individuals reporting good health prior to retirement, reported poor health (e.g., functional difficulties, chronic conditions, depression, increased medical visits and expenses) once retired.

Beneficial health effects. There is evidence of positive retirement effects on health. For example, Mein et al. (2003) analysed phase three (1991-1993) and phase four (1995) data from the British Whitehall II study and found that retirement improved mental health among those from higher employment grades, but declined among those who continued to work. From among these generally healthy and financially secure white-collar government workers, Mein et al. reported no adverse effects on the physical health of those retiring at the mandatory retirement age of 60, compared to those who continued to work. Jokela, et al. (2010), on the other hand, analysed 6 phases (phases 3-8, collected between 1991 and 2006) of White Hall II data, and reported initial improvement in physical health of participants who took statutory, and voluntary early retirement, compared to those who continued to work. Jokela et al.

proposed that retiring early benefited people mentally, and allowed them to adapt to changes in their life circumstances.

Research Strategies. Retirement studies use different research designs depending on the research problem. Among several possible approaches, longitudinal and cross-sectional designs have characterized retirement and health studies since the late 1960s and continue today. In addition, a number of techniques are used to alleviate potential biases, which tend to influence research findings.

Cross-sectional designs. Cross-sectional studies draw inferences from existing differences between people, or phenomena at a specific point in time, making it difficult to infer causality. In their study of the relationship between health and retirement, Oksanen and Virtanen (2012) suggested that apparent associations (but not the direction of the relationship) could be found in cross-sectional studies. These authors also recognized that cross-sectional studies did not determine cause and effect neither allowed for the same cases to be measured repeatedly or for multiple periods.

Longitudinal designs. Longitudinal studies collect and analyse data over time, and if the research purpose, for example, seeks to measure social change, longitudinal data allow diachronic analysis of conditions and events. For example, longitudinal studies track the same people, and therefore the differences observed are less likely to be the result of cultural differences across generations. People and events are observed without manipulating them, and because of repeated observations at the individual level, longitudinal studies are reported to have more power than cross-sectional observational studies, by virtue of being able to exclude time-invariant unobserved individual differences, and by observing the temporal order of events (Donnellan & Conger, 2007). Of increasing benefit to retirement research, therefore, are longitudinal studies that start before the event of retirement and follow retirees over a longer period.

Methods. Instrumental variable studies tend to display either positive or no effects of retirement on health, and methods (e.g., stratification, matching and multiple regression) that control for only observed confounders tend to identify negative effects of retirement on health (e.g., Dave et al.). Reasons for these findings may include the choice of research design, the influence of ill health leading to retirement (Hershey & Henkens, 2014), self-selection, and the referent group to which retirement is compared, namely, workers with retirees (Jokela et al., 2010; Mosca & Barrett, 2016), and retirees with retirees. In retirement research, according to Beehr (1986), the effects of the retirement process on retirees compared to non-retirees of the same generation, is of

primary interest. The present study investigates the effect of retirement reason on health by comparing the health of those who voluntarily retired with those who reported being forced to retire, and those who remained in the workforce.

Health Implications. The literature reports mixed findings regarding the effects of retirement (voluntary and forced) on health, but recognizes that in the case of adverse effects (Dave, Rashad, & Spasojevic, 2008; Lachance & Seligman, 2010), these tend to be larger in the event of forced retirement.

Voluntary retirement and health. Voluntary retirement has been shown to have positive, negative, as well as no effects on physical or mental health. Shultz et al. (1998) found that retirees who reported retiring voluntarily also rated better physical and emotional health and lower levels of depression than retirees who reported being forced to retire. Compared to forced retirees, voluntary retirees also reported being more educated, had higher incomes, and were more likely to be retired from managerial and professional positions. Under circumstances when retirement is preferred, namely, when individuals control their choice to retire, better physical and mental health may also be reported. For example, Calvo and Sarkisian (2011) and Dave et al. (2008) found that older Americans whose retirement was wanted reported smaller decreases in physical and mental health than those who reported being forced to retire. Calvo and Sarkisian (2011) suggested that retirees' control over when to retire was associated with better health outcomes, and that perceived control was considered a protective mechanism against potential stresses in the retirement transition. Dave et al. suggested that the negative impact of retirement on health was consistent with changes in health behaviours and lifestyle post-retirement. This potentially long-term outcome of retirement on health is supported by Jokela et al. (2010) who found that the association of mental and physical health with voluntary early retirement, attenuated over time. Notwithstanding these findings, voluntary retirement can also have minimal or no effects on health. For example, Mosca and Barrett (2016) in their study of voluntarily retired Irish men and women, 50 years and older, reported no mental health effects, and Swan, Dame, and Carmelli (1991) in their investigation of physical and mental health sequelae in voluntarily and forced retired American male, company workers (65 to 86 years of age), found that health was not among the top three reasons (out of eleven) for retiring among those reporting voluntary retirement. Ill health was the ninth reason and was indicated by 3% of 748 voluntary retirees.

Forced retirement and health. There is evidence of the adverse effects of retirement on health in the event of forced retirement (Calvo & Sarkisian, 2011; Lachance & Seligman, 2010; van Solinge, 2007). For example, Dave et al. (2008) found increases in difficulties associated with mobility, daily activities, illness conditions, and declines in mental health to be larger in the event of forced retirement. These authors suggested that these difficulties were cumulative over approximately six years post retirement, and tended to be driven by lifestyle changes (e.g., declines in physical activity and social interactions). In addition, van Solinge (2007) investigated the conditions under which individuals might experience health reversals in retirement. Using data from 778 older Dutch workers transitioning from work to retirement, she found that in subjective terms forced retirement negatively influenced retirees' physical health. Van Solinge compared voluntarily retired with forced retired workers and suggested that those of the latter who retired for organizational or other reasons (e.g., care obligations) were more likely to experience declines in perceived health after retirement. In the immediate aftermath of retirement, poor mental health was reported among forced retired Irish men and women (Mosca & Barrett, 2016). These authors suggested that retirement effects on health depended on whether a true choice was present in the retirement reason. Beehr (1986) suggested that a reduced sense of control during forced retirement was often considered to be linked to poor mental health. Lower self-assessed health, a higher number of chronic conditions, and poorer physical functioning was found by Swan et al. (1991) to be associated with forced retirement among American, male workers. However, despite these negative health effects, health was not among the top three reasons (out of eleven) for retiring among those reporting forced retirement. Ill health was the tenth reason and was indicated by only 13% of 355 forced retirees.

Ill health retirement. Retirement due to ill health has been reported by both voluntary and forced retirees. Lachance and Seligman (2010), using HRS data (1992 to 2004) investigated the prevalence, causes, and impacts of forced retirement. Of the 30% of forced retirements reported, between half and two-thirds were attributed to health issues. Lachance and Seligman suggested that the association between poor health and forced retirements was so strong that voluntary retirements were observed to decrease as health deteriorated. They estimated that over 50% of forced retirements were because of poor health. In contrast, 8.9% of voluntary retirees claimed poor health as an important reason to retire. Individuals retiring because of poor health, according to

Szinovacz and Davey (2005) were more likely to perceive themselves as being forced to retire. Forced retirement, therefore, could be induced by poor health (van Solinge, 2007).

The life course concept of human agency implies that older people have the ability to successfully adapt to the transition to retirement by making choices within the opportunities and constraints available to them (Elder, 1995). Adapting as they age, older people also attempt to preserve and maintain existing self-concepts, relationships, and ways of doing things (Atchley, 1989). In the context of forced retirement, therefore, people will still be able to direct their lives in such a way as to fulfil their values and goals (Pearlin, 2010). This hypothesis is developed in the current study.

The idea of adaptation is central to continuity theory, and while age-related changes (e.g., physical functioning decline; Mein et al., 2003) tend to be gradual, the adaptation process may be planned and carefully actioned over time. Atchley (1999, p.79) suggested that in using continuity as a proactive adaptive strategy "people cope by anticipating problems and creating conditions that neutralize potential difficulties that might arise." However, an unanticipated and unplanned transition from work to retirement, as in the case of forced retirement, has the potential to cause disruption in people's ability to manage the event and maintain their lifestyle patterns (Atchley, 1999). Such a disruption, as previously mentioned could lead to discontinuity (i.e., the person's inability to predict the outcome of situations that are important to him or her, resulting in negative physical and mental health and implications for adaptation to retirement.

Social Support

A number of theories and definitions of social support create the diversity in conceptualizations and measurement strategies found in social support studies. Two conceptual models of social support, the direct effects model and the stress-buffering model offer explanations for how social support may affect physical and mental health.

Social Support Theory.

Theoretical perspectives on social support include the stress and coping perspective, the social constructionist perspective, and the relationship perspective. According to Lakey and Cohen (2000) the stress and coping perspective proposes that social support reduces the effects of stressful life events on health, and the constructionist perspective proposes that support directly influences health, regardless

of the presence of stress by promoting self-esteem and self-regulation. The relationship perspective, on the other hand, predicts that the health effects of social support cannot be separated from relationship processes, that is, support and health outcomes both result from relationship qualities (e.g., companionship, intimacy, low conflict and attachment).

The Concept of Social Support. A multidimensional view of social support acknowledges that social relationships serve multiple functions. For example, six dimensions (attachment, social integration, reassurance of worth, reliable alliance, guidance, opportunity for nurturance) were proposed by Cutrona & Russell, 1987).

Definitions. Social support is defined in the literature in often very vague or very broad terms, and with little consensus on how the concept is defined. Bryant (2012) describes social support as one or more individuals providing, through any number of direct or indirect activities, for another's well-being (Bryant, 2012). Definitions of the actual receipt of social support, compared to perceived social support may be combined in some studies. For example, Cohen's (2004) definition of social support highlights the resources (e.g., instrumental, informational, and emotional) that may be provided by the individual's social networks.

Measures. There is great diversity in approaches to measure social support. The literature makes a distinction between perceived and received support which are generally found when functional and structural measures are used. These measures of social support are reported to be moderately correlated and appear to represent different constructs. For example, a meta-analysis by Haber, Cohen, Lucas, and Baltes (2007) estimated the link between perceived and received support at $r = 0.34$, suggesting perceived support is only partly a reflection of the amount of enacted support received.

Perceived social support. Perceived social support, also known as functional support refers to the person's potential access to social support through their network relationships, i.e., friends, and family (Uchino, Bowen, Carlisle, & Birmingham, 2012). Perceived social support has been linked to positive health outcomes in older people, and considered a stress-buffer (Lakey & Cohen, 2000) helping people to appraise threatening situations as less stressful.

Received social support. Received social support, also known as structural, and enacted support, refers to the reported receipt of support resources (Uchino, et al., 2012). Measures of received support assess the frequency of various supportive actions received over a specific period of time. Supportive actions are reported to reduce the

effects of stressful life events by enhancing the individual's coping ability, and "people who receive more social support should display a weaker correlation between the amount of stress and health problems than those who receive less social support" (Lakey & Cohen, 2000, p.33). The actual effects of social support on a person's coping styles and coping efforts remain unclear. Lakey and Cohen (2000) have debated whether supportive actions lead to changes in a person's coping styles or whether supportive acts merely increase already existing coping efforts.

Models of Social Support. Two models of social support, direct effects and stress-buffering, describe potential links between support and physical and mental health.

Direct Effect Model. The direct effect model (also known as main effect) emphasizes the benefits to health of being part of a social network regardless of whether one is under stress or not (Cutrona, Russell, & Rose, 1986).

Stress-buffering model. The stress-buffering model proposes that social support buffers individuals from the potentially negative outcomes of stressful events, by eliminating or reducing the effects of stressful experiences "by promoting less threatening interpretations of adverse events", and encouraging effective coping strategies (Cohen, 2004, p. 677). However, a comprehensive test of this model would require well-developed coping and appraisal measures (Lakey & Cohen, 2000).

A critical factor in social support operating as a stress buffer is the perception that others will provide appropriate support (Uchino, et al., 2012). Believing that support is at hand may reduce the emotional and physiological responses to an event or alter maladaptive behavioral responses (Cohen, 2004). In addition, the stress-buffering model predicts that social support is beneficial for those suffering high life stresses but does not play a role in health for those without highly stressful demands upon them (Cohen, 2004; Cutrona & Russell, 1987).

Empirical research however, does not consistently support the stress-buffering model (Chen & Chen, 2013). Both direct effect and stress-buffering models propose that psychological mechanisms (e.g., sense of control; van Solinge, 2007) link social support to health, however, Uchino et al. (2012) in their review of the literature, found no evidence that psychological mechanisms are directly responsible for this link.

Controllable and uncontrollable events. The stress-support matching hypothesis (Cutrona & Russell, 1987) predicts that instrumental support (e.g., problem-focused coping strategies) should be most effective for controllable events (e.g., voluntary

retirement) whereas emotional support should be more effective for uncontrollable events (e.g., forced retirement; Beehr, 1986). Stress-buffering is argued to be most effective when the type of social support matches the needs of the stressful event and the domains affected in the individual's life (Cutrona & Russell). For example, uncontrollable events (e.g., medical illness, unemployment) were reported to require a range of social support provisions including tangible support, and reassurance of worth.

Retirement as Stressful Life Event.

It is well documented that the transition to retirement, for some, is stressful (Bamberger & Bacharach, 2014). Prior to the 1960s early retirement studies viewed retirement as a crisis event with serious implications for personal health but by the mid-1980s retirement studies tended to be grounded in the stressful life event approach. By the 2000s, van Solinge (2007, p. 250) questioned, "whether retirement should still be viewed as a stressful life event." Using data from a longitudinal study of older workers in the Netherlands, van Solinge found many older workers did not find the transition to retirement stressful, particularly in cases in which retirement was a voluntary transition. However, forced retirement for many is experienced as a stressful life event (Bamberger & Bacharach, 2014).

Forced retirement, social support, and health. Forced retirement tends to involve the loss of social support previously provided by the older worker's coworkers (Szinovacz, 2003). Therefore, in the context of the retirement transition a decrease in the availability of social resources (Hershey & Henkens, 2014) can lead workers to view the transition negatively. Perceived support therefore, may be effective in moderating the relationship between the stressful event of forced retirement (Bamberger & Bacharach, 2014) and potentially adverse health outcomes. According to Dave, Rashad, and Spasojevic (2008) adverse health effects experienced in the transition to retirement may be mitigated by social support.

In summary, social support is a multidimensional construct hat has been conceptualised and perceived with positive subjective measures of social support related to health more so than objective measures. Two conceptual models explain how social support may affect physical and mental health. The stress-buffering model suggests that social support buffers people from the potentially harmful effects of stress on mental and physical health. The direct effects model proposes that social support enhances health irrespective of peoples' stress levels. Forced retirement as a stressful event will be influenced by contextual changes such as decreases in the availability of social

resources. Continuity theory suggests that retirement is an opportunity to maintain social relationships in order to sustain levels of social contact. Social support may therefore help forced retirees at risk of negative health in retirement.

Socioeconomic Status

Socioeconomic status (SES), socioeconomic position, social class, and social stratification are terms often used interchangeably to describe SES despite their different theoretical bases and interpretations. In addition, there is yet no consensus on a nominal definition of SES or a widely accepted SES measuring tool (Lantz & Pritchard, 2010).

Research on SES and health reveals that very little focus has been dedicated to defining SES, operationalizing existing definitions, and reviewing SES measures. Socioeconomic status is rarely defined in the literature, however definitions that have been proposed include, an individual's or group's differential access to desired resources (Oakes & Rossi, 2003; Psaki et al., 2014), and the social standing or class of an individual or group. Early studies describe SES by highlighting educational levels and income associated with occupations, and the present study defines SES by material wealth, occupation, and participation in educational and social institutions.

Socioeconomic Status Theory.

SES is commonly conceptualized as a combination of economic factors, social circumstances, and work status (Psaki et al., 2014). Studies incorporating SES may take either a resource or status-based approach (Mathews & Gallo, 2011). For example, Psaki et al. (2014) investigated SES by measuring household resources in resource-limited rural and urban areas of Africa, Asia, and South America. These authors preferred the term SES rather than socioeconomic position because the latter explicitly included prestige-based measures linked to social class.

Psychological research tends to describe SES in sociological terms (Mathews & Gallo, 2011), highlighting SES as a socio-demographic marker and an integral part of health indexes (e.g., the human poverty indices).

Socioeconomic Status Measures

Indices of SES found in the literature include Oakes and Rossi's (2003) model of SES as a function of capital (CAPSES), and Hollingshead (1975) Four-Factor Index of Social Status. Between 1988 and 2001 the most widely adopted indices in psychological research were the Hollingshead versions of the Socioeconomic Index of

Occupational Status. However, without a consensus on a nominal definition of SES vague theories or idiosyncratic indicators tend to be used to construct ad hoc measures of SES (Oakes & Rossi, 2003).

Living standards measures have also shown potential in SES and health studies (Fould, Wells, & Mulder, 2014). For example, the Economic Living Standard Index (ELSI) was used in a New Zealand study of 8,465 adults aged 25–64 years, and appeared to show a more accurate estimate of mental health differences in the population (Fould et al., 2014).

Socioeconomic Status and Links to Health

The association between socioeconomic status and health appears to fluctuate by age; the greatest differences observed in middle age and early old age compared with both earlier and late old age (Crimmins, 2005). Also, people with low SES (based on education, income or occupation) are reported to suffer worse health than those with higher SES (Mackenbach et al., 2008). Possible explanations for poor health outcomes are briefly covered in the following SES indicators:

Income and Health. Income can be a measure of an individual's financial resources, and material living standards (Fould, Wells, & Mulder, 2014). Von dem Knesebeck, Lüschen, Cockerham, and Siegrist (2003) in their study of German and American adults, 65 years and older, found that low income led to reduced opportunities of living a life without fear of material deprivation and economic uncertainty, and negative physical and mental health.

Education and Health. Education can include the number of years of schooling achieved, academic qualifications, and vocational qualifications gained at work. Education can affect an individual's earning potential (Mathews & Gallo, 2011), and access to the privileges and rewards of a society (Crimmins, 2005). Education can also determine health through its impact on health behaviours (Dave et al., 2008) such as healthy lifestyles and positive health choices, which in turn may reduce the need for ongoing health care.

Occupation and Health. Good physical health is necessary in order to meet the requirements of manual or labour-intensive work, however, poorer general health is more often reported among tradespersons, labourers, and production and transport workers, than in other occupation type (e.g., managers, administrators, professionals, and associate professionals) (McPhedran, 2012).

Retirement, SES, and Health.

Studies suggest that voluntary retirement is sought by workers of high as well as low SES, that positive and negative health outcomes are reported by both high and low SES retirees, and that retirement generally has long term benefits irrespective of people's SES.

High SES. Using HRS data, Szinovacz and Davey (2005) found perceptions of voluntary retirement reported among individuals with higher SES suggesting that higher education influences how retirement is perceived (i.e., voluntary rather than forced). Voluntary retirees, according to an American, cross-sectional study by Shultz et al. (1998), tended to have more education and retired from white collar jobs (e.g., managerial and professional positions). Higher income earners may also be a characteristic of voluntary retirees. For example, SES (based on income) differences were reported by Shultz et al. (1998), who found that the average income of voluntary retirees was more than 30 per cent higher than that of forced retirees.

Low SES. People who have a low level of education and occupy low paying jobs tend to be stigmatised, negatively stereotyped, and consistently compared with high SES individuals. For example, "[a]cross diverse health outcomes, individuals who are less educated, have lower-status jobs, and earn less or no income are at greater risk for poor health than their higher-SES counterparts" (Mathews & Gallo, 2011, p.501).

Retirement and low SES. Individuals of lower SES (based on education) tend to retire earlier than those of higher SES. For example, according to Hillier and Barrow (2010) the lower one's SES, the earlier one tends to retire. These authors suggested that SES has a major influence on retirement rates, with low SES (based on education) individuals, employed in low skilled work from which little satisfaction is derived, tending to retire early.

The association between low SES and health may explain early retirements for people of low SES. Jensen, Ryom, Christensen, and Andersen (2012), for example, found that low education, high job demands, disease (e.g., rheumatic, cardio vascular), and disorders (e.g., gastrointestinal, musculoskeletal) were risk factors for early voluntary retirement (available from 60 years of age) among Danish nurse aides. Health and work-related factors prompted a higher percentage of these low-educated nurse aides to apply for the disability pension as a pathway to retirement (Jensen et al., 2012).

Forced Retirement and SES. Studies highlighting SES and forced retirement tend to focus on the transition to retirement due to poor health. For example, Swan,

Dame, and Carmelli (1991) analysed data from 355 American company workers, 79% of whom held managerial or professional positions, and found that high SES workers perceived their retirement as forced and their health in retirement suboptimal. These high SES workers reported a higher number of chronic conditions, poorer physical functioning, and more negative attitudes toward retirement, than workers who voluntarily retired (Swan, et al., 1991).

In summary, socioeconomic status involves a combination of income, education, and occupation. The association between SES and health fluctuates by age, and the impact of SES on health is seen in terms of material and economic certainty, health behaviours, and being able to meet the demands of one's job over the long-term. Individuals of low SES tend to occupy low paying jobs and retire earlier because of health declines. The advantages of high SES over low SES is seen in terms of better health outcomes in retirement, however, forced retirement may be perceived by individuals of high or low SES, especially when due to poor health.

Bridge Employment, Voluntary Activity, Recreational Activity, and Retirement Adjustment

The transition from work to retirement is no longer viewed as a single discrete event but rather as a process in which retirees may enter bridge employment, voluntary work (Stafford et al., 2017), or activities that substitute for or replace work (Cook, 2015) before retiring completely from the workforce. The traditional work/retirement division is blurred because retirees may withdraw from and re-enter the paid work force multiple times. As a pathway to full retirement, increasing numbers of older workers engage in bridge employment. Another pathway may involve substituting or replacing work with recreational activities (Stebbins, 2001) which retirees choose to engage in as a service to others, and for personal enjoyment.

Retirement Work Trends.

An American study by Cahill, Giandrea, and Quinn (2006) reported that between one third and one half of older workers engaged in bridge employment before completely retiring. Older Australians who re-entered the work force following an earlier retirement comprised just over 310,000, or .3% of the working population at 2007 (ABS, 2009, p.19). Of these workers, 22% returned to the same working arrangement as their last job before retiring. One in six New Zealanders, ages 65-69 were working at the 2006 census, with more working full time than part-time (Statistics

New Zealand, 2009). By the 2013 census, approximately one in five New Zealanders, ages 65-74, was in full-time or part-time employment (Statistics New Zealand, 2013).

Types, Quality, and Benefits of Bridge Employment. Bridge employment, for the majority of workers can be part-time, permanent or temporary. However, for a minority of retired workers, bridge employment can be full-time (see employment in a different field).

The workforce offers two primary types of bridge employment to older workers. Career bridge employment (work in the same field as the worker's prior career interest) and bridge employment in a different field were investigated by Wang, Zhan, Liu, and Shultz (2008) using data from Waves 1-3 of the HRS. The authors found that retirees who were better off financially and held pre-retirement jobs that were less stressful and personally satisfying were more likely to engage in career bridge employment than in bridge employment in a different field. However, the quality and availability of bridge employment is also a concern for potential workers.

The quality of bridge jobs in Britain was found by Lissenburgh and Smeaton (2003) to be highly variable, with the highly skilled, self-employed earning incomes comparable to those received in permanent career employment, while casual or permanent part-time bridge work paid low wages. According to Johnson, Kawachi, and Lewis (2009) those who engage in bridge employment after a time in retirement may work fewer hours, for lower pay, and in different occupations than their pre-retirement jobs. Nevertheless, bridge work provides opportunities for retirees to exercise their capacity to return to work (de Wind, van der Pas, Blatter, & van der Beek, 2016), and to structure the use of time in retirement (Wang, Zhan, Liu, & Shultz, 2008). For those forced into retirement, bridge work and retirement activities present opportunities for regaining personal control over the retirement transition (Dingemans & Henkens, 2014).

Forced Retirement Leading To Bridge Employment and Unpaid Activities

Retirees who are forced to retire may have an interest in extending their working lives through engaging in bridge employment. Interest on the part of forced retirees to engage in bridge employment was reported in a Dutch study by de Wind, van der Pas, Blatter, and van der Beek (2016). Using data from the Dutch Study on Transitions in Employment, Ability and Motivation (STREAM), de Wind et al. found that off-time retirees in good physical health were predicted to work beyond retirement. Moreover, the authors suggested that for some off-time retirees, re-entering the workforce was due

to feeling they had been pushed out of their career work when they actually wanted to continue.

Bridge employment has been found to buffer some of the negative consequences (e.g., worsening mental health, loss of control;) of forced job loss leading to retirement, by providing the worker an opportunity to regain personal control over the retirement transition (Dingemans & Henkens, 2014; Quine, Wells, de Vaus, & Kendig, 2007).

Bridge Employment Health. Participation in retirement activities is a way of extending one's working life and benefiting physical and mental health. Continuity of activities allows people to use their experience and skills to prevent or compensate for the negative physical and mental effects of ageing on ability (Atchley, 1989). One analysis of data from core HRS respondents (born 1931-1941) suggested that bridge employment was associated with fewer depressive symptoms, but declines in physical functioning (Cho, 2016). The author speculated that mental relief came with being able to continue working and support a desired lifestyle, while physical deterioration was a consequence of both tiredness from previous full-time work and, being of an older age. On the other hand, evidence from the job loss and reemployment literature suggests that engaging in bridge employment has both physical and mental health benefits for older workers (Zhan et al., 2009).

Voluntary and Recreational Activities. While voluntary work can be an extension of older people's working lives (Stafford et al., 2017), other activities (e.g., recreational) may also be a substitute or replacement for work (Cook, 2015).

Voluntary and recreational activities (Leitner & Leitner, 2012) can be found in the literature under leisure activities because participation in either activity is usually undertaken during one's free time. Voluntary work (e.g., coaching sports, distributing food, or serving on committees) tends to be a public activity performed occasionally and for the benefit of others. Voluntary work is generally unpaid (though compensation for out-of-pocket expenses may be involved; Stebbins, 2001) and usually has no type of contractual obligation attached to it.

In contrast, people choose recreational activities because such activities are personally meaningful to them, and in line with their abilities both to perform and commit. Stebbins (2001) suggests that serious leisure can serve as an effective non-remunerative substitute for work. He argues that the dwindling employment opportunities predicted in the information age, may find the growing numbers of the underemployed (i.e., part-time workers) choosing serious leisure as their central life

interest rather than their current work which might be too insubstantial to invest their physical and mental energy.

Benefits of Voluntary Work and Recreation. Engaging in voluntary work allows workers to provide a service or benefit to others, and thereby benefit themselves. The work itself can provide workers with opportunities to be constructive and productive (Stebbins, 2001), and to exercise competence in and control over what they do (Quine, Wells, de Vaus, & Kendig, 2007).

A positive relationship between recreational activity, and physical and mental health, is reported among older people. For example, leisure research by Leitner and Leitner (2012) found that retirees who remained active in pursuits such as walking, bicycling, or gardening maintained their mental health at a higher level than did inactive retirees. Furthermore, personally fulfilling recreational activity can also help replace the void resulting from job loss by offering the individual a valuable source of meaningful engagement, thereby facilitating adjustment to retirement (Zhan et al., 2009).

Retirement Adjustment.

Bridge employment and voluntary work, as mentioned, may provide an opportunity for individuals to regain control over their work lives (Dingemans & Henkens, 2014; Quine, Wells, de Vaus, & Kendig, 2007), and counter difficulties associated with physical and mental health (Zhan, Wang, Liu, & Shultz, 2009) during the retirement transition. In addition, evidence suggests that paid and unpaid activities are positively related to retirement transition and adjustment (Zhan et al., 2009).

Continuity theory explains retirement adjustment in terms of the individual's efforts to maintain consistency in life patterns of thought, behaviour and relationships through engagement in activities that promote the achievement of such goals (Atchley, 1989).

In summary, bridge employment includes work in retirement, in the same or a different field from the worker's prior career interest, and can be full or part-time in nature. Bridge jobs may require high or low skills, and wages may be comparable to pre-retirement earnings or reduced because of hours or skill level required. Bridge work provides opportunities for retirees to return to work, and for those in forced retirement, to regain personal control over the retirement transition. Participation in unpaid activities provided by voluntary and recreational activities facilitates the provision of

services to others, and meaningful engagement. Positive health benefits accompany paid (bridge employment) and unpaid activities (voluntary and recreational activities) which is positively associated with retirement adjustment.

The current study.

Formally stated, the hypotheses for the current study are as follows:

Hypothesis 1. (Forced retirement and health). Participants who were forced to retire in 2006 will have poorer health in 2010 than those who retired voluntarily or were still working in 2006, when controlling for age and health status at 2006.

Hypothesis 2. (Social support and health). Perceived social support will moderate the relationship between type of retirement and subsequent health status such that forced retirees with higher levels of support will have better health outcomes compared to forced retirees with lower levels of support.

Hypothesis 3. (Socioeconomic status and health) Socioeconomic status (SES) will moderate the relationship between type of retirement and subsequent health status such that forced retirees with higher SES will have better outcomes compared to forced retirees with lower SES.

Hypothesis 4. (Paid and unpaid activities, health and retirement adjustment). Participants who were forced to retire in 2006 and engaged in bridge employment and voluntary or recreational activities will have better health in 2010 (and subsequently have adjusted to retirement better), compared to those who were forced to retire in 2006 and did not engage in paid employment or voluntary or recreational activities.

3. Method

The data for this study was collected by the Health and Ageing Research Team at Massey University, New Zealand as part of the Health, Work and Retirement Survey (HWR), and used for secondary analysis in the present study. Data collection commenced in 2006 (wave 1), and was scheduled every two years up to and including 2012 (wave 4). The same participants were surveyed over this period with additional participants entering at 2010 (wave 3). Only participants who completed all of the first three surveys (2006, 2008, and 2010) were included in the present study. Data from 2006 and 2010 was used to test hypotheses regarding retirement type and health outcomes.

Sampling

All participants were randomly selected from the New Zealand Electoral Roll. Individuals in institutions (prison and aged care facilities) were not included in the sampling frame (Towers, 2007). Guided by Dillman's (2000) Tailored Design method, once selected, potential participants were sent a pre-notice letter. The letter advised participants about their selection, and that they would be sent a survey questionnaire. This letter was followed up a week later by the mailing of the questionnaire (which also contained the consent form), information about the questionnaire, and a free-post return envelope. Participants were able to provide their consent to participate in the HWR longitudinal study if they chose to, as well as consent to be interviewed face to face for associated research projects in the future. Three weeks later a reminder postcard was sent and six weeks later a replacement questionnaire was sent to those who had not responded up to that time. At 11 weeks, a final postcard was sent to all those who had not responded. Dillman's (2000) Tailored Design method maximizes response rates and participation by incorporating multiple contact points between researcher and participants. The HWR study protocols and the postal survey procedures were approved by the Massey University Human Ethics Committee (MUHEC 05/90).

Participants. The original 2006 HWR survey sampled 13,040 New Zealanders, 55 to 70 years, an age range in which people are generally in later stages of work life and early stages of retirement (Towers, 2007).

The sampling frame consisted of two large subsamples. Forty percent (5,260) of those sampled were representative of the general population and 60% (7,780) were selected based on the Māori descent indicator on the electoral roll. Although the general population sample included Māori, Māori were over-sampled in order to combat

poor research participation rates found in older ethnic minority populations (Ofstedal & Weir, 2011). In total, responses from the general population sample 61% (3,104), and the Māori population sub-sample 48% (3,553), minus exclusions from participation 4.22% (551, from the general population sample [210] and from the Māori sub-sample [341]) due to deceased, institutionalised, or not able to be contacted, resulted in a revised total sample of 53% (6,657) (Gorman, Scobie, & Towers, 2012). A specific request was made to participants in the baseline survey to take part in the longitudinal study to commence in 2008. Longitudinal research design allows for a single sample of participants from the same cohort to be repeatedly assessed using multiple measurements (Donnellan & Conger, 2007). Approximately 47% (N=3111) consented to take part in the longitudinal study and 79% (N=2471) completed the 2008 survey.

One thousand eight hundred and thirty-five participants went on to take part in the 2010 survey. Included in the 2010 survey were 148 participants from the 2006 survey who consented to re-enter the study at that time bringing the total of HWR participants to 1983 (Gorman et al., 2012). Post-stratified weighting variables were calculated to account for known discrepancies between the sample and the population (Towers, 2007).

Demographic Characteristics. Information was sought on participants' age, gender, ethnicity, marital status, education, occupation, employment status, and retirement status. Questions were modelled on the 2006 New Zealand Census of Population and Dwellings (Statistics New Zealand, 2007) and can be seen in Table 1.

The sample ranged in age at wave one from 54 to 76 years, with a mean of 62 years (SD =5.04). Just under half the sample was male (47%). Regarding ethnicity, (83.7%) of the sample identified themselves as primarily New Zealand European, 9% identified themselves as primarily of Māori decent, and the remaining 5% identified themselves as Pacific (.4%), Asian (.8%), Middle Eastern/Latin American/African (MELAA) (.2%), or other (3.7%). The majority of the sample was partnered or married (including Civil Union and De-facto)(76.6%). In 2006, the majority of the sample (66%) reported themselves as working. Forty-one percent employed in full-time paid work, and 24.6% employed in part-time work. These paid employment numbers included those in self-employment. Just over 60% of the sample reported an occupation. Managers, professionals, and administrators (38.7%), Technicians, trade workers, community workers, and sales people (14.3%), and machinery operators, drivers, labourers, and others (8.1%). Twenty-three percent of the sample was fully

retired and not engaged in paid work, and the remainder (9%) was made up of homemakers, students, and people who were unemployed and seeking work.

Measures

Health. The SF12v2 is a 12-item short-form version of the SF36v2 health survey. The SF12v2 is a brief, reliable measure of overall health status widely used both nationally and internationally, and is self-administered or used as a format for interviews. The items measure eight health concepts: physical functioning, role limitations due to physical health, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional health, and general mental wellbeing. The combined scores of these subscales provided two component scores, physical (PCS) and mental health (MCS) which were transformed into a 0-100 scale, higher scores implying better health. Physical health (PCS) and MCS scores were normed and standardised with a mean of 50 (Stephens & Noone, 2008). SF12v2 scores were transformed using NZ population norms and standardised scores. Means and standard deviations for the sample (*N*=2342) are reported in Table 2.

Social Support. Perceived social support was assessed using the Social Provisions Scale (SPS) which provided 24 items and six subscales: attachment, social integration, reassurance of worth, reliable alliance, guidance, and opportunity for nurturance (Cutrona & Russell, 1987). Respondents rated how well their social relationships were currently supplying each of these provisions (strongly disagree, disagree, agree, and strongly agree). High scores indicate greater social provision. The scores were summed (after reversing the negative scores) for each social provision (0–16) and a global score was derived from the six individual provision scores (0–96). Research has supported the reliability and validity of the SPS, and reports alpha coefficients for the total scale score from 0.85 to 0.92 across a variety of populations (Cutrona & Russell). Cronbach's alpha for the present sample was .88 (M=80.08, SD=9.82) at 2010. Only the summed scores of the SPS sub-scales (SPS Total) for 2010 were used in this study.

Socioeconomic Status. The Economic Living Standard Index Short Form (ELSI-SF) scale comprises 25 items and covers four domains, ownership restrictions (8 items), social participation restrictions (6 items), economising (8 items), and self-rating of standard of living (3 items). The ELSI-SF combined scores range from 0-31 with higher scores reflecting higher economic standards of living. These scores are divided into seven living standard levels: severe hardship (0-8), significant hardship (9-12),

some hardship (13-16), fairly comfortable (17-20), comfortable (21-24), good (25-28), and very good (29-31). Scores obtained from past research using the ELSI-SF have been highly correlated with those obtained using the ELSI scale, and internal consistency of the ELSI-SF has been estimated by Cronbach's alpha of .88 (Jensen, Spittal, & Krishnan, 2005). Cronbach's alpha for the present sample was .80 (M=36.11, SD=7.19) for 2006, and .903 (M=24.05, SD=6.00) at 2010. Only the ELSI-SF scores for 2010 were used in the present study.

Employment Status. Respondents were asked to indicate their current work status (a), full-time paid employment including self-employment (35 or more hours per week) (b), part-time paid employment including self-employment (less than 35 hours per week) (c), retired no paid work (d), full-time homemaker (e), full-time student (f), unemployed and seeking work and (g), not in the work force -other (specify).

Retirement Reason. Retired respondents were asked to indicate the reason for their retirement. Response choices were 1 (forced) and 2 (voluntary).

Retirement Adjustment. Retired respondents were asked in 2010 how difficult it had been for them to adjust to retirement. A rating scale offered five response choices, i.e., 1 (very difficult) to 5 (not difficult at all).

Activities. Two questions from the 2010 survey provided information regarding participants' non-work activities. Thirteen items assessed frequency of participation in voluntary activities promoted by private and public clubs, organizations, and associations (e.g., sports clubs, community or service organisation that helps people, ethnic organisation, professional, and hobby associations). Seven items assessed frequency of participation in recreational activities such as spectating at sports events, going to the theatre or cultural activities, eating out, and outdoor activities. Response choices for these non-work activities were: never, once a year, twice a year, 4 times a year, monthly, weekly. Cronbach's alpha for the voluntary activities variable was .94 (M=-16.50, SD=51.92), and for the recreational activities variable was .59 (M=25.05, SD=5.24).

Means and standard deviations on all study variables in 2006 can be seen in Table 2 and Table 3.

4. Results

All data analyses were conducted with SPSS version 20.

Data Coding and Preparation

The following coding decisions were made prior to data analyses.

Employment Status.

In 2010, a dichotomous variable was created categorizing paid employment and non-paid employment. Values were assigned as 1 = full time or part-time work, including self-employment, 2 = retired, no paid work, full time home maker, full time student, unemployed and seeking work, and not in the workforce – specified.

Retirement Reason and Work Status

Four new work statuses (newWS) were created and combined with 'retirement reason' to represent individuals' work situation across the waves of data collection: forced still retired = 1 (those in 2006 who reported they had been forced to retire and who were still retired in 2010), voluntarily still retired = 2 (those in 2006 who reported they had retired voluntarily and who were still retired in 2010), working, now retired = 3 (those working in 2006 who were retired by 2010), and working, still working = 4 (those working in 2006 who were working by 2010).

Three dummy variables were created to represent work status groups (new work statuses relative to each other). Work Status 1 (forced to retire versus other work statuses), Work Status 2 (forced to retire and voluntarily retired versus other work statuses), and Work Status 3 (forced to retire, voluntarily retired, working now retired, versus still working status).

Social support: A median split of the 2010 Social Provisions global scores (SPS) was undertaken with values of 1=lowest through to 80 representing low perceived support, and 2 = 81 through to the highest score representing high perceived support.

Socioeconomic status: A median split of the 2010 Economic Living Standard Index Short Form (ELSI-SF) scores was undertaken with values of 1=lowest through to 25 representing lower economic living standards, and 2=26 through to the highest score representing higher economic living standards.

Retirement adjustment: How difficult has it been to adjust to retirement was assigned 1=very difficult to 5= not difficult at all.

Missing data: Listwise deletion was performed across the variables used in analyses and only cases with complete data were retained. While listwise deletion can lead to substantially reduced data, bias is not reasoned to be a problem when the data is

missing completely at random (Peng, Harwell, Liou, & Ehman, 2006). Therefore, a missing data analysis was performed because a number of variables were affected. The analysis suggested a random pattern of missing data.

A summary of participants' demographics as well as retirement and work status characteristics as at 2006 are provided in Table 1. The means, standard deviations, minimum and maximum scores on continuous predictor variables used in the analyses from 2006 are presented in Table 2

Analyses

Bivariate analyses: Pearson's Correlation Coefficients were used to determine the relationships between continuous variables. Chi-square was used to assess relationships between categorical variables. Analysis of variance (ANOVA) was used to assess differences across groups on continuous variables.

Multivariate analyses: Hierarchical multiple regression analysis was used to assess the contribution of a number of independent variables (i.e., age at 2006, health at 2006, work status, socio economic status, social support, employment, voluntary and recreational activities), to the dependent variable (i.e., health). Control variables of age and health at 2006 were entered into the regression equation first and predictor variables subsequently.

Prior to conducting the analyses a number of test assumptions were checked and a number of issues were identified. Firstly, a non-normal distribution was found for some variables. A Kolmogorov-Smirnov test was used to test for normality on health variables and demonstrated moderately, negatively skewed distributions of SF-12 Physical Health and SF-12 Mental Health. Histograms, skewness and kurtosis values, as well as normal and detrended probability plots were also used to assess socioeconomic status, and retirement adjustment variables which also revealed moderately, negatively skewed distributions. Voluntary and recreational activity variables were likewise assessed and both revealed positively skewed distributions. Analyses on both untransformed and transformed data revealed no difference in the direction or size of the effects and the untransformed data was retained.

Secondly, homogeneity of variance was not met and sample sizes were unequal. Thirdly nine outliers were identified, however their exclusion from analyses did not alter significantly the results and therefore they were retained. Given these issues with test assumptions, caution needed to be applied to interpretation of findings.

Consequently, main and interaction effects with *p*-values smaller than .01 **(**Lin, Lucas, & Shmueli, 2013) might be considered more relevant.

Table 1

Summary of Demographic Characteristics for the 2006 Sample (N=2342)

Demographic	Number of respondents	Percentage of respondents
Age in years		
54[a]-59	948	40.5
60 -64	746	31.8
65 -70	646	27.5
Gender		
Males	1101	47.0
Females	1242	53.0
Ethnicity		
NZ European	1959	83.7
Māori	219	9.3
Pacific	9	.4
Asian	18	.8
MELAA Middle Eastern/Latin American/African	4	.2
Other	86	3.7
Missing[b]	48	2.0
Marital Status		
Married/Partnered	1690	72.2
Civil Union/De-facto	105	4.5
Divorced/Separated	270	11.5
Widow/Widower	157	6.7
Single/Never married	83	3.6
Missing[c]	38	1.6
Education		
No education qualifications	604	25.8
Secondary school	580	24.8
Post- secondary/trade	803	34.3
Tertiary	318	13.6
Missing[d]	37	1.6
Occupation		
Managers/Professionals/Administrators	905	38.7
Technicians/Tradeworkers/Community workers/Sales people	336	14.3
Machinery Operators/Drivers/Labourers/ Others[e]	191	8.1
Missing[f]	911	38.9

Employment Status		
Full-time paid including self-employed	963	41.1
Part-time paid including self-employed	575	24.6
Full time homemaker	98	4.2
Full time student	10	.4
Unemployed & seeking work	16	.7
Missing[g]	53	2.3
Retirement Status		
Retired	563	24.0
Partly retired	530	22.6
Not retired	1201	51.3
Missing[h]	49	2.1
Retirement type		
Forced retirement	257	11.0
Voluntary retirement	809	34.5

Note. [a] Due to the way date of birth is recorded in the electoral roll, some 54 year olds were also sampled. [b] Includes approximately 2% missing data. [c] Includes 1.6 % missing data. [d] Includes 1.6% missing data. [e] Includes unrecognised occupation. [f] Includes 38.9% missing data. [g] Includes 2.3% missing data. [h] Includes 2.1% missing data.

Table 2

Means and Standard Deviations Across Continuous Predictor Variables 2006

Variables	Mean	SD	Minimum	Maximum
Age	61.28	4.55	53	76
Physical health	50.68	9.63	9	72
Mental health	50.66	8.92	-1	67
Social support (SPS)	80.25	9.81	33	96
Socioeconomic status (ELSI-SF)	23.82	5.85	0	31

Note. SPS Social Provisions Scale, ELSI-SF Economics Living Standards Index - Short Form

Table 3

Means and Standard Deviations (SD) Across Selected Study Variables 2010

Variables	Mean	SD	Minimum	Maximum
Club Activities	21.94	7.41	0	171
Recreational Activities	5.16	1.49	0	163

Table 4

Means and Standard Deviations (SD) of New Work Statuses and Health at 2006

New Work Status	Physical health			Mental health		
2006	Mean	SD	N	Mean	SD	N
Forced, still retired	42.75	11.926	96	49.45	11.36	96
Voluntary, still retired	49.23	8.949	356	53.24	6.94	356
Working, now retired	51.21	8.817	323	51.06	8.25	323
Working, still working	53.52	7.566	1029	51.02	8.05	1029
Total	51.69	8.787	1803	51.39	8.14	1803

Work Status and Health at 2006.

A one-way between subjects ANOVA was conducted to test whether there was a difference in mean health scores in 2006 across the four new work status variables. Levene's *F* was statistically significant ($p < .001$). Since the assumption of homogeneity of variance was not met, Welch's F statistic was reported for physical health $F(3, 349.554) = 44.92$, $p < .001$ and mental health $F(3, 360.097) = 9.67$, $p < .001$. Post hoc comparisons using Dunnett's C test indicated that the physical health, at 2006 of the new work status "Forced, still retired" was significantly poorer than the other three new work statuses. Out of these statuses, the "Voluntarily, still retired" experienced significantly poorer health that the "Working, now retired" and the "Working, still working" groups. In addition, the "Working, now retired" experienced poorer physical health than the "Working, still working" status group.

Regarding mental health, at 2006, the "Forced, still retired" status group experienced significantly poorer health than the "Voluntarily, still retired" status group. This latter group experienced significantly better health than the "Working, now retired" and the "Working, still working" status groups. No significant differences were found

in mental health between the "Forced, still retired", "Working, now retired", and "Working, still working" status groups. Means and standard deviations are displayed in Table 4 and Figure 3, and Figure 4.

Figure 3. Mean for new work statuses on physical health scores at 2006.

Figure 4. Mean for new work statuses on mental health scores at 2006.

Hypothesis 1. *Participants who reported forced retirement in 2006 will have poorer health in 2010 than those who retired voluntarily or were still working in 2006, when controlling for age and health status at 2006.*

A one-way between subjects ANOVA was conducted to test whether there was a difference in mean health scores in 2010 across the four new work status variables. Levene's F was statistically significant ($p < .001$). Since the assumption of

homogeneity of variance was not met, Welch's F statistic was reported for physical health $F(3, 323.396) = 57.35$, $p < .001$ and mental health $F(3, 336.931) = 4.26$, $p < .05$. Post hoc comparisons using Dunnett's C test indicated that the physical health, in 2010 of the forced retired, still retired group was significantly poorer than the other three groups. Out of these groups, the voluntarily retired, still retired and the working, now retired experienced significantly poorer physical health than the working, still working group. No significant difference was found between the voluntarily retired, still retired and working, now retired groups. Regarding mental health the forced retired, still retired group experienced significantly poorer health than the other three groups, between which no significant differences were found. Means and standard deviations are displayed in Table 5 and Figure 5 and Figure 6.

Table 5

Means and Standard Deviations (SD) of New Work Statuses and Health at 2010

New Work Status	Physical health			Mental health		
2010	Mean	SD	N	Mean	SD	N
Forced, still retired	40.37	13.823	90	47.21	10.148	90
Voluntary, still retired	47.09	11.119	349	50.80	6.782	349
Working, now retired	48.89	10.210	305	51.10	7.131	305
Working, still working	53.13	8.119	990	50.33	7.117	990
Total	50.51	10.129	1734	50.40	7.279	1734

Figure 5. Mean for work statuses on physical health scores at 2010.

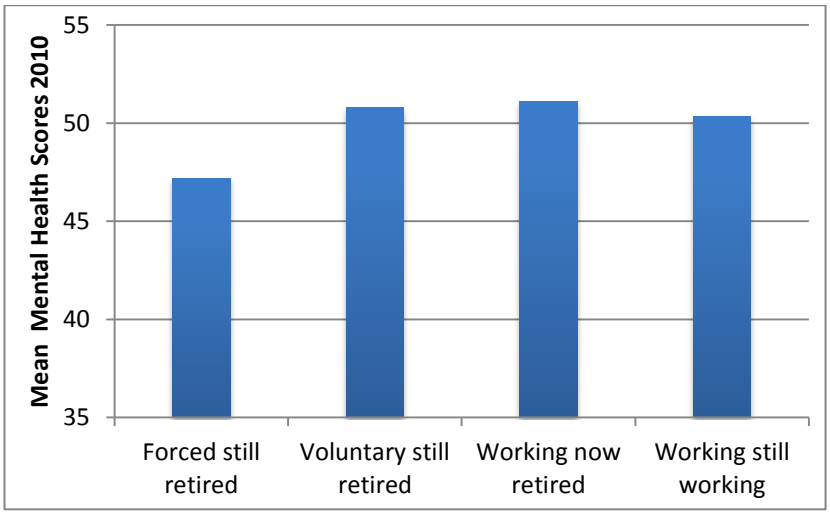

Figure 6. Mean for work statuses on mental health scores at 2010.

Regression Analyses

Hierarchical multiple regression analysis (HMRA) was used to assess the contribution of independent variables to physical and mental health in 2010 when controlling for age and health status in 2006. The HMRA procedure produced output on casewise diagnostics which indicated two outliers (-4.066 and -4.012) in the physical health analysis and one outlier (-4.303) in the mental health analysis, however excluding these did not significantly alter the results and therefore these cases remained in the analysis.

On Step 1 of the HMRA (see Table 6) control variables of age and physical health at 2006 accounted for 39.7% of the variance in physical health at 2010, F(2, 1645) = 542.579, p < .001. On Step 2, work status dummy variables were added to the regression equation and accounted for an additional 1.2% of the variance R^2 change = .012 Of the independent variables age, physical health at 2006, and Work Status 3 were significant. Work Status 1, and 2, was not found to be significant. The final model explained approximately 41% of the variance adjusted R^2 = .407.

Table 6

Hierarchical Multiple Regression Analyses (HMRA) of Age at 2006, Physical Health at 2006, and work status (dummy variables) on Physical Health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2 , and R^2 Change (N=1645).

Variables	Step 1	Step 2
Age	-.127**	-.049*
Physical health (2006)	.589**	.566**
Work Status 1[1]		-.030
Work Status 2[2]		-.041
Work Status 3[3]		-.094*
R	.630	.640
Total R^2	.397	.409
Adjusted R^2	.397	.407
R^2 Change	.397	.012

Note. *$p < .05$, **$p < .001$

[1] Forced vs other newWS groups, [2] Forced and voluntary vs other newWS groups, [3] Forced, voluntary, working now retired, vs still working group.

For the mental health model (See Table 7) age and mental health at 2006 were entered into step 1 of the HMRA, and accounted for 23.6% of the variance in mental health at 2010, $F(2, 1645) = 255.759$, $p < .001$. On Step 2, work status dummy variables were added to the regression equation and accounted for an additional 1.1% of the variance in mental health at 2010, R^2 change = .011. Of the independent variables mental health and age at 2006, and all Work Statuses were significant. The final model explained approximately 25% of the variance adjusted R^2 = .246.

Table 7

Hierarchical Multiple Regression Analyses (HMRA) of Age at 2006, Mental health at 2006, and work status (dummy variables) on Mental health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2, and R^2 Change (N=1645).

Variables	Step 1	Step 2
Age	- .043*	- .056*
Mental health (2006)	.490**	.488**
Work Status 1[1]		-.080*
Work Status 2[2]		-.062*
Work Status 3[3]		.096*
R	.487	.498
Total R^2	.237	.248
Adjusted R^2	.236	.246
R^2 Change	.237	.011

Note. *$p < .05$, **$p < .001$

[1] Forced vs other newWS groups, [2] Forced and voluntary vs other newWS groups, [3] Forced, voluntary, working now retired, vs still working group.

Hypothesis 2. *Perceived social support will moderate the relationship between type of retirement and subsequent health status such that forced retirees with higher levels of support will have better outcomes compared to forced retirees with lower levels of support.*

Hierarchical multiple regression analysis (HMRA) was used to assess the contribution of independent variables to physical and mental health. The HMRA procedure produced output on casewise diagnostics which indicated four outliers ranging from 4.626 to -4.658 in the mental health analysis, however excluding them did not significantly alter the results and therefore these cases remained in the analysis.

On Step 1 of the HMRA (see Table 8) control variables of age and physical health at 2006 accounted for 38.5% of the variance in physical health at 2010, $F(2, 1546) = 482.894$, $p < .001$. On Step 2, work status dummy variables, and social support (Social provisions scores [SPS]) at 2010 were added to the regression equation and accounted for an additional 2% of the variance R^2 change = .020. On Step 3,

interactions between social support and work status dummy variables were added and accounted for a further .4% of the variance R^2 change = .004. Of the independent variables physical health at 2006, Work Status 3, social support at 2010, and the interaction of social support with Work Status 2 were significant (See Figure 8). Age, Work Status 1, Work Status 2, the interaction of social support with Work Status 1 and with Work Status 3 were not significant. The final model explained 40.5% of the variance, adjusted R^2 = .405. See Figure 7 for the corresponding mean differences of low and high social support for individual work statuses.

Table 8

Hierarchical Multiple Regression Analyses (HMRA) of Age at 2006, Physical Health at 2006, work status (dummy variables), social support (SPS) at 2010, and the interaction of social support with work status groups on Physical Health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2, and R^2 Change (N= 1546).

Variables	Step 1	Step 2	Step 3
Age	-.126**	-.041	-.038
Physical health	.578**	.549**	.552**
Work Status 1[1]		-.021	-.030
Work Status 2[2]		-.048	-.039
Work Status 3[3]		-.098*	- .105**
Social Support (SPS Total) 2010		.091**	.102**
Interaction between SPS and Work Status 1			-.033
Interaction between SPS and Work Status 2			-.071*
Interaction between SPS and Work Status 3			.047
R	.619	.636	.639
Total R^2	.385	.405	.409
Adjusted R^2	.384	.402	.405
R^2 Change	.385	.020	.004

Note. $*p < .05$ $**p < .001$

[1] Forced vs other newWS groups, [2] Forced and voluntary vs other newWS groups, [3] Forced, voluntary, working now retired, vs still working group.

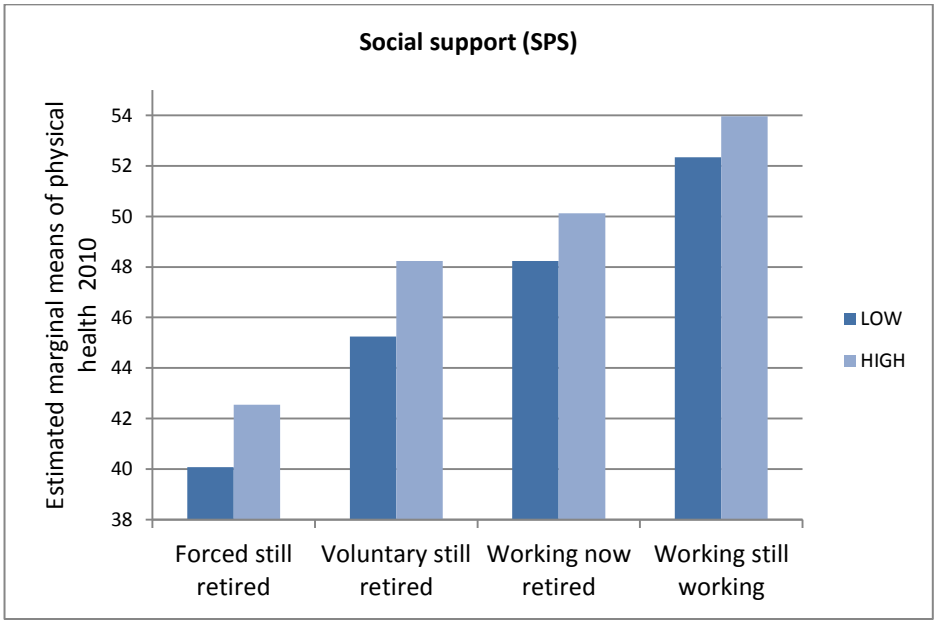

Figure 7. Mean differences of low and high social support for each new work status group and physical health scores (2010).

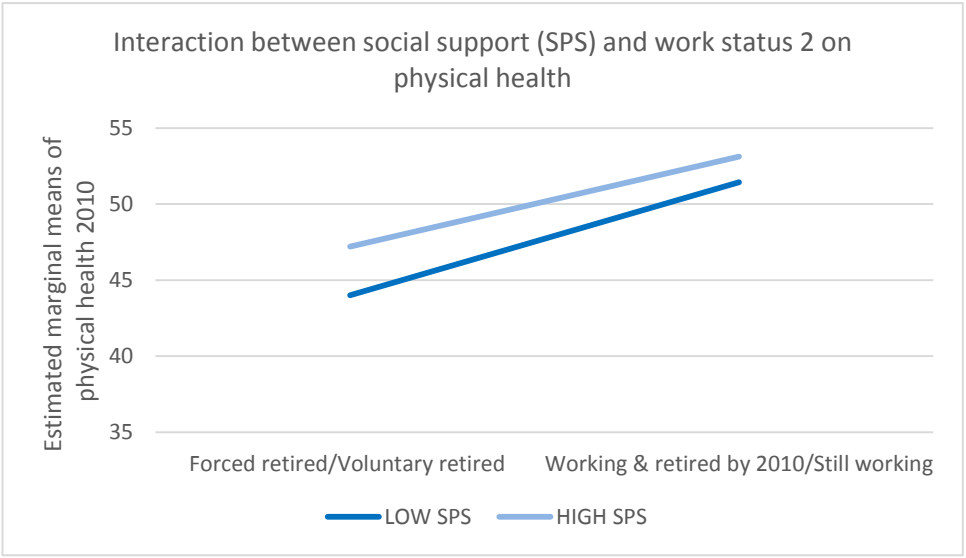

Figure 8. Mean differences of low and high social support (SPS) for work status two and the impact on physical health scores (2010).

For the mental health model, on Step 1 of the HMRA (see Table 9) control variables of age and mental health at 2006 accounted for just over 23% of the variance in mental health at 2010, $F(2, 1546) = 234.071$, $p < .001$. On Step 2, work status

dummy variables and social support at 2010 were added to the regression equation and accounted for an additional 6% of the variance, R^2 change = .060. On Step 3, interactions between social support and work status dummy variables were added and accounted for a further 1% of the variance R^2 change = .014. Of the independent variables mental health at 2006, Work Status 1, social support at 2010, the interaction of social support with work statuses 1 and 3 and were significant (see Figures 10 and 11). Age, work statuses 2 and 3, and the interaction of social support with Work Status 2 were not significant. The final model explained just over 30% of the variance, adjusted R^2 = .302. See Figure 9 for the corresponding mean differences of low and high social support for individual work statuses.

Table 9

Hierarchical Multiple Regression Analyses (HMRA) of Age at 2006, Mental Health at 2006, work status (dummy variables), social support (SPS) at 2010, and the interaction of social support with work status groups on Mental Health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2 , and R^2 Change (N= 1546).

Variables	Step 1	Step 2	Step 3
Age	-.035	-.020	-.016
Mental health (2006)	.485**	.402**	.398**
Work Status 1[1]		-.076*	-.059*
Work Status 2[2]		-.055	-.053
Work Status 3[3]		.074*	.060
Social support (SPS Total) 2010		.235**	.164**
Interaction between SPS and Work Status 1			.079*
Interaction between SPS and Work Status 2			-.027
Interaction between SPS and Work Status 3			.113*
R	.482	.541	.553
Total R^2	.232	.292	.306
Adjusted R^2	.231	.290	.302
R^2 Change	.232	.060	.014

*Note. *p*<.05, **p<.001*

[1] Forced vs other newWS groups, [2] Forced and voluntary vs other newWS groups, [3] Forced, voluntary, working now retired, vs still working group.

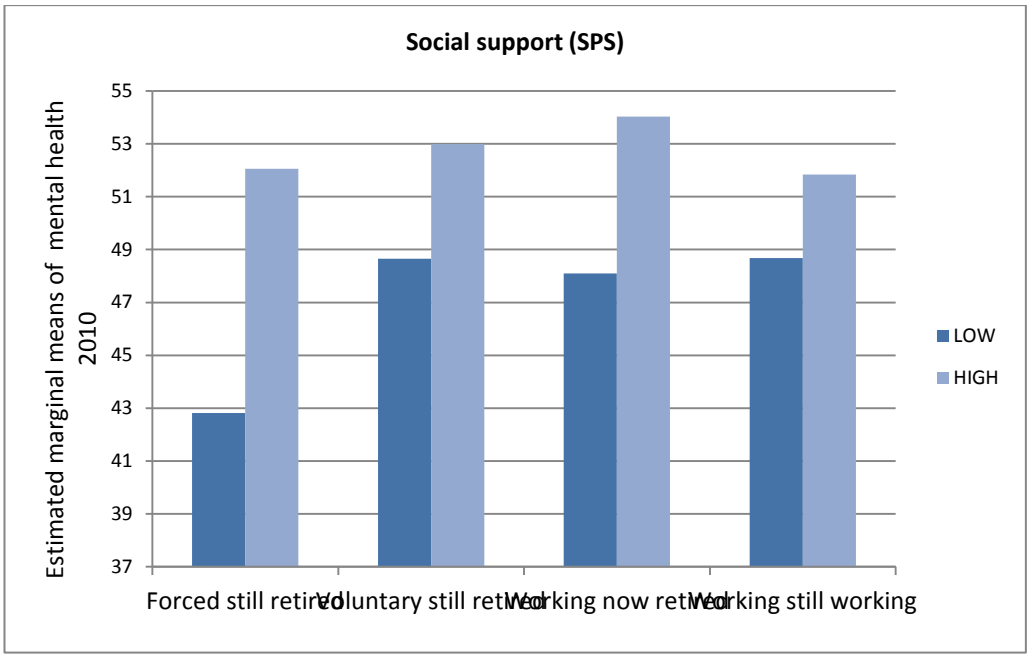

Figure 9. Mean differences of low and high social support for the new work statuses and mental health scores (2010).

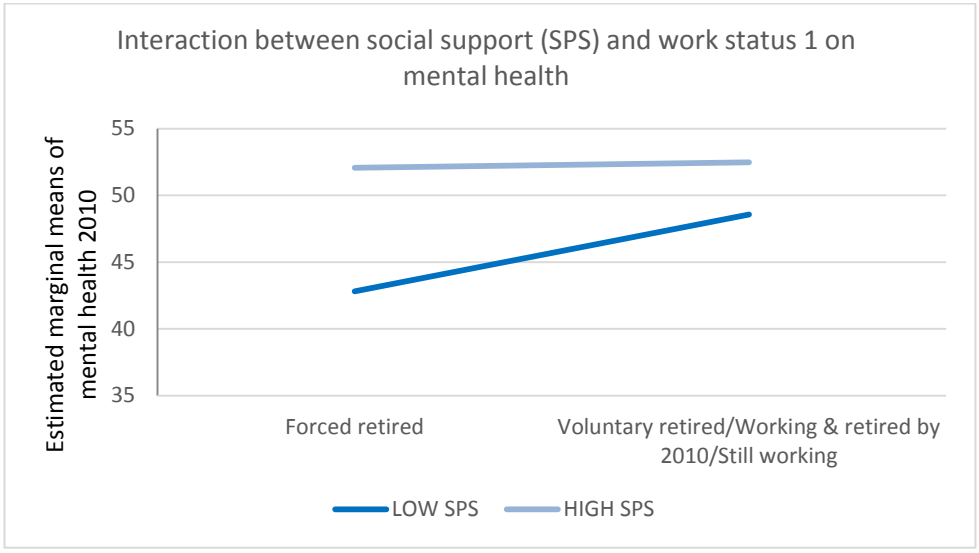

Figure 10. Mean differences of low and high social support (SPS) for work status one and the impact on mental health scores (2010).

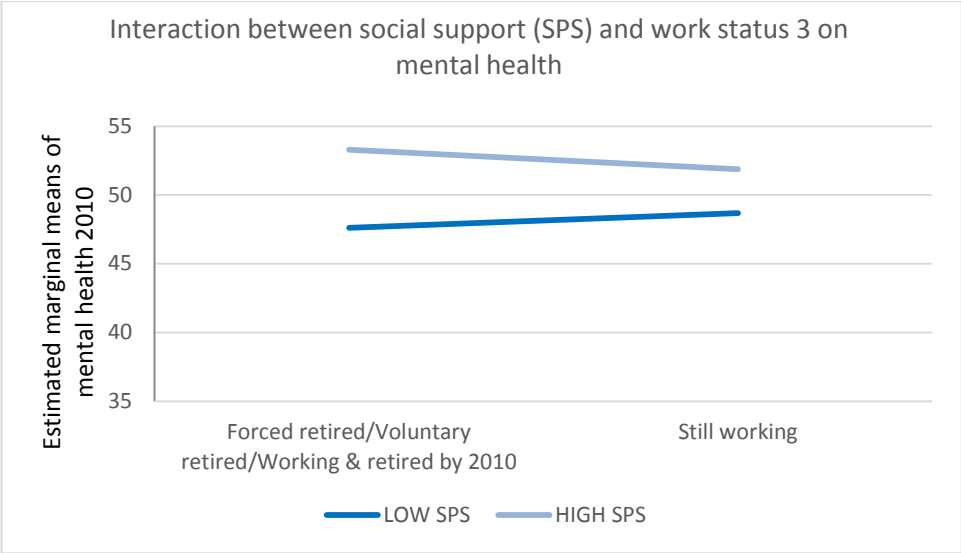

Figure 11. Mean differences of low and high social support (SPS) for work status three and the impact on mental health scores (2010).

Hypothesis 3. *Socioeconomic status will moderate the relationship between type of retirement and subsequent health status such that forced retirees with higher SES will have better outcomes compared to forced retirees with lower SES.*

Hierarchical multiple regression analyses (HMRA) was used to assess the contribution of independent variables to physical and mental health. The HMRA procedure produced output on casewise diagnostics which indicated three outliers ranging from -4.135 to -4.142 in the physical health analysis, and one outlier (-4.370) in the mental health analysis, however excluding them did not significantly alter the results and therefore these cases remained in the analysis. See Tables 10 and 11 for means and standard deviations for socioeconomic status (ELSI-SF) for the new work statuses on health at 2010.

On Step 1 of the HMRA (see Table 10) control variables of age and physical health at 2006 accounted for 40% of the variance in physical health at 2010, $F(2, 1527) = 508.185$, $p < .001$. On Step 2, socioeconomic status at 2010, and work status dummy variables were added to the regression equation and accounted for an additional 2% of the variance R^2 change = .023. On Step 3, interactions between socioeconomic status and work status dummy variables were added and accounted for a further .5% of the variance R^2 change = .005. Of the independent variables age and physical health at 2006, socioeconomic status at 2010, work statuses 2 and 3, and the interaction of socioeconomic status with Work Status 3 were significant (see Figure 13). Work Status

1, the interaction of socioeconomic status with work statuses 1 and 2 were not significant. The final model explained 42.5% of the variance adjusted R^2 = .425. See Figure 12 for the corresponding mean differences of low and high socioeconomic status for individual work statuses.

Table 10

Hierarchical Multiple Regression Analyses (HMRA) of Age at 2006, Physical Health at 2006, new work statuses (dummy variables), socioeconomic status (ELSI-SF scores 2010), and the interaction of socioeconomic status with work status groups on Physical Health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2 , and R^2 Change (N= 1527).

Variables	*Step 1*	*Step 2*	*Step 3*
Age	-.126**	-.054*	-.053*
Physical health (2006)	.591**	.545**	.537**
Socioeconomic status (ELSI-SF at 2010)		.118**	.058*
Work Status 1[1]		-.006	.017
Work Status 2[2]		-.061*	-.068*
Work Status 3[3]		-.077*	-.096*
Interaction between ELSI-SF and Work Status 1			.018
Interaction between ELSI-SF and Work Status 2			.009
Interaction between ELSI-SF and Work Status 3			.081*
R	.632	.651	.654
Total R^2	.400	.423	.428
Adjusted R^2	.399	.421	.425
R^2 Change	.400	.023	.005

Note. *p<.05, **p<.001

[1] Forced vs other newWS groups, [2] Forced and voluntary vs other newWS groups, [3] Forced, voluntary, working now retired, vs still working group.

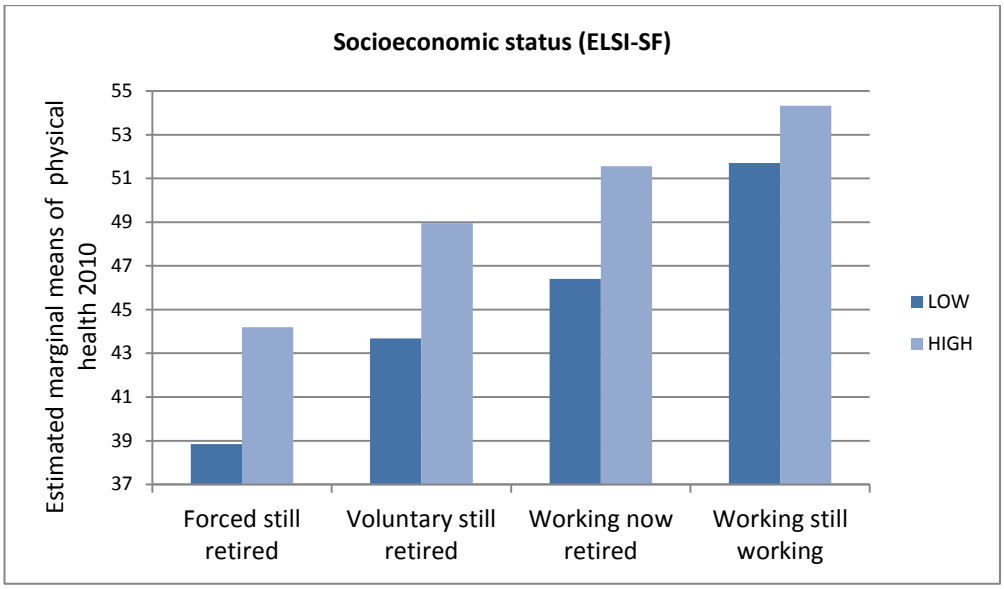

Figure 12. Mean differences of low and high ELSI-SF scores for the new work statuses and physical health scores (2010).

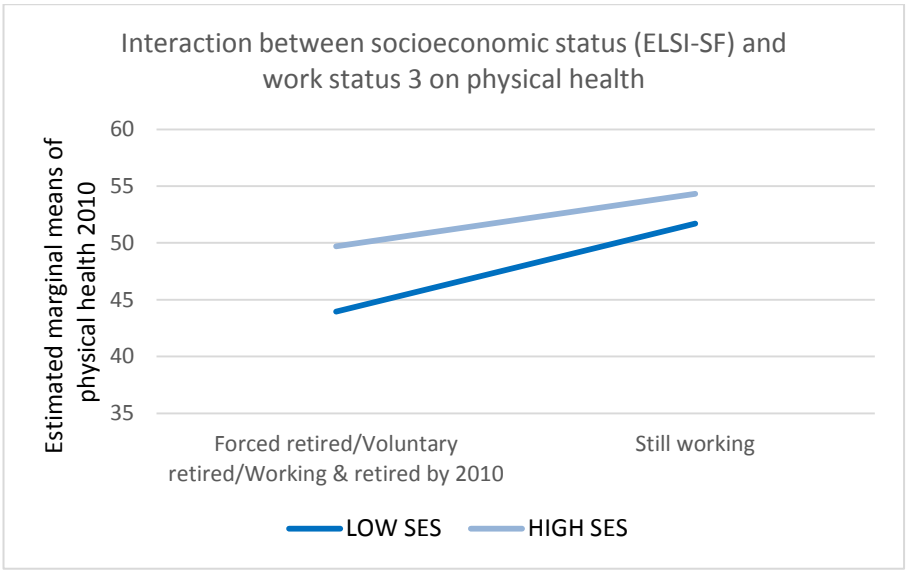

Figure 13. Mean differences of low and high socioeconomic status (ELSI-SF) for work status three and the impact on physical health scores (2010).

For the mental health model, on Step 1 of the HMRA (see Table 11) control variables of age and mental health at 2006 accounted for 25.5% of the variance in physical health at 2010, $F(2, 1527) = 261.815$, $p < .001$. On Step 2, socioeconomic status at 2010, and work status dummy variables were added to the regression equation and accounted for an additional 2.8% of the variance R^2 change = .028. On Step 3,

interactions between socioeconomic status and work status dummy variables were added and accounted for a further .2% of the variance R^2 change = .002. Of the independent variables mental health at 2006, socioeconomic status at 2010, work statuses 1, 2, and 3, and the interaction of socioeconomic status with Work Status 1 were significant (see Figure 15). Age and the interaction of socioeconomic status with work statuses 2 and 3 were not significant. The final model explained just over 28% of the variance adjusted R^2 = .281. See Figure 14 for the corresponding mean differences of low and high socioeconomic status for the new work statuses.

Table 11

Hierarchical Multiple Regression Analyses (HMRA) of Age at 2006, Mental Health at 2006, work status (dummy variables), socioeconomic status (ELSI-SF scores 2010), and the interaction of socioeconomic status with work status groups on Mental Health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2, and R^2 Change (N= 1527).

Variables	Step 1	Step 2	Step 3
Age	-.029	-.029	-.029
Mental health (2006)	.508**	.472**	.473**
Socioeconomic status (ELSI-SF at 2010)		.137**	.128**
Work Status 1[1]		-.061*	-.061*
Work Status 2[2]		-.050	-.071*
Work Status 3[3]		.073*	.075*
Interaction between ELSI-SF and Work Status 1			-.062*
Interaction between ELSI-SF and Work Status 2			.072
Interaction between ELSI-SF and Work Status 3			-.010
R	.505	.532	.534
Total R^2	.255	.283	.285
Adjusted R^2	.254	.280	.281
R^2 Change	.255	.028	.002

Note. *p<.05, **p<.001

[1] Forced vs other newWS groups, [2] Forced and voluntary vs other newWS groups, [3] Forced, voluntary, working now retired, vs still working group.

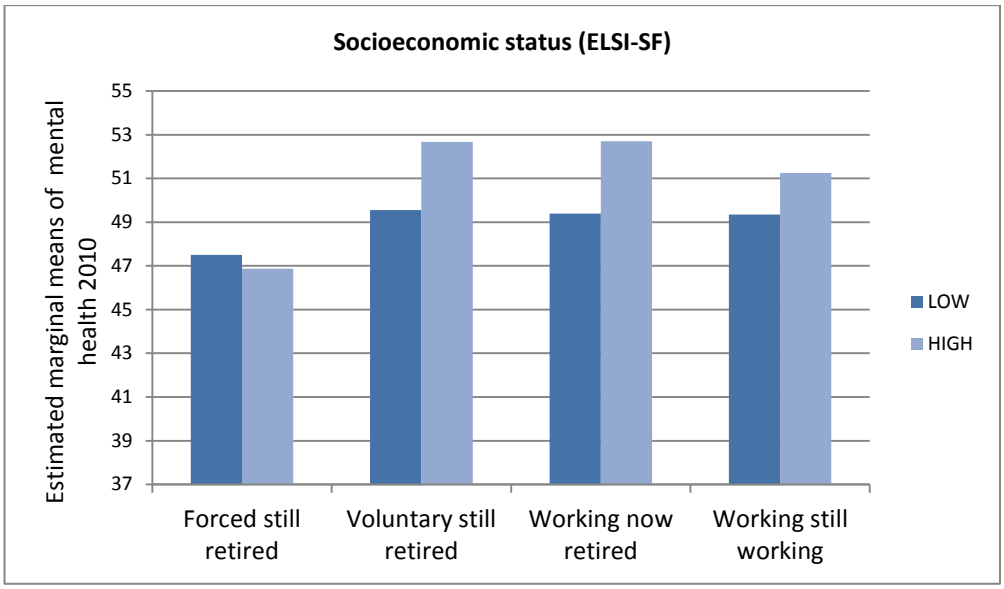

Figure 14. Mean differences of low and high ELSI-SF scores for the new work statuses and mental health scores (2010).

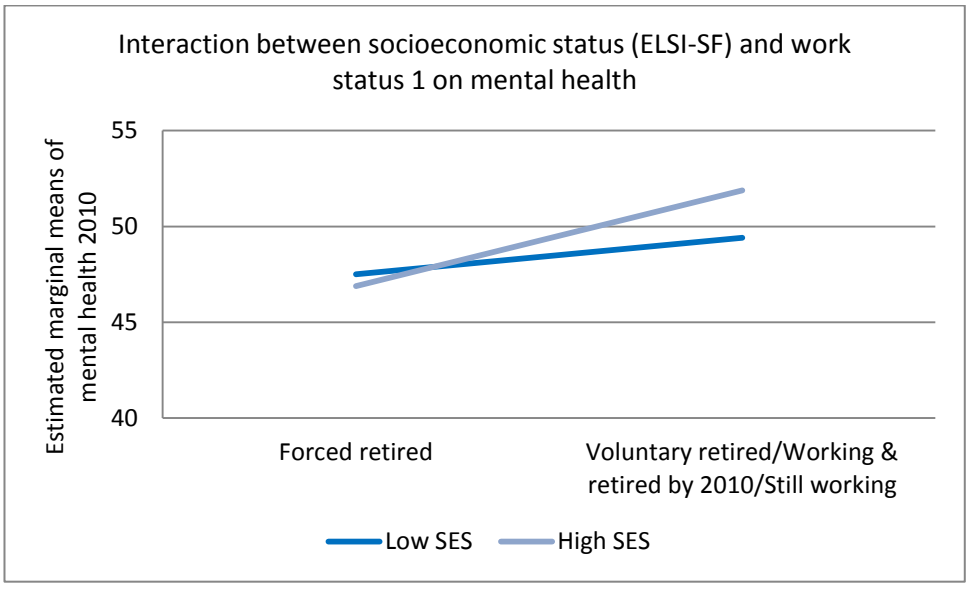

Figure 15. Mean differences of low and high socioeconomic status (ELSI-SF) for work status one and the impact on mental health scores (2010).

Hypothesis 4. *Participants who reported forced retirement in 2006 and engaged in employment and voluntary or recreational activities will have better health in 2010 (and subsequently have adjusted to retirement better), compared to those who reported forced retirement in 2006 and did not engage in employment or voluntary or recreational activities*.

Multiple regression analysis (MRA) was used to assess the contribution of independent variables to physical health in 2010 for those who were retired in 2006 (see Table 12). Employment status, voluntary activities, and recreational activities accounted for 6.8 % of the variance in physical health at 2010, $F(3,94) = 3.342$, $p < .05$. Of the independent variables employment status was significant. Voluntary activities and recreational activities were not significant. The model explained approximately 7% of the variance, adjusted $R^2 = .068$.

Table 12

Multiple Regression Analyses (MRA) of Employment Status, Voluntary Activities, and Recreational Activities on Physical Health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2 (N=94).

Variables	β
Employment status	-.217*
Voluntary Activities	-.083
Recreational activities	.172
R	.311
Total R^2	.097
Adjusted R^2	.068

Note. *$p<.05$

Multiple regression analysis (MRA) was used to assess the contribution of independent variables to mental health in 2010 for those who were retired in 2006 (see Table 13). Employment status, voluntary, and recreational activities accounted for 14.2% of the variance in mental health at 2010, $F(3, 94) = 6.338$, $p < .05$. Of the independent variables recreational activities was significant. Employment status and voluntary activities were not significant. The model explained approximately 14% of the variance, adjusted $R^2 = .142$.

Table 13

Multiple Regression Analysis (MRA) of Employment Status, Voluntary Activities, and Recreational Activities on Mental Health at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2 (N=94).

Variables	β
Employment status	-.120
Voluntary Activities	.036
Recreational activities	.353*
R	.410
Total R^2	.168
Adjusted R^2	.142

Note. *p<.05

Multiple regression analysis (MRA) was used to assess the contribution of independent variables to retirement adjustment (See Table 14). Employment status, voluntary activities, and recreational activities accounted for 8.5% of the variance in retirement adjustment at 2010, $F(3, 77) = 3.477$, $p < .05$. Of the independent variables, recreational activities was significant. Employment status and voluntary activities were not significant. The model explained approximately 9% of the variance, adjusted $R^2 = .085$.

Table 14

Multiple Regression Analysis (MRA) of Employment Status, Voluntary Activities, and Recreational Activities on Retirement Adjustment at 2010, showing standardized coefficients, R, Total R^2, Adjusted R^2 (N=77).

Variables	β
Employment status	.047
Voluntary Activities	-.259*
Recreational activities	.307*
R	.345
Total R^2	.119
Adjusted R^2	.085

Note. $*p<.05$

In summary, bivariate analysis showed forced retirement at 2006 and 2010 was associated with poor physical and mental health. When physical and mental health, and age at 2006 were controlled for, multivariate analysis confirmed the association of forced retirement with poor mental health only. The influence of low and high social support showed health benefits for forced retirees of high social support. No health benefits where reported for forced retirees of low or high socioeconomic status. Finally, employment in bridge work compared to unemployment was associated with physical health benefits, and participation in recreational activities was associated with positive mental health and adjustment to retirement. However, participation in voluntary activities was associated with adjustment difficulties.

5. Discussion

The present study investigated the physical and mental health outcomes of forced retirement on a sample of older New Zealanders over time. The influence of social support and socioeconomic status on the relationship between the type of retirement (i.e., forced vs. voluntary) and subsequent health outcomes was also examined. In addition, the study investigated the impact of paid employment (i.e., bridge employment), and voluntary and recreational activities on health and retirement adjustment. The findings, unless stated otherwise were significant at p-values of .05 or .001.

The results suggested that forced retirement was associated with poor mental health (when prior health and age were controlled for). Social support was positively associated with better physical and mental health, as was socioeconomic status. There was also partial support for the buffering effects of both social support and socioeconomic status on the relationship between type of retirement and health. Partial support for the benefits of participation in employment, and recreational activities for retirees' health and adjustment were also found. However, unique variance contributed by individuals' work and retirement types across 2006 and 2010, and the moderating effects of social support and socioeconomic status on health outcome variables was small, ranging from .4% to 6%. The greatest contribution to health outcomes was provided by control variables of prior health and age with unique variance ranging from 23% to 40%. Further unique variance in health and adjustment outcome variables was provided by employment status, voluntary activities, and recreational activities, ranging from 6.8% to 14.2%.

Retirement Reason and Health

The results of this study provide only weak support for hypothesis one (H1) that forced retirement, compared to voluntary retirement, is associated with poorer health. Bivariate analysis indicated that those who reported forced retirement (5% of the 1803 sample at 2006) experienced a slight difference in physical and mental health at 2010, compared to those who reported voluntary retirement (17% of 1803). On the other hand, multivariate analysis showed small, but significant negative differences of forced and voluntary retirement on mental health only, compared to those who reported working or

retirement by 2010. A number of studies highlight the association of forced retirement transitions with declining mental health (Calvo & Sarkisian, 2011; Dave, Rashad, & Spasojevic, 2008; Mosca & Barrett, 2016). However, no such association was found in Alpass, Neville, and Flett's (2000) study of the contribution of forced and voluntary retirement to health among a sample of older retired, New Zealand males. Diminished effects of a forced or voluntary retirement after several years in retirement (i.e., number of years since retirement M=14.26 years) may have contributed to their findings.

The differences in forced retirement and mental health outcomes found in this study are consistent with continuity theory which posits that those who experience difficulty in maintaining continuity of lifestyle may experience negative changes in health during the retirement transition (Atchley, 1989). Atchley posits another experience of retirement in his six stage model of retirement. He suggests that those in forced retirement likely skip the honeymoon phase due to the nature of their retirement and enter the reorientation stage in which they begin to explore other meaningful activities to be involved in, and subsequently start to feel better. This assumption is suggested in Wang's (2007) U-shaped latent growth curve pattern.

Social Support and Health

The hypothesis (H2), that social support moderates the relationship between type of retirement and subsequent health status was partially supported. Social support had a main effect on physical and mental health with those reporting higher social support also reporting better mental and physical health. The results of the interaction effects of social support and type of retirement on physical health, showed that for those retired in 2006 (both forced and voluntary), physical health in 2010 was lower for those with low social support compared to those with high social support. Although this was also found for those who were working in 2006, the mean physical health scores for this group were higher compared to the retirees, and the difference in health scores between the low and high social support groups of those who continued to work was smaller.

Two significant interactions of social support and type of retirement on mental health were evident. Those forced to retire in 2006 and reporting low social support also reported the lowest mental health. Forced retirees with high social support reported similar levels of mental health as the other three retirement types (whose mental health did not differ by levels of social support). In addition, retirees (forced, voluntary and later) with low social support reported poorer mental health than those with high social support. A similar association was found for those who continued working throughout

the study however the difference between high and low social support groups was smaller, and those in the low social support groups reported lower mental health than high social support retirees.

There is evidence to suggest that perceived social support is effective in moderating between the stressful event of forced retirement (Bamberger & Bacharach, 2014) and potentially adverse health outcomes. Dave, Rashad, and Spasojevic (2008) also suggested that adverse health effects experienced in the transition to retirement were mitigated by social support. Adverse health outcomes may be explained by the loss of social support previously provided by coworkers (Szinovacz, 2003), however, the effects of social support on a person's coping styles and coping efforts remains unclear (Lakey & Cohen, 2000).

Continuity theory posits that as long as people maintain their usual pattern of activities, drawing on past experiences and applying familiar strategies to situations they encounter, non-pathological declines in overall physical and mental activity will not be met with a sense of discontinuity in their lifestyle.

Socioeconomic Status and Health.

The hypothesis (H3), that socioeconomic status moderates the relationship between type of retirement and subsequent health status was partially supported. Socioeconomic status did not have a main effect on physical or mental health. The results of the interaction effects of SES and type of retirement, on health, showed that retirees' (forced, voluntary, and later), physical health in 2010 was lower for those with low SES compared to those with high SES. Although this was also found for those who were working in 2006, the mean physical health scores for this group were higher compared to the retirees, and the difference in physical health scores between low and high SES groups was smaller. With regard to mental health, those forced to retire in 2006 and reporting low SES also reported low mental health. A similar association was found for those who continued working throughout the study however, the difference between high and low SES was smaller, and those in the low SES groups, except for forced retirees, reported lower mental health than high SES retirees. The findings of this study suggest that socioeconomic status has made no real difference in the mental health of forced retirees (both low and high SES) compared to the other retirement groups which showed better mental health than forced retirees of low SES.

An analysis of HRS data by Szinovacz and Davey (2005) suggests that the socioeconomic status differences in forced retirements are partly due to the association

between SES and health. Their study of four waves of HRS proposes that perceptions of forced retirement are related to low socioeconomic status, however, the addition of no-choice factors (e.g., health, job loss) to their models weakens the relationship. Therefore, diminished choice and control over aspects of the retirement transition (Dave et al., 2008; van Solinge, 2007), rather than high or low SES may explain the negative difference in mental health among those who report forced retirement.

Bridge Employment, Voluntary Activities, Recreational Activities, and Retirement Adjustment.

There was partial support the hypothesis four. Being employed was associated with better physical health compared to being unemployed, and participating in recreational activities was associated with positive mental health, and adjustment to retirement. However participating in voluntary activities was associated with adjustment difficulties.

Unemployment, reported by those in forced retirement was associated with a significant 22% decline in physical health compared to engagement in employment. A 12% decline in mental health was also reported by unemployed forced retirees but this finding was not significant.

Involuntary job loss studies by Gallo, Bradley, Siegel, and Kasl (2000) and Mandal and Roe (2008) found that older workers experienced physical health benefits once re-employed. These benefits may include a recovered sense of control over their working lives, and a sense of continuity (Atchley, 1989; Pearlin, 2010; Quine, Wells, de Vaus, & Kendig, 2007). Although research on reactions to bridge employment are scarce (Cho, 2016), there is some evidence in the literature that bridge employment softens the transition from work to retirement, and potentially averts the negative consequences (e.g., poor physical functioning; Gallo, Bradley, Siegel, & Kasl, 2000) of retiring for the individual (Dingemans & Henkens, 2014; Henkens & van Solinge, 2013). Improvements in the mental health of bridge workers (formerly forced to retire from their career jobs) have also, however, been reported (Cho, 2016; Zhan, Wang, Liu, & Shultz, 2009). Ulrich (2003) found bridge workers, tended to feel better about themselves. Consequently, the finding in this study of a decline in mental health of older workers may be explained by the presence of a number of potential concerns in the bridge employment experience. These concerns may include, the low quality of some bridge jobs (Lissenburgh & Smeaton, 2003), low remuneration for the work performed (Johnson, Kawachi, & Lewis, 2009) financial insecurity of the worker

(Henkens, & van Solinge, 2013) and ongoing workplace organizational and restructuring changes (Ulrich, 2003). These concerns may present challenges to the older work despite the opportunities bridge employment offers them to regain control over their working lives (Dingemans & Henkens, 2014; Ulrich, 2003).

On the surface, participation in recreational activities appears without issues of personal choice and control. Abuhamden and Csikszentmihalyi **(**2012**)** in their largely American study of challenge within the context of autotelic activities suggests that pursuits (e.g., recreational activities) that stretch the participant's physical and mental abilities allow participants to achieve a balance between the degree of challenge and skill required to do an activity. This achievement requires concentration, effort and taking control of the situation. Being able to exercise choice in the retirement process is reported to counter poor mental health (Gallo, Bradley, Siegel, & Kasl, 2000; Shultz, Morton, & Weckerle, 1998) and adjustment difficulties (van Solinge & Henkens, 2005). Supporting continuity theory and the life-course perspective, participation in recreational activity may provide individuals a means of continuity, and a way to serve their own interests, and direct their lives in retirement (Pearlin, 2010).

The hypothesis that participation in voluntary activities will lead to positive health and retirement adjustment in instances of forced retirement was not confirmed. However, the literature suggests that unpaid activities are positively related to retirement transition and adjustment (Clowes, 2016; Henning, Lindwall, & Johansson, 2016; Zhan et al., 2009). Therefore, one explanation for the results of this study, may involve difficulties with access to, and issues with voluntary work in New Zealand. For example, Clowes (2016) study of volunteering in Wellington New Zealand suggests that transport, accessibility to some volunteering locations, financial security, and health limitations are potential barriers to participation in voluntary work for older people. Volunteers have identified other disadvantages including the lack of role clarity, the lack of status compared to staff, the lack of training and support, the lack of personal recognition, the overburdening of volunteer workers and subsequent burnout, and the time wasted due to badly organised or poorly devised services (Te Papa National Services Te Paerangi, 2006). Some of these issues also highlight the lack of control participants may have in certain voluntary activities.

In summary, the results of this study suggest that forced retirement, compared to voluntary retirement, contributes to poorer mental health, and that those who are forced to retire and receiving high social support will have better physical and mental

health compared to those receiving low social support. The results of this study also suggest that those who are forced to retire and of low or high socioeconomic status do not have better mental health than the other three retirement types. Finally, being employed was associated with better physical health compared to being unemployed, and participating in recreational activities was associated with positive mental health, and adjustment to retirement. Participation in voluntary activities, however, was not associated with positive adjustment to retirement.

The evaluation of the results of this study leads to the need to cite a number of limitations.

Limitations.

Firstly, approximately two thirds of the associations in this study are very small, the majority of those reaching p-values of .05, show standardised coefficients ranging between .096 to -.049. Significant main and interaction effects report p-values of less than .01 or .05, however, issues with test assumptions (i.e., homogeneity of variance is not met, and sample sizes are unequal) may reduce their meaningfulness (Rosen & de Maria, 2012). This study however attempts to acknowledge both statistical and practical significance in summarizing its findings. Secondly, this study does not control for ill health retirement which potentially biases the results. Some health conditions (e.g., physical and mental fatigue) might improve post-retirement, while others (e.g., respiratory disease, coronary heart disease) tend to worsen with age. Therefore, for this reason, and also this study's reliance on self-report measures, the findings need to be interpreted with caution.

Despite these limitations, this study provides an indication of the negative impact of forced retirement on mental health, the positive impact of bridge employment on physical health, and the positive impact of participating in recreational activities on mental health and adjustment to retirement.

Conclusion.

Health is an important asset in retirement however; many people retire because of health problems. Therefore, further research into the health benefits of participating in bridge employment and recreational activities in retirement may encourage a view of retirement as an opportunity for retirees to improve the quality of their health as they age (Stenholm & Vahtera, 2017).

When prior health and age were controlled, forced retirement, compared to voluntary retirement, contributed to poorer overall mental health. The receipt of high

social support by those in forced retirement showed better physical and mental health benefits but forced retirees of low or high socioeconomic status, only showed physical health benefits. The interactions of social support and retirement types on health, and the interactions of socioeconomic status and retirement types on health, as well as bridge employment, and participation in voluntary and recreational activities only contributed small amounts to the overall explained variance in physical and mental health outcomes, while control variables of prior health and age contributed to the greater part of the variance.

Taking back the control lost in a forced retirement may give back to the individual other choices, and the opportunity to once again direct their working lives. For those who reported forced retirement in this study, participation in bridge employment benefited them physically, and participation in recreational activities showed mental health benefits as well as adjustment to retirement.

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