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THE SUBJECTIVE WELLBEING AND LIFE SATISFACTION OF OLDER ADULTS

RYAN HANDLEY BA PGCert

A thesis submitted to the University of Huddersfield in partial fulfilment of the requirements for the degree
of Doctor of Philosophy

Submitted November 2019

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ABSTRACT

In common with other developed countries, the UK population is ageing with today's older workers facing pressures from greater financial stress. Reasons for this include changes to pension systems, increased longevity, and an increasing need for informal care provision. Understanding the retirement transition and different retirement outcomes is important for older adults themselves as well as for policy makers and organisations seeking to provide support to those forced to work well beyond traditional retirement ages.

In this thesis, the English Longitudinal Study of Ageing dataset is used to investigate which segments of the ageing population are susceptible to experiencing lower subjective wellbeing in the retirement transition. It includes two studies: Firstly, informed primarily by social capital theory, it highlights the disparities in social connectedness between older workers receiving no pension, 'bridge employees' (working in a reduced capacity whilst in receipt of a pension) and those fully withdrawn from the labour market as well as the significance of close and supportive social networks in improving subjective wellbeing and reducing social isolation. Study two then focuses on the importance of the wider contextual landscape surrounding the retirement transition. It does so by including a second series of data analysis that focuses on a much narrower band of ages.

Study one's findings suggested that the significance of the effects of social capital on subjective wellbeing are dependent on labour force participation. For adults fully withdrawn from the labour market, social capital has a bigger positive effect on wellbeing than for workers not receiving a pension. Furthermore, bridge employees and workers with no pension experienced similar effects on wellbeing when it came to social capital and that bonding social capital had a bigger positive effect on subjective wellbeing for fully withdrawn adults than the bridging type of social capital. Study two's findings suggested that resources older adults have to draw from are not only important in determining life satisfaction but also that they are shaped by the wider societal, political and economic contexts.

The thesis then concludes with a detailed discussion on the theoretical and practical implications of the study's findings and how these results relate to extant literature. In particular, it highlights the importance of better access to volunteering opportunities and social activities and services. In addition, providing work-based incentives that promote the development of social capital could improve retention of older workers, therefore keeping their experience and unique skillsets with the organisation. Also discussed is the importance of understanding contextual issues when policies relating to older workers are formulated and implemented.

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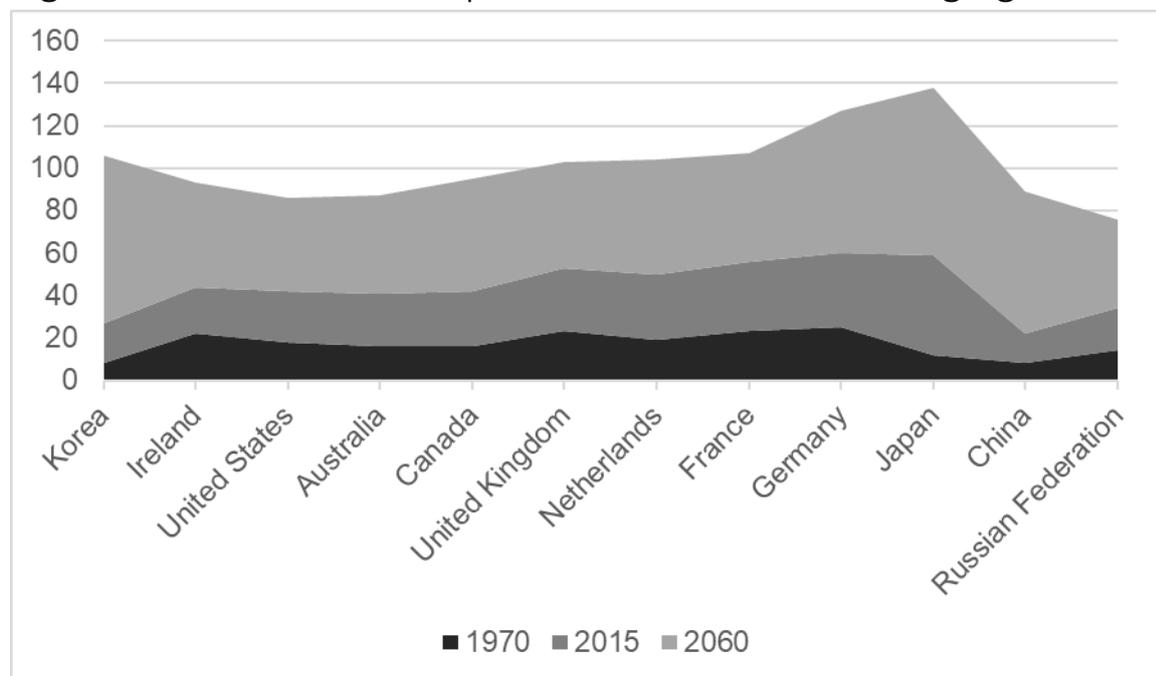
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CHAPTER 1: INTRODUCTION

1.1 BACKGROUND TO THE RESEARCH

Populations in the UK and most developed societies are ageing, primarily due to increased longevity and a reduction in birth rates (Zhan, Wang, & Shi, 2015). The Organisation for Economic Co-operation and Development (OECD) estimates that on average the old-age dependency ratio will double in the next 45 years (OECD, 2016). Figure 1.1 shows a selection of OECD countries and their old-age dependency ratio measured at 1970, 2015 and the forecasted level at 2060.

Figure 1.1 Number of People Over 65 Per 100 Working Age Adults



(Adapted from OECD, 2016)

The shift in the demographical profile of most developed nations to one that has almost as many adults over the statutory retirement age (where one exists) as there are adults of a working age poses new challenges to policy makers. There is increasing strain on many countries' pension systems and an increasing need for solutions to be found that will alleviate the pressure (Shultz & Henkens, 2010).

Retirement is now often seen as being a particularly heterogenous process. Furthermore, the transition from work to non-work is often, no longer the one-off event that occurs at the end of a career,

instead, older workers have a different relationship to the labour market and can move much more frequently between jobs. The retirement process itself can be much more drawn out, with older workers continuing to work beyond the statutory retirement age, as self-employed, in a reduced capacity at the same organisation or even in an entirely different field (Von Bonsdorff, Shultz, Leskinen, & Tansky, 2009). Some retirees further their working lives through bridge employment (employment after a career job or whilst receiving a pension, 'bridging' the gap to full withdrawal from the labour market) or phased retirement, whilst others might disengage entirely, perhaps years before they actually retiree, leading to a kind of 'mental' retirement (Wang, Adams, Beehr, & Shultz, 2009). There is also 'un-retirement' where an individual re-joins the labour force several years after being fully withdrawn (Alley & Crimmins, 2007).

Extant literature surrounding retirement is multidisciplinary, covering academic fields of psychology and sociology to organisational behaviour and economics. This thesis will therefore address the need to consider a multitude of disciplines by employing a two-study design. Furthermore, by employing two designs and including social capital in various ways, it will be shown how complex this period in the lives of older workers is. Social capital can have multiple effects over various periods of time and work alongside a multitude of other factors. The first study will analyse older workers aged 50-90 and examine the effects of labour force participation and social capital on subjective wellbeing. The second will examine older workers aged 60-66 and will analyse the effects of individual resources on life satisfaction. Both will be concerned with the wellbeing of older workers and will include social capital in their design, however, due to the two-study design, there will be a more nuanced appreciation of the complexities surrounding retirement. Despite the fact both will include subjective wellbeing, both studies will contribute to knowledge in distinct ways. The use of two-studies is also a reflection of the difficulties in examining the lives of older workers. Whilst both are valid, they will both be able to present unique findings due to the difference in sample characteristics and analytical method used. Before the research aims and objectives are discussed, the following section will briefly highlight the various theoretical underpinnings that exist in the retirement literature.

1.2 THEORETICAL UNDERPINNINGS

Research seeking to provide greater understanding of the retirement process has been underpinned by several major theoretical perspectives (Wang, Henkens, & van Solinge, 2011) including role theory (Ashworth, 2000), continuity theory (Atchley, 1999), stage theory (Gall, Evans, & Howard, 1997), the life course perspective (Settersten, 2003) and the resource perspective (Hobfoll, 2002). Role theory is particularly useful when informing the study of the work role exit and the consequent role transition into becoming a retiree. Feelings of self-worth can be associated with the successful execution of a particular role and when that role is lost, as is often the case when older workers leave their career-based jobs or when entering full retirement (Wang et al., 2011). Continuity theory emphasizes the continuation of an experience or identity throughout the retirement trajectory, for example, maintaining social networks and connections should allow subjective wellbeing to continue at the same level when fully withdrawn from the labour market as when working with no pension. Stage theory promotes the idea that retirement occurs in stages, for example, beginning with a type of honeymoon period, when retirees are satisfied with the overall process, potentially being followed by a sense of disillusionment. Further stages might include a reorientation period which involves a reassessment of needs and the limitations on achieving goals set before the retirement process, followed by a final stage of stability when retirees might accept their circumstances and become content with how their retirement is likely to pan out. The life course perspective essentially suggests that the plans and actions of retirees are governed by their own unique experiences and circumstances. It also emphasizes that all aspects of one's life are interrelated, i.e. work based events influence non-work activities and vice versa. The resource perspective is a more general view that successful adjustment and satisfaction with retirement hinges on what resources are available to the retiree. Resources can be tangible, such as financial or social network size and diversity, or less so, for example, cognitive functioning, self-efficacy or self-esteem. The use of social capital in the current thesis is a central theme within both study one and two. The importance for older adults in maintaining social connections has been endorsed by a number of researchers (for example, see Barbosa, Monteiro, & Murta, 2016; Coelho & Duarte, 2016). Social isolation can have a particularly negative impact when in later life. As people age, their health can deteriorate meaning subjective wellbeing is more reliant on the social

support provided by close relationships. The next section will now provide a brief overview of some of the more contextual changes to have occurred over recent years for older workers.

1.3 CONTEXTUAL CHANGES TO RETIREMENT TRANSITIONS

Whilst the application of theory can underpin research, it is also vital that there is further consideration given to more contextual issues that surround the retirement process. Indeed, despite the growing literature surrounding retirement and its various trajectories it is still imperative that consideration is given to the societal context in which it is embedded. There are several contextual changes men and women are experiencing when working later in life over recent years in the UK. This can be demonstrated well by comparing the UK to other countries, such as the US. In the UK, women are more likely to work part-time than their US counterparts. In the US there is more emphasis on corporate means and less on welfare provision by the state. Consequently, health care, disability benefits and parental leave are much more certain when working full-time. In fact, there can be benefits penalties from working part-time (Lain, 2018). Part-time opportunities appear to be particularly important for post-Statutory Pension Age (SPA) workers, with older workers more likely to be self-employed than younger workers in the UK and the US (Cahill & Quinn, 2014) coupled with the largest groups of self-employed men and women working part-time, mainly though choice.

The post-SPA workforce can expect to work fewer hours, whether working in temporary, part-time or full-time jobs. Furthermore, the decision to continue working seems to be linked to household circumstances and a desire to stop working quite close to the retirement of their partner; and continuing to work can simply be a way to maintaining living standards. Workers post-SPA can also expect to have high rates of savings and be less likely to be receiving income from an occupational pension than non-workers; to have remained in the same job as before; have relatively high levels of job satisfaction, with fewer men wanting to stop working in particular; and to be more likely than younger age groups to be working for small firms with less than 10 employees (Lain, 2018).

However, working beyond SPA is only a strong possibility for those working immediately before this stage. It is difficult to re-enter the labour market having left it. Moreover, many of those leaving work may be doing so for reasons such as on health grounds or because they have adequate resources to live on in retirement. Rates of working for those who do continue to work drop comparatively sharply

after 60/65. Even if more people can be encouraged to work after this age, if present trends were to continue they would not work for many more years (Smeaton & McKay, 2003).

As well as the issue of the length of time spent working, the UK has lagged many countries with regards to age discrimination legislation. In the US, for example, it has existed for some time and has therefore contributed to many more Americans working beyond age 65. In fact, age discrimination legislation was not enacted in the UK until 2006. However, the intention was not to promote extended working lives but to protect individuals from discrimination based on religion, disability, sexual orientation and of course age. The legislation also introduced the 'right to request' continued employment beyond age 65 (C. Duncan, 2003). Furthermore, the UK has only recently abolished different pension ages for men and women. Under the Pensions Act 1995 women's state pension age of 60 was to rise to match that of men at 65 between the years 2010 and 2020. The date was brought forward through the Pensions Act 2011 which further raised the pension age for men and women to 66 by the year 2020 (Loretto & Vickerstaff, 2013). David Lain (2018) summarises the particular changes that older workers in the UK have and will be experiencing with regards to pensions:

- Using the 'grandfather clause' (stepped change with a delayed start and incremental rise) the state pension age will increase to 68.
- State Earnings Related Pensions will be replaced with State Second Pension and erosion of earnings-related dimension over time. This will then be further replaced by a single-tier pension which will reduce mean testing and promote employment and saving.
- 'Defined contribution' pensions encouraged through 'auto-enrolment', something which occurred 'naturally' in the US. This will represent a shift from the more secure 'defined benefit' pensions.
- Again, using the 'grandfather clause' and incremental change; the entitlement for Pension Credit will rise from age 60 to 68.
- Following the US, the UK has abolished mandatory retirement. This will support extended working lives and will be done through 'conversion' which is the redeployment of earlier age discrimination legislation in a bid to further promote employment post 65.
- Similar to the US, the UK is to introduce pension reforms making it easier to combine the receipt of a pension and employment.

In 1953, just over 25% of employees were members of an occupational pension through their jobs; coverage was much higher in the public sector than in the private sector (just under 55% compared to just over 19% respectively). Ten years later, this had increased to almost 50% of employees overall. Coverage then fluctuated around this level until the year 2000, although this covered the fact there was a decline in occupational pensions in the private sector and an increase in the public sector. In 2000, just over 88% in the public sector had an occupational pension, however, in the private sector this figure was only 38%. The years 1953 through to 2000 represented a clear expansion of occupational pension coverage for public sector workers (Bridgen & Meyer, 2013; Clark, 2006).

Following the financial crash in 2007/08, the political and economic landscape changed radically. The value of defined contribution pensions fell by a third on average, therefore, at a time when individuals were being hit hard financially, it was considered difficult politically to try and enforce people to retire at 65. The government therefore stated an earlier review than the one previously planned was needed of the Default Retirement Age. This was due to the different economic circumstances for individuals coming to retirement and businesses, in comparison to 2006 when age regulations came into place. Furthermore, mandatory retirement is now outlawed unless a legitimate Employer Justified Retirement Age can be established (Lain, 2018).

A further contextual factor relevant to the consideration of the types of jobs and job transitions of older workers, is levels of qualification. In fact, one of the reasons the UK does not have similar job movements as the US for example, when considering pathways into work post 65, is that job mobility in the UK is hampered by low qualification levels (Lain, 2018). The education 'life-course policies' of the UK have resulted in older people having much lower qualifications than similar groups in the US. Educational levels still remain below those of the US: In 2012, around 30% of the population in the UK aged 55-64 had below secondary-level qualifications, compared with 10% in the US; this is the cohort that will potentially be working past 65 in the coming decade (OECD, 2016).

However, all of the contextual changes highlighted above are framed by the fact that national and international targets for employment rates of workers over 50 are still not being met (Loretto & Vickerstaff, 2013). In fact, it could be argued that for those working in physically demanding and low paid jobs, being expected to work for longer could be considered as an undesirable yet 'unavoidable obligation' (Vickerstaff, 2010). A large scale survey conducted on behalf of the Equalities and Human

Rights Commission suggested that whilst half of the 50 to 55 year cohort said financial reasons were the primary reason for working, the majority of 65 and overs said they worked because they enjoyed it (Smeaton, Vegeris, & Sahin-Dikmen, 2009). These irregularities with how older workers perceive their roles is indicative of the complexity encountered by researchers.

1.3.1 GENDERED DIVERGENCES

Embedded within the contextual changes older workers in the UK are experiencing, it is important to note that despite much research suggesting that the key determinants of retirement timing and satisfaction are due to health, job satisfaction and financial reasons, for example, women and men have still have different experiences in retirement (Loretto & Vickerstaff, 2013). It has been suggested that this could be due to the different levels of occupational and private pension coverage (Lain, 2018). Research conducted in the US has provided evidence that couples will choose to retire at the same time or within a short period of time from each other (Blau, 1998). Academic literature in the US has also suggested that the number of dependents leads to a decrease in the likelihood men will retire but an increase for women (Talaga & Beehr, 1995), there are differences in the labour market relationships between the genders due to different levels of domestic and care responsibilities (Price & Nesteruk, 2008). Patterns of labour force participation throughout the life course are set within in the family context due to dissimilar employment stability and self-employment earlier in working life. This can then affect how unemployment and caring responsibilities are unevenly distributed between the sexes (Raymo, Warren, Sweeney, Hauser, & Ho, 2010).

Research conducted in the UK, whilst having similarities with the US, is set within different contexts as discussed earlier. With regards to care responsibilities, 315,000 older adults under SPA were out of work in the UK, having had to leave work in order to provide care for someone (The Employers for Carers and Department of Health Task and Finish Group, 2013). Women are still more likely to assume caring responsibilities; in the UK spending on average 23 hours on family caring compared to 10 hours by men. In 2010/12, 76% of women aged 21 to 30 without children were in work compared to 44% who had children (Foster, 2018). Of course caregiving also applies to older family members, however, this can often be seen as less justifiable to employers than caring for younger children or grandchildren to have time off (Loretto & Vickerstaff, 2015). Furthermore, because of greater

caregiving tending to be needed as workers approach SPA, pension contributions can suffer, with women more likely to therefore feel the effects.

Grandparents are increasingly providing care to younger relatives, with grandmothers being more likely to carry the responsibility, although a significant portion of older men provide some kind of care for their grandchildren (Hank & Buber, 2009). Research in the UK has suggested that care provision peaks in their 50s and 60s for women and that a larger number of working grandparents provide childcare than those who are retired or unemployed. However, an increase in labour force participation of older women could still put the easily accessible role of grandparents as caregivers at risk (Gray, 2005).

The family unit has been described in relation to both paid and household work in several ways. The male breadwinner-female homemaker; modified male breadwinner; and egalitarian household work status types are conceptualisations that seek to classify the different roles that each gender might expect within a family unit (Loretto & Vickerstaff, 2013). The male breadwinner-female homemaker is the supposedly traditional model describing the labour force participation of the husband and the domestic role of the wife (Lain, 2018). This sex-specific specialisation was promoted by the 'economic theory of the family' (Becker, 1981) and argues that the rearing of children is the singular most important function of families. However, despite economic theory suggesting that an increase of women in the labour market would ultimately lead to the decline of the family (due, for example, to a decrease in mutual dependency between the sexes and reduced appeal of marriage and therefore the production of children), the correlation between women's employment status and fertility is the opposite: women in work simply change the timing of having children. Once they have completed further educational qualifications or spent time in the labour market, then they might consider the possibility of a family (Blossfeld & Drobnič, 2001). The modified male breadwinner model describes a full-time working husband and part-time working wife where she does some labour market work but is primarily focused on the demands of the family, whilst the egalitarian depiction is a model in which the couple have shared labour market and household work equally. In the UK, the modified male breadwinner model has become the norm, with women coming in and out of the labour market (Loretto & Vickerstaff, 2013). Consequently, it is the man's financial status that can dominate possible retirement planning.

1.4 INTERACTION OF MULTIPLE FACTORS

Further to discussions on specific contextual issues that affect the lives of older workers, it is important to note that no one factor acts in isolation. Changes to the political landscape, for example, work in tandem with an array of social, economic and organisational factors, meaning retirement is, therefore, influenced by a complex mix and interaction of issues.

Perhaps indicative of this complicated backdrop to understanding the lives of older workers is how retirement itself has been defined by researchers within the literature. Denton and Spencer (2009) identified eight separate ways that retirement status had been measured: self-assessed retirement; non-participation in the labour market; change of career or employment later in life; exit from one's main employer; reduction in hours worked and/or earnings; hours worked or earnings below some minimum level; receipt of pension income; and some combination of any of these. Similarly, when considering the multiple antecedents to retirement and the effects of these on the individual, there have been a wide array identified and analysed (Wang & Shi, 2014). Factors include the physical and psychological pressures of work prior to actual retirement (Quick & Moen, 1998), overall job satisfaction, labour market status, stress (Wang, 2007), duration of the exit from work and individual resources (Zhan & Wang, 2015) amongst many others. Retirement is, therefore, a highly heterogenic and context-specific event, where no two people will have the exact same experience (Hansson, Buratti, Thorvaldsson, Johansson, & Ingeborg Berg, 2018).

Retirement is also not restricted to being a single event, with individuals 'un-retiring' and 're-retiring' any number of times depending on individual preference or through necessity due to financial pressures or the desire to continue benefitting from the social aspects that work can bring (Bennett, Beehr, & Lepisto, 2016). The value of social capital has been explored by researchers for over two decades (for example: Jahoda, 1997; Mor-Barak, 1995), and is acknowledged as a means of supplying older workers in particular, a source of meaning, support and belonging. The lives of older adults are inextricably linked to the lives of their co-workers, family and friends, creating a social network that can transfer knowledge and resources amongst its members (McNamara & Gonzales, 2011). The ability of this network to transfer anything effectively will therefore be entirely contingent on the quality of its connections, in other words the strength of the relationship between each of its members.

Due to its importance, social capital can also help determine the path into full withdrawal from the labour market the individual takes. Another term used to describe the events and conditions of older workers is 'bridge employment', which is a period of time that older workers can experience after their career job has finished but before full withdrawal from the labour market. These individuals are therefore bridging the gap between work and retirement in a job that is of a lower status, reduced hours, reduced pay or reduced responsibilities (Ruhm, 1990). If the pull of social experiences from work is sufficient, it is reasonable to assume that it might guide retirees into continuing work, albeit in a reduced capacity.

The combination of social capital and inclusion of a multitude of other factors that have been identified as being potentially important when trying to determine the causes and consequences of positive wellbeing in the lives of older workers are therefore studied in the current thesis. However, It is unlikely that any will act in solitude, with most combining in some way to form subtle differences across demographic and socioeconomic lines. It is the complexity of these interactions that has led to the current thesis containing two studies, each with its own methodology and different set of factors being tested. Having a singular design would not have allowed the analysis of multiple factors in different combinations and time frames.

The two studies are also linked in that they both contribute to understanding how social capital is linked to particular exit routes from the labour market and how these are then linked to particular aspects of well-being. Whether the older worker is completely retired or working in a reduced capacity, social capital will have different roles to play. It will also affect the older worker alongside several other factors, all of which having the potential to affect wellbeing. Study two will therefore focus particularly on the transition to retirement stage itself to analyse how these factors can contribute to the levels and changes of life satisfaction. The following section now outlines the research aims and objectives and how the thesis will address the plethora of issues surrounding the lives of older workers.

1.5 RESEARCH AIMS AND OBJECTIVES

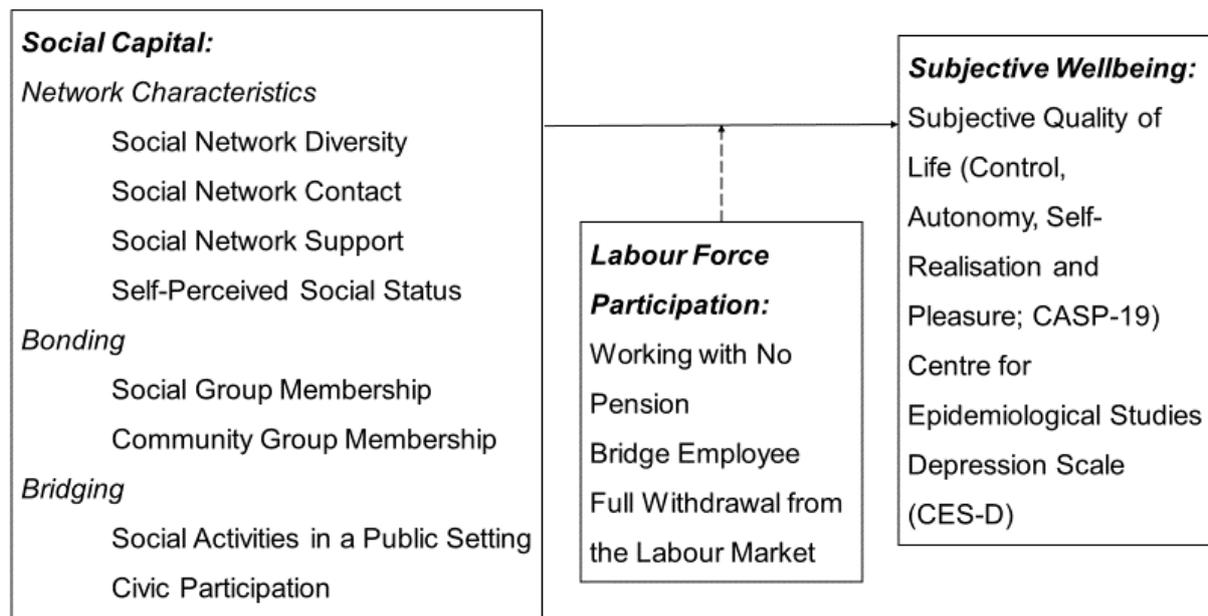
Now that an overview has been provided of the various concepts surrounding the retirement transition, the following section will present the research aims and objectives. The overall aim of the current thesis is to examine the complexities of the retirement transition by highlighting how different research designs can offer unique perspectives on the importance of individual resources (in particular

social capital) in the lives of older workers.. It will discuss the importance of recognising the unique contextual parameters within which individuals' retirement transitions can be framed. The thesis includes two studies: one that will focus on how different types of labour force participation can influence subjective wellbeing; and one that will focus on how a wide range of resources can affect the levels and changes in life satisfaction of older adults. The data analysis chapter will therefore be divided between focusing on the significance of social capital for retirees throughout later life, and on the effects on life satisfaction during the transitional period covering the actual shift from work to retirement. The research aims are as follows:

- To determine how social capital can affect subjective wellbeing for older workers.
- To examine how different labour force participation types can influence the effects of social capital on subjective wellbeing.
- To investigate the role of individual resources (including social capital) in maintaining subjective wellbeing through the retirement transition.

Study one will incorporate bridge employment, which is still a relatively new phenomenon being researched within the retirement literature (Bennett et al., 2016). However, due to the changing demographical trends in most developed societies, it is drawing more attention from policy makers and academics alike. Research thus far has focused primarily on antecedents (Wang & Shi, 2014), looking at individual level attributes such as gender, proximity to retirement (age), education, physical health and financial security. Organisational level factors have also been studied such as self-perceived job stress, work-based demands, organisational attachment and workplace norms regarding retirement. Other antecedents include family orientated factors such as marital status and socioeconomic variables like pension systems and availability of formal care for elderly relatives. Outcome variables examined have included financial wellbeing, physical wellbeing and psychosocial wellbeing. The conceptual framework that was developed sought to examine how different forms of labour force participation affected subjective wellbeing (see figure 1.2 below).

Figure 1.2 Study One: Conceptual Model



Study two will focus on the unique contextual parameters within which individuals' retirement transition can be framed. It included participants that were aged between 60 and 66 and so was more concentrated on the actual retirement transition. The following conceptual framework was formulated (see figure 1.3 below).

1.6 GENERAL OUTLINE OF THESIS

The thesis comprises eight chapters. Chapter two discusses numerous theoretical perspectives on the retirement transitions. This will include social capital theory by first discussing its beginnings within a wider human capital theory. It then proceeds to detail several configurations or conceptualisations that social capital can take, along with how it can be measured and tested for. Following this there are more focused sections on how successful investment in social capital is associated with subjective wellbeing and also labour force participation, with particular attention given to bridge employment. There will then be sections dedicated to discussing the importance of recognising

Figure 1.3 Study Two: Conceptual Model



how contextual factors can shape the experiences of retirees' significantly. As result, there will also be several hypotheses that focus on this aspect.

The third chapter details the research philosophies and designs. It begins with a general description of research paradigms then explains where the current research is situated in terms of ontology and epistemology. Following this chapter are chapters four and five which discuss the research methods and samples for study one and study two respectively. These include an outline of why panel data (specifically the English Longitudinal Study of Ageing or ELSA) was used and how theoretical concepts were then mapped successfully onto the ELSA dataset.

Chapter six and seven include the data analyses which is used to test the hypotheses. The last chapter is the discussion section and outlines the key findings of the current thesis, followed by an acknowledgment of the limitations of the research, proposals for future research and lastly the implications for theory and practice.

The thesis aims to clarify an increasingly complex and heterogeneous period of life for older adults and contribute to the retirement literature by firstly demonstrating the importance of social capital in study one and then how contextual factors provide additional parameters that shape the experiences of retirees in study two. Overall It will show that social capital is central to the lives of older workers and, through the use of two-studies, it will show how complex the relationship between social capital and

other individual resources can be. The following chapter will now provide a more detailed discussion on the theoretical perspectives within the retirement literature.

CHAPTER 2: THEORETICAL PERSPECTIVES AND CONCEPTS

2.1 INTRODUCTION

When considering the complexities of the retirement process for older workers, it is important to recognise the contexts that shape the working landscape in later life. Theoretical frameworks have been developed to offer insight to the reasons behind the decisions that are made by retirees and the organisations for which they work. Theories such as Human and Social Capital Theory help to understand why it is increasingly important to retain individuals who deliver superior performance due to the skills acquired over a career, whilst other theories such as Role theory, Continuity theory and the Life Course Perspective have all been developed in a manner that helps to scrutinise further, how and why older workers follow the trajectories into and beyond retirement that they do. Other important considerations are the specific contextual effects surrounding retirement transitions that arise from national-level differences, such as economic and political issues. These can mould the experiences of older workers in a very dynamic way as they increasingly withdraw from the labour market in a prolonged period of time, incorporating such concepts and experiences as 'Bridge Employment' and volunteering. The following chapter will explore Human and Social Capital Theory and other theoretical perspectives, after which will be the hypotheses presented with rationale provided by extant literature.

2.2 THEORETICAL PERSPECTIVES ON RETIREMENT

2.2.1 Human Capital Theory

Early iterations of human capital emphasised behaviours and activities most likely to increase the worth, or economic value, of individuals to organisations or society (Schultz, 1961). Global economic growth could only be fully accounted for when incorporating the human element, making it as important, if not more so, than physical and/or financial capital. Becker (1962) went further, suggesting that in addition to viewing individuals' positive investments in themselves (such as education, health and on-

the-job training) as being economically advantageous to the firm, they can also be used to explain differences in earning potential amongst differing socioeconomic groups. For example, once human capital investment is considered, discrepancies in salaries between individuals from poorer areas and those from more affluent districts can be better explained due to potential differences in access to education and healthcare.

Lucas (1988) differentiated between the internal (returns on investments that accrue to the individual) and external (improved economic growth of society) consequences of human capital. He believed that examining the advantages of more investment in human capital to an organisation or society should be the central purpose and benefit of human capital theory rather than studying how advantageous greater human capital investment would be to the individual. Having a healthier and better educated workforce can certainly be more advantageous competitively for an organisation (Blundell, Dearden, Meghir, & Sianesi, 1999). However, as Felin and Foss (2005, p. 441) affirm;

“Organizations are made up of individuals, and there is no organization without individuals... In fact, to fully explicate organizational anything – whether identity, learning, knowledge or capabilities – one must fundamentally begin with and understand the individuals that compose the whole, specifically their underlying nature, choices, abilities, propensities, heterogeneity, purposes, expectations and motivations.”

Human capital theory can be a vital tool for scholars to explain and understand how the gains of education, health or training are forms of investment in human resources. Viewed through this perspective, education in particular, is an intentional investment to increase individuals' productivity (Nafukho, Hairston, & Brooks, 2004). However, research has suggested that the relationship between education and improved productivity, and therefore potential earnings, are not necessarily the same for all. Perhaps the greatest divide in wages separates the sexes, with women often experiencing more disrupted labour market participation, traditionally due to their greater involvement with family life. This can result in fewer qualifications or experience leading to lower financial rewards than others who do not have such career breaks (Hakim, 2006; Vella, 1994). Whilst women in more recent times have enjoyed a move towards more equality in wages with men, those nearer to withdrawal from the labour market have found that their human capital stock has degraded quicker due to labour force absences.

Mor-Barak (1995) suggested that a 'generativity' factor might contribute to combating a decline in an individual's perceived worth to an organisation. Generativity relates to the passing of knowledge, and therefore influence, to a younger workforce. This process can be perceived as rewarding and

acknowledgment of a lifetime's accumulation of valuable skills by the older worker. Despite the possibility that older workers desire to remain relevant and vital to an organisation it is frequently the case that firms will be hesitant to allow individuals approaching retirement access to employer training programmes. This apparent reduction in their stock of human capital, i.e. their value to the organisation, is also evident for those with physical or psychological health problems or disabilities (Gilleskie & Hoffman, 2014). Disabled individuals can expect lower wages than their abled counterparts and are also sometimes pressured into adopting a job role that demands much less of them than what their skillset and education would suggest they are capable.

2.2.2 SOCIAL CAPITAL THEORY

Early in human capital theory's conception it did not incorporate any real social elements, however, it was later expanded to include social connections and the structure of social ties, with a slightly more interpretational and subjective aspect (Ferlander, 2007). More cognitive elements are characterised by shared norms of reciprocity and trust, indicating shared ideals and perspectives. Putnam (1995, p. 67) defines social capital as having "...features of social organisation such as networks, norms, and social trust that facilitate co-ordination and co-operation for mutual benefit". He regarded the contents of such a network as central and preferred to place the most emphasis on reciprocal norms and trust, arguing social networks would collapse were it not for these more cognitive components.

Norms of reciprocity can apply to any form of social support that provide informational, instrumental or emotional assistance and/or solidarity, providing consensus and community of interest (Cohen & Wills, 1985). Informational assistance and/or trust can involve the provision of advice to others, whilst instrumental trust refers to the physical support and assistance with practical activities. Emotional support denotes the cognitive element of caring or empathy. These forms and conceptualisations of what social capital represents is also thought to have different levels or directions with researchers such as Lin (1999) focusing on how individuals can gain from improved social connectedness, for example, increased job opportunities, both individually and indirectly, from enhanced social trust within the community. However, research similar to Lin's has since been criticised by Kawachi and Berkman (2001) who warned that researching any form of social capital through the use of measures that examined social connections and support as failing to identify new and distinct

concepts and constructs, leads to the "...pouring (of) old wine into new bottles" (Kawachi, Kim, Coutts, & Subramanian, 2004, p. 683).

One such distinct and novel concept was identified by Putnam (1995) when he described a more collective form of social capital that improved social cohesion and sense of community, involving elements of civic engagement and the maintenance of a collective strength. Portes (1998), however, criticised this stance as it did not distinguish between cause and effect adding that social capital should be represented by its individual social ties and not the trust that arises from the collective. Despite these arguments being in opposition to one another, Kawachi (2006) points out that social capital can be both a more collective asset and an individual level phenomenon with it being a mistake to view it as anything else.

2.2.2.1 CONFIGURATIONS AND MEASUREMENTS OF SOCIAL CAPITAL

Social capital can be differentiated notionally into differing directions and strengths. One distinction is whether social ties are horizontal or vertical in nature. Putnam (1995) described the horizontal social ties within voluntary organisations as encouraging co-operation, with members of such an organisation benefitting from equal status, with institutions such as the church being indicative of how a vertical social tie structure might be presented, with little democracy and sharing of power. The former is therefore preferred if the growth and maintenance of social capital is desired.

Another distinction relates to the formality of the social ties. Newton (1997) and Pichler and Wallace (2007), for instance, considered informal networks as being inferior to formal versions when attempting to build a civil society, although they conceded their importance in sustaining social networks in order to provide emotional support. Lin (1999) agreed that informal networks were important when examining social capital especially as they could include social ties close to the individual such as friends and family. However, Putnam, Leonardi, and Nonetti (1993) argued that emotional and informational support was provided more through formal networking as it built civic skills allowing the individual to access formal support and services. Social networks and ties can also be classified by their strength (Ferlander, 2007; Granovetter, 2005). Strong ties tend to be between close family and friends and are consequently reinforced on a regular basis, whilst weak ties could be characterised as those with acquaintances and/or more distant work colleagues, with reinforcement and maintenance seldom occurring. Yet further classification of social capital is that of bonding or bridging social capital

(Putnam, 2000). With this distinction, bonding capital relates to networks containing individuals with similar demographic characteristics and with strong bonds within but a negative outlook to other networks, similar to the ingroup versus outgroup identification by Tajfel (1974). Bridging social capital is more outward looking and can assist with building social trust and reciprocity. A common measurement used to assess the level of and quality of social capital is membership of voluntary organisations. Van Oorschot, Arts, and Gelissen (2006) used this indicator to evaluate bridging social capital, although to measure bonding social ties they opted for questions that related to contact with family and friends. Alternatively, Mitchell and LaGory (2002) used formal participation in voluntary organisations with networks based on similar interests rather than demographics or family ties to measure bonding social capital. The number of cultural, leisure or social groups that are belonged to, along with the intensity of participation, is also often used as a proxy dimension by researchers (Foxton & Jones, 2011). In fact, the Office for National Statistics has suggested a number of measures for social capital (See Table 2.1 below (adapted from (Foxton & Jones, 2011))).

TABLE 2.1 THE OFFICE FOR NATIONAL STATISTICS UK SOCIAL CAPITAL MEASUREMENT FRAMEWORK

<i>Dimension</i>	<i>Definition</i>	<i>Example of Indicators</i>
Civic Engagement	Individual involvement in local and national affairs, and perceptions of ability to influence them.	Perceptions of ability to influence events · How well informed about local/ national affairs · Contact with public officials or political representatives · Involvement with local action groups · Propensity to vote
Social networks and social support	Contact with, and support from, family and friends. These are important sources of social capital. The number and types of exchanges between people within the network, and shared identities that develop, can influence the amount of support an individual has, as well as giving access to other sources of help.	Frequency of seeing/speaking to relatives/friends/neighbours · Extent of virtual networks and frequency of contact · Number of close friends/ relatives who live nearby · Exchange of help · Perceived control and satisfaction with life
Social participation	Involvement in, and volunteering for, organised groups. Some indicators are measuring sources of social capital (e.g. those related to the personal contacts and interactions that are made by meeting people through clubs, churches, organisations, etc.). Others are measuring outcomes of social capital. For instance, voluntary work is an important indicator of	Number of cultural, leisure, social groups belonged to and frequency and intensity of involvement · Volunteering, frequency and intensity of involvement · Religious activity

<i>Dimension</i>	<i>Definition</i>	<i>Example of Indicators</i>
	people's willingness to undertake activity that benefits others and the wider community	
Reciprocity and trust	The amount of trust individuals have in others, those they know and do not know, as well as trust in formal institutions. Trust is being closely linked to social capital, either as a direct part of it or as an outcome.	Trust in other people who are like you · Trust in other people who are not like you · Confidence in institutions at different levels · Doing favours and vice versa · Perception of shared values
Views of the local area ·	Individual perceptions of the area in which they live. This dimension is included as an aid for analysis and is not considered an aspect of social capital. Positive views of the local area are a good correlate for how happy, safe and secure people are within their environment.	Views on physical environment · Facilities in the area · Enjoyment of living in the area · Fear of crime

Source: Adapted from Foxton and Jones (2011)

2.2.3 CONTINUITY THEORY

Research surrounding the retirement process has drawn from other theoretical perspectives also, in its bid to highlight some of the concerns that older workers may experience. Continuity theory underlines the importance, over time, of constancy and stability in routines and activities. This continuation of identity, relationships, lifestyle etc. decreases the likelihood of causing disruption in an individual's life, which would leave them less able to accommodate any future alterations to their lives and cause significant stress and tension (Richardson & Kilty, 1991). The theory was first conceived by Atchley (1989), who suggested that; "middle aged and older adults attempt to preserve and maintain existing structures...and prefer to accomplish this objective by using continuity, i.e., applying familiar strategies in familiar arenas of life" (1989, p. 183).

Atchley's argued the older workers had to maintain daily routines, especially if that individual had previously experienced a relatively high intensity occupation, in order to avoid difficulty in adjusting to withdrawal from the labour market. Continuity theory warns of the psychological impact that unemployment and the absence of work altogether can have, due to the sense of 'rolelessness' individuals experience once work has ceased. The theory can also help to explain why older workers might seek out other activities that could help to provide the structure they now find themselves without. These activities can range from volunteering, an increase in participation with hobbies or other leisure

pursuits. Atchley's theory also suggests that older individuals may need to sustain previous levels of social interaction in order to maintain psychological wellbeing.

However, despite continuity theory recommending the path that older individuals ought to take, it can often be the case that, due to the very fact they are older and potentially restricted by age related ailments, they are unable to continue valued activities in retirement (S. Kim & Feldman, 2000). Exclusive use of continuity theory as a tool to understanding the lives of older adults can also be problematic when considering that pursuit of desired activities can actually increase in retirement because of the absence of work not merely due an attempt to continue certain aspects of the previous work role. Once work has ceased there is simply more time available for retirees to engage in valuable activities as the presence of work in older workers' lives would have been prohibitive to their pursuit.

2.2.4 ROLE THEORY

Another popular theory that can provide a framework to assist in understanding the particular opportunities and obstacles that older workers may experience is the role theory initially proposed by Ashworth (Ashworth, 2000; Wang & Shi, 2014). Role theory emphasizes attachment to a role with the quality of the exit from that role potentially shaping self-esteem and wellbeing in the future. For example, as a working role ends and transitions into retirement, older individuals may experience increased levels of anxiety. Familiarity of the expectations and responsibilities of one role can fade and be replaced due to new roles which are more novel and to which they are less likely to be accustomed. However, it can be how people perceive themselves and their position in the wider societal context that explains the possible disparity in self-image before and after a role change, rather than new experiences themselves.

Role theory argues that transitioning from one role to another can lead to either positive or negative changes in an individual's psychological wellbeing, depending on how desirable each role is or how much they correspond to their own goals and values. Retirees leaving behind undesirable jobs will be less troubled by losing this work role and have a positive experience. Furthermore, the extent to which the individual is affected by role changes can depend on the importance of particular roles in their lives i.e., is it worker or rather the role of family member or community member (Cahill, Giandrea, & Quinn, 2007) which they find most rewarding (Wang, 2007).

2.2.5 LIFE COURSE PERSPECTIVE

This perspective provides understanding through a life-course lens and suggests that any choices or plans made in later life occur as a direct result of previous experiences (Elder Jr, 1995; Elder Jr & Johnson, 2002). Therefore, the quality of retirement transitions and how they are perceived by the individual can be entirely unique and dependent on the proximal contextual circumstances in which the retirement process is embedded (Settersten, 2003). The life-course approach highlights the “process and interdependency of linked lives” (Kim & Moen, 2002, p. 213), which contributes to the understanding of retirement as a dynamic transition that involves mechanisms which can alter psychological wellbeing. The key tenet of the life course perspective that lives are interlinked suggests that social relationships frame retirement processes. Older adults seldom decide to retire based purely on their own circumstances and will usually also consider their spouse’s or life partner’s intentions in any decisions relating to their retirement plans (Kim & Moen, 2002). Therefore, an individual’s development at this stage of life is heavily influenced by the situational framework that surrounds them (Moen, 1996). The social and historical context of an individual’s life course, therefore, is central to this perspective. It also demands that scrutiny of earlier developmental stages of life is essential to understanding later life adaptation. Early experience may effectively accumulate over time and predict adjustment in later life by helping to determine the actual circumstances themselves, at that time. Life trajectories can also influence later adjustment in a more supplementary manner; current status and history are not always part of the same type of mediating effect but can rather be two distinct forces that result in individuals with similar current circumstances following very different trajectories later in life due to the different paths they followed leading up to that point (Crosnoe & Elder Jr, 2002). The following sections will now discuss other key concepts discussed in the later chapters, such as ‘bridge employment’ and talent management.

2.3 OTHER KEY CONCEPTS

One way of ensuring the effective transfer of knowledge to a younger workforce is for employers to allow older workers to continue working beyond the point at which they could leave the labour market and receive a state pension. Such a period of working and receipt of a pension has been coined ‘bridge employment’ and is discussed in more detail in the following section.

Literature on bridge employment has incorporated much of the theoretical perspectives discussed in previous sections of this chapter. Weckerle and Shultz (1999) viewed the phenomenon as motivated decision-making and found that retirees continuing onto bridge employment were more likely to be financially secure and had a much more flexibility in their work roles. Von Bonsdorff et al. (2009), who viewed retirement through a career development perspective, recategorised bridge employment into distinct types: career based, where employment was continued within the same organisation or industry; alternative field based; and full withdrawal from the labour market. Other research such as Rau and Adams (2005), when conceptualising bridge employment as part of the management of human resources, found that offering flexible job roles was key to retaining retirees within the organisation.

In the early 1990s, researchers started to address the nature of continuing to work after their career jobs but before their complete withdrawal from the labour force, whilst also probably receiving a pension (for example see; Doeringer (1990); Feldman (1994); Ruhm (1990)). The interest was primarily due to the rising concerns of policy makers, academics and social observers that populations, particularly in Europe and North America, were ageing. This meant there were more and more individuals approaching retirement with fewer and fewer younger workers entering the labour market, potentially leading to a huge pension shortfall. Further research has led to the definition of bridge employment evolving from the terms initial conception to one that now incorporates multiple paths into retirement reflecting the complexities of the retirement processes as a whole (Adams & Rau, 2004). In part, this can be attributed to the changing nature of the retirement process itself, for example, older workers are now having to work longer to gain access to social pensions and some organisational pensions now place the majority of risk onto the employee with a move from benefit defined to contribution defined schemes (Wang & Shultz, 2010).

However, some researchers have questioned whether bridge employment is actually a distinct form of labour force participation, for example, Lain (2018) argues that in order for there to be a bridge into full retirement, there first has to be a recognisable career stage of employment. In other words, in modern society, it is a rarity that an individual will have an actual career followed by another, distinct period of employment that is, for example, in a reduced capacity or status. However, using the definition that bridge employment is a period where work is continued in parallel with receipt of a pension, avoids having to identify a pre-retirement career stage of employment. Furthermore, it acknowledges that older workers can be 'looking forward' to the retirement transition, whilst considering life post-work.

Research has also suggested that different relationships with the labour market can produce divergent effects on subjective wellbeing (Warr, Butcher, Robertson, & Callinan, 2004; Winkleman-Gleed, 2011), although, as Warr et al. (2004) state, much research into the possible link between labour force participation and subjective wellbeing, particularly amongst older workers, has produced inconsistent results. For example, Aquino, Russell, Cutrona, and Altmaier (1996) found post-retirement work was associated with increased life satisfaction, however, Harlow and Cantor (1996) found paid work was not related to greater wellbeing. Warr et al. (2004) attribute this to previous research incorrectly combining certain types of labour force participation, for example, unemployed with retired or long-term sick. They claim that the unemployed are distinct from other employment types, as they have had the lack of work potentially forced upon them, and crucially, they still desire to work. In any event, this thesis has sought to remove any possible confusion over how forms of labour force participation are distinguished from one another by not including the unemployed or long-term sick in its analysis.

The increasing heterogeneity of the retirement process and difficulty in pinning down any absolute terms has led to several conceptualisations; retirement as decision-making, adjustment, career development and as human resource management. If retirement is to be conceptualised as a decision-making process then the assertion is that older workers make the choice to reduce commitment to work and increase focus on non-work activities such as more leisure time or time spent with family (Smith & Moen, 2004). However, when retirement is viewed as an adjustment process, the focus can be more concerned with the psychological wellbeing of the retiree as (s)he transitions from work and also how they then develop once retired (often referred to as the retirement trajectory) (Van Solinge & Henkens, 2008). Retirement can be further conceptualised by contending that it is not a simple exit from a career, rather it is a late career development stage with the potential for career development post retirement (Shultz, 2003). The human resource management perspective, however, considers the importance of organisational practice such as providing early retirement incentives and/or more flexible work programs (S. Kim & Feldman, 1998).

When applying some of the insights that theory can provide, it is also important to acknowledge some the more tangible aspects of the retirement process. Talent management is concerned with the recruitment, development and retention of individuals who are of most value to an organisation (Taylor, 2014). For the older worker, with experiences and skills acquired over a lifetime, their worth to the

organisation can be substantial, especially when considering generativity factors (Mor-Barak, 1995). Since the term's conception by a group of McKinsey & Company consultants (Michaels, Handfield-Jones, & Axelrod, 2001) and following much interest from academics and practitioners alike, Talent Management is now seen as the management of talent that is suited specifically to current competitive environments (Collings & Mellahi, 2009). A such, talent management can be seen as a strategic activity: It is a systematic identification and development of individuals of a particularly high value to the organisation.

However, there are several debates in the field currently that relate to who exactly should be considered 'talent'. Indeed, Ashton and Morton (2005, p. 30) note unequivocally, that there "...isn't a single consistent or concise definition". Further debates concern exactly what talent management processes should be (for example, whether it includes HR planning, performance management, mentoring, employee retention etc.). Table 2.2 below highlights the multiple different definitions of talent offered by extant literature (Adapted from Gallardo-Gallardo, Dries, & Gonzáles-Cruz, 2013, p. 291).

TABLE 2.2 DEFINITIONS OF 'TALENT'

Source	Definition
Gagné (2000, p. 67)	"(...) superior mastery of systematically developed abilities or skills"
Jericó (2001, p. 428)	"The implemented capacity of a committed professional or group of professionals that achieve superior results in a particular environment and organisation"
Michaels et al. (2001, p. xii)	"(...) the sum of a person's abilities – his or her intrinsic gifts, skills, knowledge, experience, intelligence, judgement, attitude, character and drive. It also includes his or her ability to learn and grow."
Ulrich and Smallwood (2012, p. 60)	"Talent = competence [knowledge, skills and values required for today's and tomorrows' job; right skills, right place, right job. Right time] x commitment [willing to do the job] x contribution [finding meaning and purpose in their job]"
Cheese, Thomas, and Craig (2008, p. 46)	"Essentially, talent means the total of all the experience, knowledge, skills and behaviours that a person has and brings to work".

Source: Adapted from Gallardo-Gallardo et al. (2013, p. 291)

Calo (2008) considered the most important defining feature of talent management as the ability to transfer the knowledge of older workers onto younger employees. Certainly, due to skills shortages

in younger workers (Taylor, 2014) and less security surrounding pension provision due to an ageing workforce, organisations are increasingly motivated to attract and retain older workers (Moynagh & Worsley, 2005). Much research has suggested that allowing older workers more flexibility in their work arrangements is key to their successful recruiting and retention. Older workers are more likely to have additional responsibilities to their younger counterparts, including care provision to grandchildren, spouses or parents. They are also more likely to want the freedom to pursue leisure activities, which therefore means that organisations wishing to employ these individuals, have to provide flexible employment, for example, part-time work or short-term contracts. Employees approaching state retirement age are also more likely to want to wind down work responsibilities given the opportunity and participate in a phased retirement or to experience 'bridge employment', which is discussed in more detail in later sections of this chapter. Whether older workers are provided more flexible employment or not, they must still feel valued in order to remain committed (Henkens & van Dalen, 2013). Work can provide much more than simple remuneration, it can give meaning and purpose, especially to the lives of older workers. In fact, as early as the 1980s and 1990s, researchers acknowledged the importance of work in successful social integration among older individuals (Moen, 1996).

Extant literature suggests that the transitional period from work to retirement can be influenced by the network of individuals, organisations and wider society that surrounds an older worker. Policies regarding work and retirement have changed considerably throughout the last two or three decades. These effectively forced individuals to rely more heavily on the labour market for financial survival until much later in life (Phillipson, Shepherd, Robinson, & Vickerstaff, 2018). Happening at the same time employers' influence grew due to the focus on extending working lives (Krekula & Vickerstaff, 2017), through the controlled provision of certain career options, flexible retirement and job redesign. Furthermore, older workers' control was shaped also by differences in class, occupation, health etc. especially as they entered what Vickerstaff (2006, p. 509) described as the 'retirement zone'. Certainly, older workers are frequently insecure and unsure of their rights. Employers are also hesitant to raise the issue of retirement with individuals through fear of being accused of ageism and discrimination (Phillipson et al., 2018). There are contradicting assertions in the literature as to why and how older workers might remain in the labour market. Stamov-Roßnagel and Hertel (2010) suggested that if older workers remain active in the workforce it is primarily due to the fact that they enjoy working, and derive satisfaction and a sense of accomplishment from being able to showcase their skills, although Higgs,

Hyde, Wiggins, and Blane (2003) assert that financial incentives are the central motivation to continue working, especially beyond retirement. McKee-Ryan, Song, Wanberg, and Kinicki (2005), in their meta-analytic study on psychological and physical wellbeing during unemployment, identified several cross-sectional studies that showed unemployed individuals tended to have lower psychological and physiological wellbeing when compared to employed individuals. They also highlighted several longitudinal studies that had managed to show increases and decreases in wellbeing as the individual moved from employment to unemployment and back again.

Social capital can be of particular importance to the individual whilst at work. Finding a job or advancing up the organisational hierarchy can be made much simpler when social networks have provided information on opportunities (Nisbet, 2007). It can, therefore, be particularly useful when other competitors for a role have similar qualifications and experience. Social capital has also been associated with self-employment, as larger networks with stronger ties can provide improved business opportunities and better access to labour sources (Nakhaie, Lin, & Guan, 2009). Social networks can also provide support to an individual when his/her stocks of human capital start to diminish. For older workers, their stock of human capital can start to depreciate the closer they get to retirement leading to a loss of motivation to invest further (Mazzonna & Peracchi, 2012). This reduction in human capital as the individual withdraws from the labour market coupled with a change of focus onto activities such as recreational group membership and/or more civic participation, assists in the development of investment in social capital. As the individual ages and passes from work to full retirement, therefore, investment in social capital and the positive effect it could have on subjective wellbeing, has the potential to surpass the effect that human capital investment might have, especially for the over 50's (Pinquart & Sørensen, 2000).

Blanchflower and Oswald (2008) contribute to the empirical literature by arguing, not about the determinants of wellbeing, but the nature and/or level of wellbeing through life. They found that wellbeing was at its minimum during middle age and was robust against any cohort effects or differences in geographical locations. Irrespective of gender or country, subjective wellbeing was found to increase steadily well into retirement. They conclude that the effect is possibly due to individuals learning to adapt to personal strengths and weaknesses but also that cheerful people may just live longer or even that individuals compare themselves to contemporaries who have experienced ill health

etc. and go on to value their blessings during the years they have remaining. The following section now outlines how subjective wellbeing can be conceptualised and measured.

2.4 MEASURING SUBJECTIVE WELLBEING

How subjective wellbeing is actually defined has long been investigated (George, 2010) , specifically how it can be comprised of multiple facets and conceptualisations. There are now three main approaches to assessing subjective wellbeing: eudemonic, evaluative and affective (Jivraj, Nazroo, Vanhoutte, & Chandola, 2014). The eudemonic approach is based on self-assessment and how the individual feels they are in control of their lives and their future, measured often by the Control, Autonomy, Self-realisation and Pleasure (CASP) scale in either its 19 item or 12 item versions (Hyde, Wiggins, Higgs, & Blane, 2003). Evaluative wellbeing can be conceptualised as whether the individual is satisfied with life and can be measured using the Satisfaction With Life Scale (SWLS) devised by Diener, Emmons, Larsen, and Griffin (1985). However, the validity of this scale has recently come under scrutiny due to new research offering more detailed data on the evolving nature of life satisfaction. Pavot and Diener (2008) suggest that elements such as cognitive function and adaptation need to be researched more to understand their influence on subjective wellbeing and therefore judgement of life satisfaction using the SWLS. Affective wellbeing refers to emotions and/or mood, with a common tool for measuring negative affect being the Centre for Epidemiologic Studies Depression scale (CES-D). This scale and the CASP-19 were used in the current thesis to capture the nature of subjective wellbeing and how it can be influenced by social capital.

Beyond considerations of suitable measurement tools, subjective wellbeing has long been associated with the presence of high-quality social connections and interactions (Diener, 2000). These social ties can provide positive social feedback (direct effects) or provide increased trust and support from those in the community (indirect). Furthermore, the opposite can also be true; a reduction in social connections can reduce wellbeing but also mortality and cognitive function (Holt-Lunstad, Smith, & Layton, 2010; Zunzunegui, Alvarado, Del Ser, & Otero, 2003). Research has also suggested that the nature of an individual's social network, such as its size and quality, can affect subjective wellbeing, whilst social contact and the frequency of contact has been linked to health, both physical and mental (Bolin, Lindgren, Lindström, & Nystedt, 2003; Kawachi & Berkman, 2001). This could be through behavioural, psychological, sociological or even physiological means (Berkman, 2000).

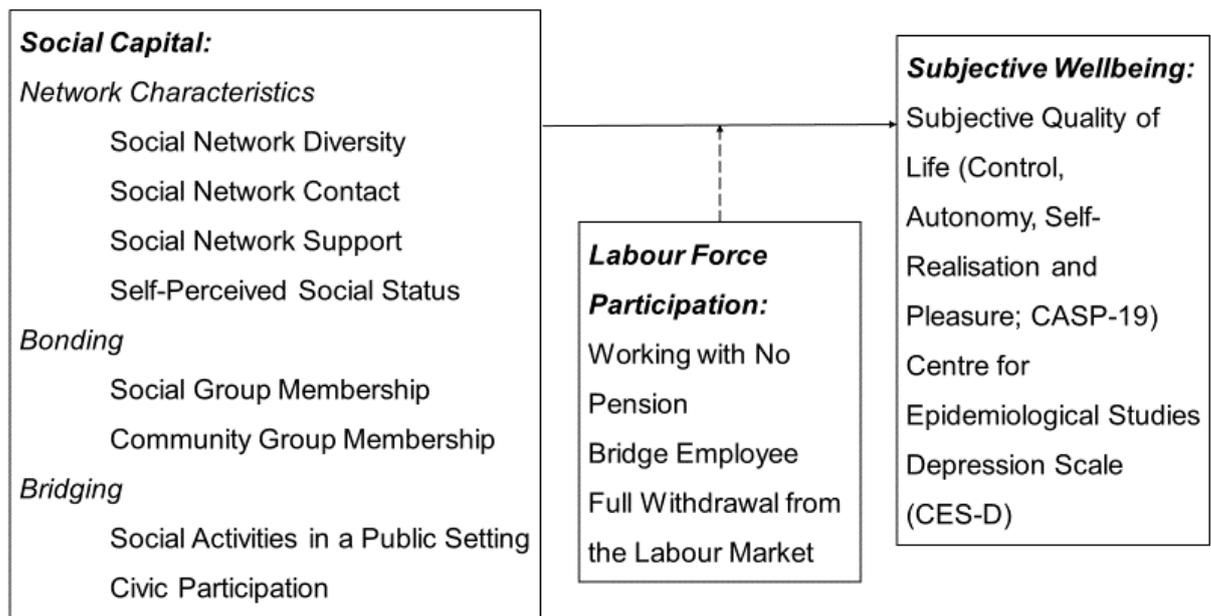
The frequency of social contact may be important in providing emotional support and could be a primary route through which the wellbeing of individuals is manipulated by social networks. Social support can allow older adults a greater sense of control and autonomy of their own lives, leading to improved satisfaction and wellbeing (Higgs et al., 2003).

2.5 STUDY ONE: CONCEPTUAL FRAMEWORK AND HYPOTHESES

The research aim is to clarify an increasingly complex and heterogenic period of life for older adults and contribute to the retirement literature by demonstrating the importance of social capital and how contextual factors provide additional parameters that shape the experiences of retirees in tandem with social capital. Overall, it will show that social capital is linked to wellbeing but is also related to different exit routes from the labour market, whilst also acknowledging the presence of other factors, especially during the retirement transition itself. The first study therefore analyses social capital and its relationship with labour force participation. In order to fully appreciate how this relationship is affected by other factors, study two focuses just on the retirement transition itself and also widens the variables included beyond social capital and to other resources important in the lives of older workers. Employing two designs and including social capital in various ways, it will be shown how complex this period in the lives of older workers is social capital can have multiple effects over various periods of time and work alongside a multitude of other factors.

Following this initial review of the literature a conceptual framework and associated hypotheses were formulated. Specifically, the focus of study one is to examine the effects on subjective wellbeing of social network diversity, social network support, social network contact, self-perceived social status, social activities in a public setting, civic participation, social group membership and community group membership. Furthermore, these effects were measured for different labour force participation types (see Figure 2.1 below).

Figure 2.1 Study One: Conceptual Model



Extant literature had informed the decision to include these social elements into the current thesis, in addition, there were other influences on subjective wellbeing that needed to be controlled for, such as gender, marital status, chronic illness and/or mobility restrictions, financial security, education, ethnicity and age. Research has suggested that financial security, the presence of a long-standing and limiting illness and education can all heavily influence subjective quality of life of retirees. The quality of the retirement transition can be affected by health, both physical and mental (Chirikos & Nestel, 1989; Gallo, Bradley, Siegel, & Kasl, 2000) and also by financial security (Wang, 2007). They can both restrict an individual's ability to find suitable employment that would otherwise provide them with stability and continuity over the retirement transition process. Higher education can also provide the retiree with more resources to draw from when wishing to continue working (Ekerdt, Kosloski, & DeViney, 2000).

Socioeconomic and demographic variables like gender, marital status and the presence of a long-standing and limiting illness, meanwhile, have been linked to levels of negative affect (depression) of older adults (Wang, 2007). However, improvements in individual levels of social capital have been suggested to alleviate negative affect and increase levels of subjective quality of life, particularly for older adults. Social capital can have substantial benefits for older adults in particular (Elgar et al., 2011; McMurray, Pirola-Merlo, Sarros, & Islam, 2010). Although, as Sum, Mathews, Pourghasem, and Hughes (2008) pointed out, the relationship between social capital and the wellbeing of older adults is

not straightforward and in some circumstances could actually have a negative impact. If an individual has entered a period of bridge employment it can be for several reasons. Antecedents such as proximity to retirement, financial wellbeing, education and health are all important factors when predicting retirement paths (Wang, Zhan, Liu, & Shultz, 2008). Job related variables, for example, work stress and satisfaction have also been suggested as being significantly related to the form bridge employment can take (for example, career-based or alternative field) (Zhan & Wang, 2015).

However, other researchers have studied the outcomes of bridge employment, such as S. Kim and Feldman (2000) who found that it was positively related to both life satisfaction and retirement satisfaction. Dendinger, Adams, and Jacobson (2005) found that the generative reasons for working, as proposed by Mor-Barak (1995), were positively related to the retirement attitudes of retirees but that the social reasons for working, such as connectedness and support were significantly negatively related. In their research paper Dendinger et al. (2005) suggest that a possible reason for this finding is that older workers are particularly anxious over losing a vital source of social support once fully retired and withdrawn from the workplace.

This anxiety can lead the retiree to desire a continuation of the social elements that work can provide. The bridge employee, therefore, has similar concerns to that of an individual who has fully withdrawn from the labour market. Both sets of retirees seek to improve their individual stocks of social capital due to the reduction or complete removal of work and the advantages it can bring. Furthermore, due to the concerns for the future, bridge employees can begin to participate more in social groups and/or civic participation in anticipation for the need to continue with their social identity (Mariappanadar, 2013). As Harlow and Cantor (1996, p. 1236) state;

“...as older adults approach and reach retirement they derive increasingly less satisfaction from occupational pursuits and can look toward social and leisure pursuits and increased involvement in community service, for which participation opportunities exist.”

If an individual has entered a period of bridge employment it can be for several reasons. Antecedents such as proximity to retirement, financial wellbeing, education and health are all important factors when predicting retirement paths (Wang et al., 2008). Job related variables, for example, work stress and satisfaction have also been suggested as being significantly related to the form bridge employment can take (for example, career-based or alternative field) (Zhan & Wang, 2015).

H1 Social capital will be positively associated with subjective wellbeing.

As mentioned previously in this chapter, social capital can be linked to both subjective wellbeing and employment, however, for older adults, this link could differ depending on the individual's relationship to the labour market. Whether working, unemployed, retired or a bridge employee the presence of good quality social ties, networks and support, can improve subjective quality of life, (for example see Coffé and Geys (2007); Fiorillo and Sabatini (2011); McKee-Ryan et al. (2005)). However, these relationships are not all equal, as Aguilera (2002) demonstrated. What forms of social capital will have the most positive impact on wellbeing can be different depending on if the individual is working or retired. When working, social capital can improve job-related opportunities for example, whereas once retired, sources of social capital can change leading to the increase in prominence of activities such as membership of social and community groups. As suggested by Jahoda (1997) and Mor-Barak (1995), work can mean several things to an individual, such as time structure, meaning, status, social connectivity etc. so, particularly once work has ceased altogether, other means to continue receiving these benefits when retired are sought. Social group membership, community group membership and civic participation are all ways that an individual can regain social status, meaning and connectivity etc. For those fully withdrawn from the labour market, the importance of activities that provide the individual with a means to continue building social ties and receiving social support can, therefore, be significant. However, as Van Solinge and Henkens (2008) point out, how a retiree adjusts to life post-work is not simply framed by the availability of social connections but can also be contingent on how socially integrated the individual is to work and/or attached to his/her colleagues. The removal of work can, therefore, have a negative effect on how well the retiree adjusts and their satisfaction with retirement.

How large an effect this is can be dependent on the individual's access to resources in order to cope with any stress arising from the retirement transition. These resources can be psychological, of a health or marital support nature or financial, as well as sociological (Reitzes & Mutran, 2004). Assuming the individual has an abundance of resources to draw from, the negative effect of retirement, especially if it was involuntary, can be reduced (Dingemans & Henkens, 2014). However, even if personal resources are sparse, social participation through membership of social and community based groups and/or civic participation can provide the retiree with an additional means to improve resources that provide necessary support (Van Solinge & Henkens, 2008).

Access to these forms of social capital is vital therefore, in sustaining good subjective wellbeing, whether retirement is voluntary or not, and whether the retiree has access to a supportive array of

resources from which to draw pre-retirement. The maintenance of activities that provide social support when fully withdrawn from the labour market can be crucial in replacing the loss of work-based social networks and improving satisfaction with the retirement transition and/or trajectory.

H2 The relationship between social capital and subjective wellbeing will be moderated by labour force participation types.

However, social capital is not a one-dimensional concept (Putnam, 2000). The form it takes can also be a factor in determining how beneficial it is. As mentioned previously, researchers have proposed a distinction between bonding and bridging social capital. Bonding social capital strengthens the bonds between individuals with similar demographic or socioeconomic characteristics or simply with similar interests and leisure pursuits (Poortinga, 2012). Whereas bridging social capital refers to the connections individuals can make that bridge between or across groups with very different qualities and traits (Ellison, Steinfield, & Lampe, 2007).

For the retiree, the continuation of supportive activities once work has ceased, can be very important in avoiding a decrease in subjective wellbeing. Bridging social capital can improve retirees' independence and sense of control (Cornwell, 2011), with women in particular benefitting from a wider social network that incorporates more closely linked relationships but also less strong ties, for example non-kin relationships.

Despite the significance of bridging social relationship amongst certain demographical groups, Casado-Diaz (2009) argues bonding social capital in older adults is more important for retirees as it improves solidarity and facilitates reciprocity amongst members of the in-group (Tajfel, 1974). This communality helps to increase a sense of belonging and decrease the potency of any potential sources of stress. This view is supported by Forsman, Herberts, Nyquist, and Wahlbeck (2013) who also stated bonding social capital as a key indicator for the well-being of older adults.

H3 Bonding social capital will have a stronger positive association with subjective wellbeing than bridging social capital.

2.7 STUDY TWO: CONCEPTUAL FRAMEWORK AND HYPOTHESES

This chapter has thus far acknowledged retirement as a key event in the lives of older adults and one that affects an individual's psychological and socioeconomic wellbeing (Loretto, 2010). However, there have also been several contextual changes that both men and women have experienced over recent years in the UK. Perhaps the one with the largest potential impact on older worker's lives is the fact that different pension ages have been abolished with women's state pension age of 60 first rising to match that of men's (65), then both rising to 66 by 2020 (Loretto & Vickerstaff, 2013). Research on the wellbeing of retirees is therefore important in trying to meet the challenges posed by this older cohort, especially when considering wellbeing and satisfaction with the retirement transition itself (Lain, 2018).

It is also important to focus on the transition period in an attempt to reveal how social capital, as outlined in the previous section, works in tandem with other resources available to the older worker. Study two therefore recognises the contextual issues surrounding the actual retirement transition itself, which could potentially have a huge bearing on subjective wellbeing and several other resources. Further reviews of the literature assisted the researcher in identifying approaches that were more suited to applying the effects of the background societal, political and economic circumstances.

An approach proposed by Wang et al. (2011), which was to view retirement satisfaction and associated adjustment (Wang, 2007), as a resource-based and dynamic process, was adopted. The model incorporates role theory (Ashforth & Mael, 1989), continuity theory (Atchley, 1989), stage theory (Atchley, 1976), the life course perspective (Settersten, 2003) and the resource perspective (Hobfoll, 2002). This enables the resource-based dynamic perspective to account for within and between person differences in retirement satisfaction. It is also concerned with resources that are; "...either centrally valued in their own right or act as a means to obtain centrally valued ends" (Hobfoll, 2002, p. 307) including individual characteristics and socioeconomic conditions. However, whilst previous research has found financial security (net non-pension wealth in the current thesis) and physical (self-reported in the current thesis) health to have a direct impact on retirement and life satisfaction of older workers (Kim & Moen, 2002), psychological and social resources have attracted less attention.

Considering the varying relationships with the labour market between individuals, studying these resources' impact on the life satisfaction of older workers is especially important. Much research has suggested that the key determinants of retirement timing and satisfaction are due to health, job satisfaction and financial security, yet women and men still have different experiences in retirement (Loretto & Vickerstaff, 2013). It has been suggested that this could be due to different levels of occupational and private pension coverage (Lain, 2018) or discrepancies in care responsibilities (The Employers for Carers and Department of Health Task and Finish Group, 2013). Grandparents are increasingly likely to provide care to younger relatives with grandmothers more likely to carry the caring responsibility (Hank & Buber, 2009). Research in the UK has suggested that care provision peaks for women in their 60s and that a larger portion of working grandparents provide childcare than their unemployed or fully withdrawn from the labour market counterparts.

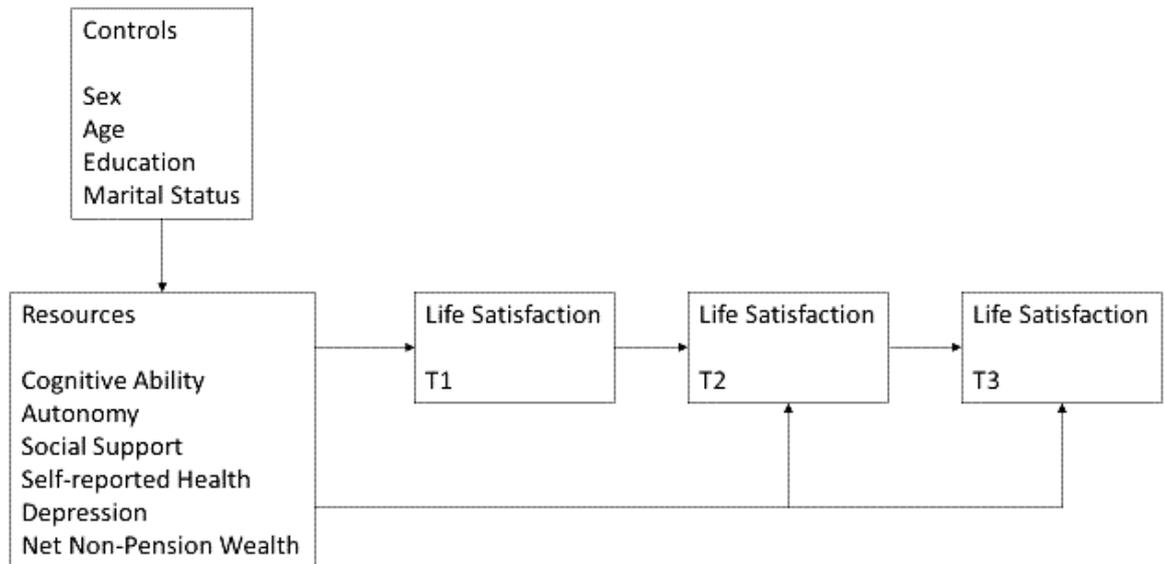
Despite resources being identified as being vital for the successful and satisfactory transition through the retirement process (Wang et al., 2011) (for example, autonomy, social support and cognitive ability (in addition to physical health and financial security as mentioned previously) and previously linked to wellbeing in retirement (Van Solinge & Henkens, 2008), they have not been extensively included within the same study and within the same model. Financial security (net non-pension wealth), physical (self-reported) health, cognitive ability, autonomy and social support are therefore all included in study two. Furthermore, study two will focus on a six-year period that frames the retirement transition. The intention is to enable analysis that concentrates on how resources might affect life satisfaction particularly over this time frame. The data analysis that follows then compares the subjective views of the participants regarding life satisfaction. In order to facilitate this, the respondents are split into 'transitional retirees' who have transitioned into full retirement during the six-year period, and 'workers', who have continued working over the same period. Below is the conceptual framework for study two.

2.7.1 FINANCIAL SECURITY (NET NON-PENSION WEALTH)

Financial resources have been identified as an important indicator for life satisfaction (Fagerström et al., 2007). Veenhoven (2000) conflated wealth and financial security to life satisfaction at country level, whilst Fernández-Ballesteros, Zamarrón, and Ruíz (2001) also found positive effects of income on life satisfaction through the use of a multi-variate structural model.

When considering a dynamic resource-based view, the relationship between financial security and life satisfaction might be expected to change from the level it is at the beginning of the retirement transition compared to the end, once the individual has retired. Continuity theory would suggest that the

Figure 2.2 Study Two: Conceptual Model



disruption in finances that the withdrawal from the labour market could cause would be reflected in a reduction in life satisfaction (Wang et al., 2011). Role theory also would predict that a loss of the work role and subsequent income would reduce life satisfaction (Wang & Shultz, 2010). However, Lusardi and Mitchell (2007) compared wealth holdings in Baby Boomers and found that those who had planned for retirement had much higher levels of wealth than non-planners. This planning might easily offset any loss in role and subsequent reduction in wellbeing.

The relationship between financial security and wellbeing is not clear cut; one aspect of the retirement process that is under-researched, is that of how the joint decision of couples to retire can impact financial resources and wellbeing. Coile (2004) found that men were very responsive to spouses' financial incentives but that women were not responsive to husbands' incentives, due in part to the different relationship that the genders have with the labour market and retirement itself. However, for individuals who have continued to work, the continuity of the work role and the income that it brings should help to maintain wellbeing. The continuing effect of strong financial security should help to keep

wellbeing at a high level of workers, even if other possible effects, such as couples' retirement planning coinciding with one another.

H4 Higher levels of financial security will be positively associated with increased levels and changes of life satisfaction.

2.7.2 SELF-REPORTED HEALTH AND COGNITIVE ABILITY

There is a large body of literature supporting the positive relationship between good self-reported health and life satisfaction. Measures such as long-standing and limiting illnesses, functional ability, self-reported health and activity levels have all been reported to influence life satisfaction (McAuley et al., 2006). Furthermore, good health has been linked to improved self-efficacy and self-esteem, which in turn can further boost an individual's satisfaction with life (McAuley et al., 2005). If health is a resource that can be drawn from then for the older worker approaching retirement, the quality or success of the transition can ultimately be dependent on how physically able he/she is to continue working (Motl & McAuley, 2010). High levels of self-reported physical health later in life can therefore influence the life satisfaction of the worker as they can face increasing restrictions on their ability to work.

H5 Self-reported health will be positively associated with levels and changes in life satisfaction

Like self-reported health, the cognitive ability of older workers can influence life satisfaction levels. However, it is only for the worker that cognition can continue to affect changes in life satisfaction, especially if that individual intends to continue working.

H6 Cognitive ability will be positively associated with levels and changes of life satisfaction.

2.7.3 AUTONOMY

Autonomy is important for older adults though the reasons can be very different. Costa, Sartori, and Åkerstedt (2006) found that flexible working hours that allowed the older worker to retain some autonomy were positively related to wellbeing. Thompson and Prottas (2006) also found that job autonomy was associated with life satisfaction: the more discretion an employee had over their own

jobs, the more likely they were to experience positive spill-over between home and work, less likely to feel stressed and were more likely to be satisfied with family life and life in general.

Whilst autonomy can affect levels of life satisfaction it can also contribute to changes over time. For workers entering the later stages of their working lives, the importance of autonomy can be different to that of transitional retirees, where feeling in control of the retirement process has been linked to a perception of success in the planning and implementation of retirement (Bender, 2012). For older workers, the ability to continue doing the same job as they age through organisations' willingness to provide flexible working hours and other means of helping older employees retain their position and sense of autonomy and control, will potentially improve their satisfaction with life. Equally, retirees will benefit from retaining autonomy and control of their retirement transition.

H7 Autonomy will be positively associated with levels and changes of life satisfaction.

2.7.4 SOCIAL SUPPORT

Key to analysing the effect of social capital and its relationship with other factors as discussed at the beginning of this chapter is its inclusion in study two. Social support can be received through a multitude of relationships, whether they be work colleagues, friends or relatives. However, once work has ceased the possibility for continued social interactions and support can be reduced. Scholars such as Jahoda (1981) and Mor-Barak (1995) developed frameworks that sought to highlight the importance of social interactions for workers, pronouncing it as a fundamental benefit of labour market membership. For those who have withdrawn from the labour market, the sudden discontinuity in roles and removal of a constant supply from social support from the work domain, can cause significant stress and dissatisfaction with life in general (Carrasco & Bilal, 2016). Older workers going through the transition from work to full retirement will often experience difficulties obtaining social support from other means with the fluctuation in support received hypothesised to be positively associated with fluctuations in life satisfaction.

H8 Social support will be positively associated with levels and changes in life satisfaction.

2.8 SUMMARY

This chapter has discussed the main underlying themes and concepts that underpin this thesis. The importance of social capital in determining the well-being of retirees was discussed, as was the potential of labour force participation to alter this effect. A discussion of the importance in acknowledging contextual conditions surrounding retirement was also included. The following chapter sets out the overall methodological approaches of the thesis, with an acknowledgment of ontological and epistemological concerns. There is a detailed explanation of the data used (the English Longitudinal Study of Ageing) and how the various concepts were operationalised.

CHAPTER 3: RESEARCH PHILOSOPHIES AND DESIGNS

3.1 INTRODUCTION

This chapter focuses initially on the perspective in which the research is situated. Ontological and epistemological concerns are considered before continuing to detail the methods used for data collection and analysis. Two research designs are discussed: study one that focussed on older workers and their relationship with the labour market and bridge employment, and study two that concentrated on the retirement transition itself, by only including the small number of years surrounding the actual retirement transition

3.2 RESEARCH PARADIGMS

Social science research constitutes of a number of particular perspectives and paradigms. Guba (1990, p. 17) describes a paradigm as “a basic set of beliefs that guide action”, whilst Denzin and Lincoln (2011, p. 13) further state, “these beliefs shape how the... researcher sees the world and acts in it”. Paradigms also make particular demands on the researcher’s premises regarding epistemology, ontology and methodology as well as “the questions that are asked and the interpretations that are brought to them” (Denzin & Lincoln, 2011, p. 13).

Social science researchers are therefore faced with several decisions and challenges which must first be met before any research can follow. The natural sciences (e.g. physics) adopt a purely positivist approach with little consideration of epistemology or ontology. Moreover, the social scientist must deal with issues that are not merely a case of employing quantitative or qualitative methods as these can be present within the same research design (i.e., mixed methods). Table 3.1 (below) summarises the ontology, epistemology and methodology of four alternative paradigms that the social scientist must consider (adapted from Lincoln, Lynham, and Guba (2011, p. 100), whilst Table 3.2 (below) elaborates on concepts such as the nature of knowledge, goodness or quality criteria and values (adapted from Lincoln et al. (2011, p. 99). As Table 3.1 demonstrates, the paradigms can be conceptualised as

particular points on a scale, or continuum, ranging from the more conventional, scientific positivism on the left to the more alternative participatory on the right. Also evident in the table is that whilst these two extremes may be easily distinguishable, paradigms that are situated towards the middle can somewhat overlap and complement one another.

Another important element the social scientist must consider is what Mason (2002) describes as “five difficult questions” (p. 13), which cover ontological issues, epistemological concerns, issues of methodology, how the research is going to be conducted and the academic contribution, or how it positioned paradigmatically, encapsulating the research as a whole:

1. What is the nature of the phenomena, or entities, or social ‘reality’, that I wish to investigate?
2. What might represent knowledge or evidence of the entities or social ‘reality’ that I wish to investigate?
3. What topic, or broad substantive area, is the research concerned with?
4. What is the intellectual puzzle? What do I wish to explain or explore? What type of puzzle is it?
5. What is the purpose of my research?

These five questions enable the researcher to establish what his/her research is and where it is positioned with a paradigm or perspective. This can then allow the researcher to maintain the research’s focus, which can be difficult when considering the wide array of topics of interest to social scientists. Social scientists need to adopt an approach that is closely linked to the underpinning paradigm and have informed choices dictating the research design. Having this focus allows the researcher to frame what can be a static and objective dataset and use the appropriate methods to determine the accuracy of his/her hypotheses but then to also acknowledge that a shift in paradigms (such as critical realist) will then be required if the research was to move onto a more interactive data collection method such as interviews or focus groups.

Indeed, use of data from a more ‘real world’ setting can enhance the researcher’s ability to obtain new and novel themes which can then form the basis for further research. Research such as grounded theory begins with the data generated (Glaser & Strauss, 2012), and probably represents an extremely inductive form of research methodology. In a less inductive process (although not deductive

TABLE 3.1 THE ONTOLOGY, EPISTEMOLOGY AND METHODOLOGY OF DIFFERING PARADIGMS

Issue	Positivism	Post-positivism	Critical Theory	Constructivism	Participatory
Ontology	Naïve realism – “real” reality but apprehensible	Critical realism – “real” reality but imperfect and probabilistic	Historical realism – virtual reality shaped by social, ethnic, economic, political, cultural and gender values; crystalized over time	Relativism – local and specific co-constructed realities	Participative reality – subjective-objective reality, co-created by mind and given cosmos
Epistemology	Dualist/objectivist; critical tradition/community; findings probable true	Modified dualist/tradition/community; findings probably true	Transactional/subjectivist; value-mediated findings	Transactional/subjectivist; co-created findings	Critical subjectivity in participatory transaction with cosmos; extended epistemology of experiential, propositional, and practical knowing; co-created findings
Methodology	Experimental/manipulative; verification of hypotheses; chiefly quantitative methods	Modified experimental/manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	Dialogical/dialectical	Hermeneutical/dialectical	Political participation in collaborative action inquiry; primacy of the practical; use of language grounded in shared experiential context

Adapted from Lincoln et al. (2011, p. 100)

Note: Shading represents researcher’s view

TABLE 3.2 PARADIGMATIC POSITIONS

Item	Positivism	Post-positivism	Critical Theory	Constructivism	Participatory
Knowledge Accumulation	Accretion – “building blocks” adding to “edifice of knowledge”; generalisations and cause-effect linkages		Historical revisionism; generalisation by similarity	More informed and sophisticated reconstructions; vicarious experience	In communities of inquiry embedded in communities of practice
Goodness or Quality Criteria	Conventional benchmarks of “rigor”; internal and external validity, reliability and objectivity		Historical situatedness; erosion of ignorance and misapprehension; action stimulus	Trustworthiness and authenticity including catalyst for action	Congruence of experiential, presentational, propositional, practical knowing; leads to action to transform the world in the service of human flourishing
Values	Excluded – influence denied		Included - formative		
Ethics	Extrinsic		Intrinsic		
Voice	“Disinterested scientist” as informer of decision makers, policy makers and change agents		“Transformative intellectual” as advocate and activist	“Passionate participant” as facilitator of multi-voice reconstruction	Primary voice manifest through aware self-reflexive action; secondary voices in illuminating theory, narrative, other presentational forms
Training	Technical and quantitative; substantive theories	Technical; quantitative and qualitative; substantive theories	Resocialisation; qualitative and quantitative; historical; values of altruism, empowerment and liberation		Co-researchers are initiated into the inquiry process by facilitator/researcher and learn through active engagement in the process; facilitator/researcher requires emotional competence, democratic personality and skills

Adapted from Lincoln et al. (2011, p. 99)

Note: Shading represents researcher’s view

like positivism or post-positivism), research can often be iterative, with social scientists moving between what has been established already and what their own research suggests. Positivism, however, is evidence based and can be applied not just to the natural sciences, but to data that concerns political, and social policy makers (such as ELSA) perhaps due to the belief it will uncover an absolute truth existing independently (Patomaki & Wight, 2000). This paradigm has not been without its criticisms however, with post-positivists claiming it to be flawed, both in terms of ontology and epistemology. In fact, positivism was the subject of a paradigm war that originated in the 1980s with social scientists from more interpretative and constructionist viewpoints being completely at odds with its strict and rigid objective stance. Hollis and Smith (1991) claimed that there was always a mediating factor that skewed observation and therefore tarnished results, whilst other researchers also criticised positivism for its pure form of observation. However, in the social sciences and especially in psychology with its behaviourist movement, there is an undeniable appeal to positivism's claims of absolute truth (Alise & Teddlie, 2010).

The remainder of this chapter will now seek to address the issues raised thus far, revealing the thinking that led to the methodological choices made, followed by a description of how each of the research questions, through these methodological choices, have been addressed.

3.3 METHODOLOGY

Literature covering research into subjective quality of life and wellbeing is vast and pervades many disciplines in the social sciences and beyond (Luhmann, Hofmann, Eid, & Lucas, 2012). Therefore, the methods adopted by researchers is also wide ranging, covering many, if not all, of the elements summarised in Table 3.2 above. The philosophical issues are vital when making methodological choices, therefore, with a good understanding of the axiological, ontological and epistemological concerns crucial when addressing the research questions.

3.3.1 ONTOLOGICAL CONCERNS (THE NATURE OF BEING)

This thesis is underpinned by the assumption that there is a 'real' world that exists independently of any one individual (and his/her experiences and knowledge). That is, there is an objective knowledge to be known by employing deduction and testing theory and hypotheses.

Unlike a more interpretivist or social constructionist viewpoint, this perspective does not consider a social world that is constructed from the interactions between individuals. Notions of social capital investment through social network support, network diversity, network contact, self-perceived social status, social activities in a public setting, community group membership, social group membership and civic participation, as well as wellbeing, are not abstract concepts. Instead they exist independently from any one individual and do not change over time.

3.3.2 EPISTEMOLOGICAL CONCERNS (THE NATURE OF KNOWLEDGE)

For the positivist, empirical methods determine reality and deny the possibility of an appearance/reality dichotomy. Therefore, results should be generalizable and replicable. Individuals and their reality can be observed and measured and not altered by the observer.

The belief of the researcher that phenomena in the world are measurable variables has led to the choice of methodology, what data was used and what methods were employed to interpret it.

3.4 RESEARCH STRATEGY

This section now explains the strategy adopted, outlining the exact nature of the ELSA dataset and the appropriateness of the statistical methods utilised.

3.4.1 PANEL DATA

Economists frequently employ panel data to estimate econometric models, with social scientists now also using data of this type more commonly (Bond, 2002). The data is longitudinal which enables researchers to glean sufficient information from numerous periods to establish dynamic relationships and interactions. Repeated observations of the same individual or group or organisation allow for more of the variation in the data to be fed into estimations (i.e. regression analyses) and other econometric techniques.

Furthermore, depending on the research questions, there are a variety of reasons why a positivist or critical realist or even an entirely qualitative researcher might want to analyse data of this type. The positivist will seek to identify and test hypotheses to generalise across a larger population, whilst an interpretivist might seek to identify individuals who could provide further richer accounts of

their experiences, offering insights into processes that are not present in the data in its original form (Neuman, 2011).

However, as Zapf, Dormann, and Frese (1996) illustrated in their review of organisational stress in relation to methodological concerns, longitudinal panel data can be problematic to the positivist in particular, as it does not automatically verify a hypothesised causal effect nor does it automatically remove the possibility that an additional unmeasured variable is the cause of variation seen in the data. Regression analyses can be applied which can control for these additional variables *if* they can be measured and then included in the first step of the regression with the more variables included, the greater the confidence in the co-efficient derived. Structural equation modelling techniques can therefore be preferred by researchers due to the method's ability to account for unobserved variables.

However, as O. D. Duncan (1972, p. 36) stated;

“For some reason there is widespread, though not well articulated, opinion that in panel analysis the usual obstacles to inference and estimation are suspended for the benefit of the analyst”.

The problem of causal inference and unmeasured variables, or unobservables, can hinder the estimation of parameters. Halaby (2004) identified two types of unobservable that the social scientist has to consider when attempting to overcome these difficulties; firstly, time invariant and unit specific unobserved variables, which relate to a unit's permanent effect, and secondly, time varying and unit specific unobserved variables which relate to unit disturbances due to temporary or idiosyncratic forces. However, he stated also, that the “advantages (of panel data) could be realised through statistical methods that capitalise on the structure of observations that extend across units and time” (2004, p. 509). Use of the correct statistical procedure should therefore be of primary concern to the researcher.

3.4.2 CHOOSING PANEL DATA FOR THIS THESIS

The foremost benefit of using panel data for this thesis is its availability and diligence but also its capacity to model and describe an intricate and complicated array of human interests and behaviours (Hsiao, 2007). To collect panel data is financially prohibitive, logistically demanding and exceedingly time consuming, however, it has also become widely available, covering many countries and disciplines from various national organisations. The Survey of Health, Ageing and Retirement in Europe (SHARE),

the University of Michigan's Panel Study of Income Dynamics (PSID) and the Health and Retirement Survey (HRS) in the USA are three of many panel datasets available across the globe.

Panel data also has advantages over other datasets in that it enables the researcher to distinguish between possibilities, especially if the panel data consists of a representative sample as ELSA does for example. It is easier to control for certain variables and therefore uncover dynamic relationships such as, in the case of this thesis, forms of social capital which are hypothesised to affect subjective wellbeing. Being able to include all these variables in the chosen statistical method enables the researcher to generate more valid and reliable effect estimations as information is pooled rather than provided by individuals, thus the behaviour of an individual can be predicted from the behaviour of others (Hsiao, 2007), supporting the positivist paradigm.

Use of panel data for this thesis is also consistent with the use of, for example, human and social capital theory. Links between human behaviours and capital investments with the belief that compensation for resource allocation will be bestowed upon them, can be established with the correct definition of terms. Seemingly abstract concepts such as social capital investment can be solidified into measures and scales and then tested accordingly. In the example of social capital investment, Putnam (1995) identifies several in his seminal work for the Ithiel de Sola Pool lecture; social trust (measured by agreement with a single statement; "most people can be trusted"), group membership (building upon social trust with the desire to interact and commune with others, or perhaps exhibit behaviours akin to generativity Mor-Barak (1995)), voting and newspaper subscription. Provided the panel dataset used incorporates appropriate scales and measures it can therefore have a multitude of applications.

3.4.3 THE ENGLISH LONGITUDINAL STUDY OF AGEING (ELSA)

The ELSA dataset employed for this thesis has within it the necessary measures to investigate the research objectives. ELSA's primary aim is to collect data from a nationally representative sample in England aged 50 and over that is longitudinal and multidisciplinary in nature (Marmot et al., 2016). It began in 2002 and was initially drawn from households that had been a part of the Health Survey for England (HSE) from 1998 to 2011. The overlap in dates is due to the sample being refreshed several times at waves 3, 4, 6 and the last one collected thus far, wave 7. In terms of relevance to this thesis, wave 6 was refreshed with individuals from HSE (2009-2011) and wave 7 from HSE 2011 to 2012.

These 'waves' were collected every two years and sought to interview the same respondents to track fluctuations in social, economic and health conditions. As such, the data in ELSA is of the type that can be measured over time, with either the same questions being asked, or altered slightly to update responses. The full list of data categories are as follows:

- Demographic information for households and individuals
- Physical, psychological and social health
- Cognitive ability
- Social care
- Social participation
- Work and pensions
- Income
- Assets
- Housing
- Voluntary work and caring
- Effort and reward
- Expectations

Ethical clearance was granted by the NHS Research Ethics Committee under the National Research and Ethics Service (NRES) and was a result of collaboration between University College London (UCL) the Institute of Fiscal Studies (IFS) and NatCen Social Research.

ELSA originally consisted of individuals aged 50 and over. However, over time, as respondents aged, the sample became under-represented with younger ages. It has therefore been refreshed on four occasions, at waves 3, 4, 6 and 7, from the Health Survey for England (HSE). Wave 1, which provided the baseline for the entire study, contained 'core members', as did the refreshment samples in wave 3, 4 and 6. Included in the study are also the partners of core members who were co-habiting with the core member at the time of either the ELSA interview or the corresponding HSE interview. All core members could participate in each wave as could partners even if they had subsequently divorced or separated or become widowed (Marmot et al., 2016), although, if a respondent, core or otherwise, was unable to participate in the interview, either through a physical or cognitive impairment, a proxy

was used. The survey was piloted at least six months prior to the actual data collection on a computer-assisted personal interview instrument (CAPI) with a separate pilot sample.

As mentioned previously, the intention of ELSA was to gather data from the same widespread subject matter in every wave. However, as new elements were incorporated and certain questions removed (as they did not need asking at every point), the content evolved over the years. Furthermore, questions were fed forward to subsequent waves to assist the respondent in remembering as well as to maintain consistency. Every wave included several modules with each one having a focus or interest, such as health or incomes and assets for example. Modules covering questions on psychosocial health were, where possible, covered when the respondent was alone.

3.5 SUMMARY

This chapter has discussed the research methodology of the current thesis. It has outlined research paradigms and provided rationale for the use of panel data. The following two chapters will now focus on the particular research methods and sample obtained for each of study one and study two.

CHAPTER 4: STUDY ONE: RESEARCH METHODS AND SAMPLE

4.1 INTRODUCTION

This chapter will now present the various sampling issues for study one. This will include how the ELSA dataset was collated and how variables were then mapped to the concepts of the current study. Following this will be a detailed presentation of the sample characteristics, including some descriptive statistics, correlation matrices and comparison of means. Finally, there will be a discussion on the analytical method.

4.2 STUDY ONE: SAMPLE AND VARIABLE MAPPING

The collection timetable for wave 6 began in May 2012 and lasted approximately thirteen months, concluding in June 2013. This data contained 5,659 core members, 499 partners (and 10 new from this wave) from the original wave 1. There were 888 core members, 301 partners, 33 partners new from previous waves and 3 new from this wave, represented the refreshment sample at wave 3. For the refreshment sample at wave 4, there were 1,796 core members, 200 partners, 22 partners new from previous waves and 7 new from this wave and for the wave 6 refreshment sample there was 826 core members, 318 new partners from previous waves and 10 from this wave. In total, including those respondents who were permitted to participate as they co-habited with core members or partners (but were not partners themselves) there were 10,601 respondents (consisting of 9,169 core members) (Marmot et al., 2016).

The collection timetable for wave 7 began in June 2014 and lasted approximately 11 months, concluding in May the following year. This data contained 4,894 core members and 352 partners from the original sample collected at wave 1 with 98 new partners. From the wave 3 refreshment sample there are 787 core members and 270 partners with 39 new partners and for the wave 4 refreshment

sample, the data included 1,606 core members, 193 partners and 28 new from this wave. For the wave 6 refreshment sample there were 665 core members, 232 partners and 14 new from this wave and from wave 7 there were 301 core members, 153 partners and 2 new partners. Therefore, again including those who participated but were not themselves eligible (eligibility was derived from co-habitation with a core member and/or partner without being a partner themselves), there was a total of 9,670 respondents of which 8,253 were core members (Marmot et al., 2016).

Provided at each wave were also several weights, one to be used for longitudinal analysis, one for cross-sectional analysis, another from responses specifically from the self-completion module and, if included in that wave, there was also a weight for answers given to a nurse who attended the home of the respondent and a weight provided for responses to the sex module. Longitudinal weights were calculated for respondents who participated in all waves to that point whilst cross-sectional weights were calculated for each separate cohort to adjust for the propensity to respond amongst the key subgroups. There was also a scaling factor included so core members from wave 1 and refreshment samples at waves 3, 4 and 7 were represented in similar proportions. The self-completion weights were built upon the cross-sectional weights and were designed to adjust for the propensity to respond to the self-completion module (Marmot et al., 2016). However, weights were not used in the current research due to its two-wave longitudinal design making it unsuitable for any of the weights provided.

Given the ELSA dataset is a multidisciplinary project covering a wide range of topics, the variables needed for this thesis would have to be first identified out of the 5,000 to 8,000 (depending on the wave and modules included) included in the original data. Furthermore, responses in ELSA were inputted differently depending on the unit involved, whether the question was fed forward from previous waves, had altered from previous waves and to whom the question was asked. There was also the possibility that questions had been changed, due to either the continuing refinement of contents ELSA undertakes, or the emergence of new research or novel areas of interest. Careful mapping of the concepts used in this thesis onto the variables used in the ELSA dataset was therefore vital to produce reliable and valid results from the statistical analysis. Table 4.1 below shows how variables from the conceptual framework were mapped: Variables such as gender, age, long-standing limiting illness, non-pension wealth, marital status, ethnicity, self-perceived social status and education mapped easily, in a like-to-like fashion. However, for the numerous forms of social capital and bridge employment, greater consideration was needed when attempting to map onto the ELSA dataset. Social network diversity

was derived from the summing of the number of close relationships the participant had, whilst social network support was operationalised through the summing of variables that related to if the participant felt they could rely upon or otherwise trust these various kin relationships. Social network contact was derived by summing the number of ways contact was maintained with these relationships (close friends, children and other family members), such as meeting face to face, writing, talking on the phone or texting. Social activities in a public setting was again a total of how often the participant experienced particular activities, representing the level of trust or anxiety they might have around other members of their community (Putnam, 1995). Social group membership, community group membership and civic participation were distinguished from one another and matched to the Office for National Statistics' recommended measurement framework for identifying social capital dimensions such as social or community group membership and civic participation as used in this thesis (Foxton & Jones, 2011), or other prominent social science literature (For example, see; Berkman, 2000; Bolin et al., 2003; Kawachi et al., 2004; Lin, 1999; Ng, 2010; Poortinga, 2012; Portes, 1998; Putnam, 1995; Rafnsson, Shankar, & Steptoe, 2015). For bridge employment, which is conceptualised here as a period in which an individual is both in paid employment and receipt of a pension, the multiple variables relating to employment and pensions were first identified and then recoded.

Recoding into simpler variables then enabled the researcher to distinguish participants who were working but not yet in receipt of a pension, bridge employees and those who were fully withdrawn from the labour market (in receipt of a pension but not in paid employment), therefore placing them into three distinct categories. The dependent variables were scales developed in the sociological or psychological literature and then adopted by ELSA (CASP-19 (Control, Autonomy, Self-realisation and Pleasure 19 item scale (Hyde et al., 2003)) and CES-D (Centre for Epidemiological Studies Depression Scale (Turvey, Wallace, & Herzog, 1999)) . Once the variables had been successfully mapped onto ELSA, recoded and with cases where there were any missing entries for variables in each wave omitted, there was a total of 1776 cases (participants) included in the final analytical sample. Appendix 1 offers a more thorough description on how the hypothesised concepts were linked to the ELSA dataset and, if necessary, how that variable was re-coded whilst Appendix 2 is the SPSS (v24) syntax provided by ELSA to enable the recoding of results for the CASP-19 scale, one of the dependent variables used in this thesis.

TABLE 4.1 STUDY ONE: VARIABLE MAPPING

Concept to be Mapped	ELSA Dataset Variable Code(s)	Variable Description	Variable Measurement
<i>Gender</i>	indsex	Gender	1 = Male; 2 = Female
<i>Age</i>	indager	Age	Continuous scale ranging from 50 to 90
<i>Education</i>	edqual	Educational attainment	0 = No qualification; 1 = Foreign/other; 2 = nvq1/cse other grade equiv; 3 = nvq2/gce 'o-level' equiv; 4 = nvq3/gce 'a-level' equiv; 5 = higher ed belowdegree; 6 = nvq4/nvq5/degree or equiv
<i>Marital Status</i>	marstat	Marital status	1 = Married/civic partnership or co-habiting; 0 = neither
<i>Long-standing and Limiting Illness</i>	Llsill	The presence of a long-standing and limiting illness (for example, chronic conditions such as lung disease, arthritis and dementia)	1 = long standing and limiting illness; 0 = none or just long standing
<i>Non-pension Wealth</i>	Nettotw_bu_s	Total net non-pension wealth	Continuous scale ranging from -£56,772.00 to £20,583,000.00
<i>Ethnicity</i>	Fqethnr	Ethnicity	1 = white; 0 = non-white
<i>Social Network Diversity</i>	scchd, scfam, scfrd, scfrdl	Whether social network contains children, other family and/or close friends	Scale from 0 to 3; 1 for the presence of each kin relationship
<i>Social Network Support</i>	scfrda, scfrdb, scfrdc, scchda, scchdb, scchdc, scfama, scfamb, scfamc	Whether these kin relationships understand the respondent and whether the respondent can open up to and rely upon these kin relationships	Scale ranging from 0 to 27; each kin relationships' level of support was assessed on a Likert scale ranging from 0 (not at all) to 3 (a lot). Support was defined as how much the respondent could open up to close friends/family/children, how much the respondent could rely upon close friends/family/children and how much the respondent felt their close friends/family/children understood them
<i>Social Network Contact</i>	scchdh, scchdi, scchdj, scchdk, scfamh, scfami, scfamj, scfamk, scfrdh, scfrdi, scfrdj, scfrdk	How often the respondent meets up, speaks to, writes to and/or texts each of his/her kin relationships	Scale ranging from 0 to 60; each kin relationships' level of contact was assessed on a Likert scale ranging from 0 (less than once a year) to 5 (three or more times a week). Contact was defined as how often the respondent met/wrote to/spoke on the telephone/text messaged each kin relationship
<i>Self-Perceived Social Status</i>	sclddr	self-perceived social status rated from 0-100 in increments of 5.	Scale ranging from 0 to 100 in increments of 5
<i>Social Activity in a Public Setting</i>	scacta, scactb, scactc, scactd	How often the respondent goes to the cinema, eats out, goes to an art gallery or museum and how often he/she goes to the theatre, a concert or the opera	Scale ranging from 0 to 20; the respondent was asked how often they went to the cinema/ate out of the house/went to an art gallery or museum/went to the theatre, a concert or the opera and was assessed on a Likert scale ranging from 0 (never) to 5 (twice a month or more)

Concept to be Mapped	ELSA Dataset Variable Code(s)	Variable Description	Variable Measurement
<i>Civic Participation</i>	erfolmo, erfolle, erfvolr, erfvolca	Whether the respondent has raised money, took part in sponsored events, led a group or been a member of a committee, helped to run an activity or event and/or campaigned	Scale ranging from 0 to 4; respondent was asked if they had (in the last 12 months) led a group or was a member of a committee/had campaigned/ had raised money or took part in a sponsored event/helped organise or run an activity or event. Each variable was marked 0 (not mentioned) or 1 (mentioned)
<i>Social Group Membership</i>	scorg05, scorg06, scorg07	Whether respondent is a member of an education, arts, music group or evening class, a member of a social club, a sports club, a gym or an exercise class	Scale ranging from 0 to 3; respondent was asked if they were a member of education, arts, music groups or evening classes/a social club/a member of a sports club, gym or exercise class. Each variable was marked 0 (not mentioned) or 1 (mentioned)
<i>Community Group Membership</i>	scorg01, scorg02, scorg03, scorg04	Whether the respondent is a member of a political party, trade union or environmental group, a tenants group, resident group or neighbourhood watch, a church or other religious group and/or a charitable association	Scale ranging from 0 to 4; respondent was asked if they a member of a political party, trade union or environmental group/a tenant group, resident group or neighbourhood watch/a church or other religious group/a member of a charitable association. Each variable was marked 0 (not mentioned) or 1 (mentioned)
<i>Labour Force Participation</i>	hours, spen_r_i, (iapam/iappam), wppp_r_i (wppyr)	Number of hours the respondent works and whether he/she receives a state and/or private/occupation pension, in order to allocate to one of three forms of labour force participation: working not receiving a pension, bridge employee (working and receiving a pension) and fully withdrawn (not working but receiving a pension)	Categorical variable; 0 = working with no pension, 1 = bridge employee, 2 = fully withdrawn from the labour market. Categories were assessed by how many hours the respondent worked in their main job, their state pension income, and their private pension income. If the respondent was working but not receiving any pension they were labelled '0'. If they were working and receiving a pension they were labelled '1', if not working but receiving a pension then '2'. All other respondents were eliminated (for example, unemployed).
<i>Subjective Quality of Life (CASP-19)</i>	scqola, scqolb, scqolc, scqold, scqole, scqolf, scqolg, scqolh, scqoli, scqolj, scqolk, scqoll, scqolm, scqoln, scqolo, scqolp, scqolq, scqolr, scqols	19 questions from the Control, Autonomy, Self-realisation and Pleasure Scale (CASP-19)	Continuous scale ranging from 0 to 57; respondents were asked 19 questions from the CASP-19 scale. Questions included 'how often the respondent feels age prevents them from doing things they like', 'how often shortage of money stops them doing things' and 'how often the respondent feels that their life has meaning'. Answers were given on a 3-point Likert scale ranging from 0 (never) to 3 (often). Scores were then totalled having recoded any reverse coded questions. Higher scores indicated higher subjective quality of life.
<i>Centre for Epidemiologic Studies Depression Scale (CES-D)</i>	PScedA, PScedB, PScedC, PScedD, PScedE, PScedF, PScedG, PScedH	8 questions from the Centre for Epidemiologic Studies Depression Scale 8-item (CES-D)	Recoded into a continuous scale ranging from 0 to 8; respondent was asked 8 questions from the Centre of Epidemiological Studies Depression scale. Answers were given as either 0 (no) or 1 (yes). Questions included 'whether the respondent felt sad much of the time during the last week' and 'whether the respondent enjoyed life much the time during the past week'. Scores were then totalled having recoded any reverse questions. Higher scores suggested higher negative affect and depressive symptoms.

4.3 STUDY ONE: SAMPLE CHARACTERISTICS

This section will present the descriptive and correlational statistics. Secondly, it compares mean scores on the Control, Autonomy, Self-Realisation and Pleasure 19 item scale (CASP19) (Higgs et al., 2003) and the Centre for Epidemiologic Studies Depression Scale (CES-D) across both waves and all dichotomous variables (gender, marital status, long-standing limiting illness and ethnicity). Multi-network support, social activities in a public setting and self-perceived social status (tertiaries), and non-pension wealth (quartiles). For the variables social network diversity, social group membership, community group membership and civic participation, either two groups distinguishing high and low levels of the variables or existing tertiaryaries were used. The comparison of mean scores was conducted using either an independent samples *t*-test or ANOVA.

Before any analysis can proceed, there are a several assumptions that must be verified. Firstly, any issues arising from small sample size were not relevant as the use of the English Longitudinal Study of Ageing (ELSA) allowed for a large cross-discipline representative sample (Marmot et al., 2016). The use of ELSA also assisted when determining outliers; the use of the Mahalanobis Distance (Rosenbaum, 1985), Cook's Distance and Leverage Values (Stevens, 1984) were not necessary as the dataset had already been screened for anomalies. Had these statistical measures been used, any case where at least two of the figures generated from the tests exceeded the accepted threshold would have been eliminated (Baron & Kenny, 1986). An examination of correlations (Table 4.2 and 4.3 below) showed that no variables (in wave 6 and 7) were highly correlated and so the assumption of no multicollinearity was met (Graham, 2003). Tests of normality for the dependent variables at both waves were conducted which showed normal distribution. Residual and scatter graphs testing for homogeneity and homoscedasticity were also produced for both outcome variables which represented the normal distribution in a graphical format (Jarque, 1980). Also presented is a correlation analysis examining the cross-lagged relationships between wave 6 and wave 7 research variables (socioeconomic and demographic variables omitted) and outcome variables (CASP-19 and CES-D) (Table 4.4 below). The results revealed that scores for CASP-19 at wave 6 were statistically significantly positively associated with all forms of social capital,

TABLE 4.2 STUDY ONE: WAVE 6 CORRELATION MATRIX AND DESCRIPTIVE STATISTICS

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	N/A	N/A														
2. Marital Status	N/A	N/A	-0.17**													
3. Long-Standing & Limiting Illness	N/A	N/A	0.04*	-0.12**												
4. Ethnicity	N/A	N/A	0.04*	0.01	0.03											
5. Education	3.25	2.15	-0.16**	0.12**	-0.10**	-0.03										
6. Age	65.81	8.33	-0.60**	-0.20**	0.19**	0.06**	-0.17**									
7. Non-Pension Wealth	2.50	1.12	-0.08**	0.26**	-0.15**	-0.02	0.33**	-0.02								
8. Social Network Diversity	2.94	0.24	0.14**	-0.06**	-0.01	0.01	-0.05**	-0.03	-0.05**							
9. Social Network Contact	32.52	8.82	0.13**	0.01	-0.10**	-0.03	0.13**	-0.33**	0.08**	0.10**						
10. Social Network Support	18.93	4.78	0.21**	-0.07**	-0.09**	0.02	-0.04*	0.04*	0.00	0.23**	0.26**					
11. Self-perceived Social Status	60.71	16.31	-0.09**	0.14**	-0.14**	0.00	0.28**	-0.06**	0.43**	-0.00	0.15**	0.14**				
12. Social Activities in Public Setting	8.60	3.68	0.03	0.04*	-0.20**	0.05**	0.35**	-0.15**	0.36**	0.03	0.31**	0.11**	0.35**			
13. Civic Participation	0.73	1.11	-0.04*	0.07**	-0.05**	0.08	0.19**	-0.04*	0.21**	-0.01	0.16**	0.03	0.17**	0.25**		
14. Social Group Membership	0.61	0.74	0.03	0.01	-0.10**	0.03*	0.16**	-0.01	0.22**	0.01	0.15**	0.05**	0.18**	0.32**	0.24**	
15. Community Group Membership	0.75	0.92	-0.02	0.03*	0.00	0.03	0.19**	0.10**	0.23**	0.01	0.08**	0.05**	0.18**	0.24**	0.40**	0.18**

Note: N = 3392, * $p \leq 0.05$, ** $p \leq 0.01$

TABLE 4.3 STUDY ONE: WAVE 7 CORRELATION MATRIX AND DESCRIPTIVE STATISTICS

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	N/A	N/A														
2. Marital Status	N/A	N/A	-0.19**													
3. Long-Standing & Limiting Illness	N/A	N/A	0.06**	-0.13**												
4. Ethnicity	N/A	N/A	0.02	0.02	0.03											
5. Education	3.34	2.13	-0.15**	0.14**	-0.10**	-0.01										
6. Age	66.64	8.26	-0.04*	-0.24	0.20**	0.03	-0.12**									
7. Non-Pension Wealth	2.50	1.19	-0.10**	0.26**	-0.16**	0.01	0.34**	0.02								
8. Social Network Diversity	2.94	0.24	0.10**	-0.04*	-0.02	0.00	-0.04*	-0.04*	-0.00							
9. Social Network Contact	32.44	9.77	0.16*	0.05**	-0.11**	0.01	0.14**	-0.28**	0.15**	0.17**						
10. Social Network Support	19.09	4.91	0.22**	-0.09**	-0.07**	-0.00	-0.01	0.02	0.04*	0.25**	0.39**					
11. Self-perceived Social Status	62.63	16.21	-0.12**	0.17**	-0.15**	0.05**	0.26**	-0.02	0.45**	0.03	0.17**	0.13**				
12. Social Activities in Public Setting	8.75	3.85	0.03	0.09**	-0.18**	0.07**	0.36**	-0.15**	0.39**	0.04*	0.37**	0.14**	0.33**			
13. Civic Participation	0.71	1.08	-0.02	0.07**	-0.05*	0.05**	0.19**	-0.03	0.21**	0.01	0.18**	0.06**	0.16**	0.27**		
14. Social Group Membership	0.64	0.76	0.06**	0.02	-0.08**	0.06**	0.18**	0.05**	0.24**	-0.01	0.17**	0.09**	0.19**	0.32**	0.23**	
15. Community Group Membership	0.70	0.90	0.02	0.02	0.01	-0.07	0.17**	0.13**	0.20**	0.02	0.12**	0.10**	0.14**	0.23**	0.39**	0.23**

Note: N = 3045, *p ≤ 0.05, **p ≤ 0.01

TABLE 4.4 STUDY ONE: WAVE 6 & 7 CORRELATION MATRIX

Wave 6	Wave 7									
	1	2	3	4	5	6	7	8	9	10
1. Social Network Diversity	0.43**	0.09**	0.20**	0.00	0.02	-0.00	-0.01	0.02	0.01	0.04
2. Social Network Contact	0.09**	0.70**	0.20**	0.13**	0.30**	0.16**	0.12**	0.08**	-0.02	0.12**
3. Social Network Support	0.08**	0.23**	0.71**	0.13**	0.11**	0.05*	0.05	0.07**	-0.19**	0.28**
4. Self-perceived Social Status	0.00	0.17**	0.14**	0.70**	0.36**	0.15**	0.21**	0.12**	-0.21**	0.40**
5. Social Activities in Public Setting	-0.02	0.29**	0.11**	0.30**	0.86**	0.23**	0.33**	0.21**	-0.10**	0.24**
6. Civic Participation	-0.01	0.10**	0.03	0.16**	0.22**	0.67**	0.21**	0.41**	-0.06**	0.13**
7. Social Group Membership	-0.03	0.15**	0.07**	0.17**	0.31**	0.22**	0.63**	0.18**	-0.09**	0.17**
8. Community Group Membership	-0.01	0.06*	0.06*	0.11**	0.21**	0.37**	0.16**	0.72**	-0.03	0.04
9. CES-D	0.01	-0.04	-0.13**	-0.25**	-0.12**	-0.09**	-0.08**	0.00	0.47**	-0.43**
10. CASP-19	0.02	0.14**	0.29**	0.39**	0.28**	0.16**	0.18**	0.06**	-0.41**	0.77**

Note: $N = 1776$, * $p \leq 0.05$, ** $p \leq 0.01$

the highest effect being $r = 0.39$ and $r = 0.29$ ($p \leq 0.01$) for self-perceived social status and social network support respectively. For scores on the CES-D scale, all scores were statistically significantly negatively associated with all forms of social capital except community group membership, with the highest correlations also being for self-perceived social status and social network support ($r = 0.25$ and $r = 0.13$ respectively ($p \leq 0.01$)).

Nonresponse bias was tested for to assess the impact of respondents with data at wave 6 but not wave 7 and therefore not included the final analysis. This was done, again through a bivariate correlation analysis (see Table 4.5 below) of all the variables from both those with full data (participants) and those with missing data at wave 7 (non-participants) (De Lange, Taris, Kompier, Houtman, & Bongers, 2003). This technique used for the data at wave 6 allows to determine how much attrition at wave 7 would have affected the relationships amongst variables. Non-response bias tested in this way is consistent with the approach of previous literature (De Lange et al., 2003). With only a few exceptions, most of correlations for participants and non-participants were extremely similar. Table 4.6 shows the baseline characteristics of individuals with full data across waves (participants) and non-participants. The participants comprised of 45.7% ($N = 811$) males and were mostly married/in a civil partnership or co-habiting (82.4%, $N = 1464$). They were predominantly white (98%, $N = 1740$) and did not have a long-standing and limiting illness (75.8%, $N = 1347$). In comparison, the non-participants were roughly similar, however, they were slightly less educated (high educational attainment 31.1% compared to 41.9% for participants) and had less non-pension wealth (4th Quartile 21.3% compared to 28.4% for participants). With regard to the study variables, the two sets of participants were again very similar, however, the non-participants were less likely to perceive themselves with high social status (36.1%) when compared to participants (44%), took part in less social activities in a public setting (high levels 35.1%), less civic participation (high levels 30.9%), and less social and community group membership (high levels 42.1% and 46.3% respectively) when compared to participants (high levels of social activities in a public setting 46.5%, high levels of civic participation 43.8%, high levels of social group membership 51.5% and high levels of community group membership 51.7%).

A comparison of means was then conducted to examine potential differences in scores on the dependent variables (CASP-19 and CES-D) across the two waves (Table 4.7 below). After conducting a Cronbach's alpha reliability test both scales were judged to have good internal consistency for participants in the current sample across both waves (wave 6 scales; CASP-19, $\alpha = 0.89$; CES-D, $\alpha =$

TABLE 4.5 STUDY ONE: WAVE 6 CORRELATION MATRIX FOR PARTICIPANTS AND NON-PARTICIPANTS

Variable	Participants								
	1	2	3	4	5	6	7	8	9
1. Social Network Diversity									
2. Social Network Contact	0.09**								
3. Social Network Support	0.22**	0.25**							
4. Self-perceived Social Status	0.00	0.15**	0.16**						
5. Social Activities in Public Setting	0.03	0.30**	0.12**	0.36**					
6. Civic Participation	-0.02	0.13**	0.04	0.14**	0.22**				
7. Social Group Membership	0.00	0.13**	0.06**	0.19**	0.34**	0.22**			
8. Community Group Membership	0.02	0.07**	0.05	0.14**	0.22**	0.40**	0.19**		
9. CES-D	-0.05	-0.02	-0.15**	-0.24**	-0.12**	-0.08**	-0.07**	-0.03	
10. CASP-19	0.05**	0.13**	0.33**	0.43**	0.29**	0.13**	0.18**	0.06*	-0.48**

Note: $N = 1776$, * $p \leq 0.05$, ** $p \leq 0.01$

TABLE 4.5 CONTINUED STUDY ONE: WAVE 6 CORRELATION MATRIX FOR PARTICIPANTS AND NON-PARTICIPANTS

Variable	Non-Participants								
	1	2	3	4	5	6	7	8	9
1. Social Network Diversity									
2. Social Network Contact	0.11**								
3. Social Network Support	0.23**	0.26**							
4. Self-perceived Social Status	-0.01	0.14**	0.12**						
5. Social Activities in Public Setting	0.03	0.30**	0.10**	0.32**					
6. Civic Participation	0.01	0.18**	0.01	0.18**	0.27**				
7. Social Group Membership	0.02	0.15**	0.04	0.14**	0.28**	0.24**			
8. Community Group Membership	-0.01	0.10**	0.05	0.21**	0.24**	0.39**	0.16**		
9. CES-D	0.00	-0.04	-0.14**	-0.21**	-0.16**	-0.09**	-0.04	-0.07**	
10. CASP-19	0.05*	0.18**	0.33**	0.41**	0.30**	0.14**	0.14**	0.13**	-0.49**

Note: N = 1616, * $p \leq 0.05$, ** $p \leq 0.01$

TABLE 4.6 STUDY ONE: BASELINE CHARACTERISTICS OF PARTICIPANTS AND NON-PARTICIPANTS

Variables/Characteristics	Participants (N = 1776)	Non-Participants (N = 1616)
Gender % (N)		
Male	45.7 (811)	44.1 (712)
Female	54.3 (965)	55.9 (904)
Marital Status % (N)		
Married/Civil Partnership or Co-Habiting	82.4 (1464)	75.7 (1223)
Neither	17.6 (312)	24.3 (393)
Long-Standing & Limiting Illness % (N)		
Yes	24.2 (429)	31.9 (515)
No	75.8 (1347)	68.1 (1101)
Ethnicity % (N)		
White	98 (1740)	96.7 (1563)
Non-White	2 (36)	3.3 (53)
Education % (N)		
Low	27.6 (490)	39.3 (635)
Middle	30.5 (542)	29.6 (478)
High	41.9 (744)	31.1 (503)
Age % (N)		
50-59	27 (479)	22.6 (366)
60-69	48 (853)	39.4 (637)
70 and over	25 (444)	37.9 (613)
Non-Pension Wealth % (N)		
1 st Quartile	21.3 (378)	29.1 (470)
2 nd Quartile	23.4 (416)	26.7 (432)
3 rd Quartile	26.9 (478)	22.9 (370)
4 th Quartile	28.4 (504)	21.3 (344)
Social Network Diversity % (N)		
Low	6.1 (108)	5.8 (93)
High	93.9 (1668)	94.2 (1523)
Social Network Contact % (N)		
Low	28.9 (514)	37.7 (609)
Middle	35.1 (623)	30.6 (495)
High	36 (639)	31.7 (512)
Social Network Support % (N)		
Low	28.7 (509)	30.3 (490)
Middle	31.8 (565)	29.3 (474)

Variables/Characteristics	Participants (<i>N</i> = 1776)	Non-Participants (<i>N</i> = 1616)
High	39.5 (702)	40.3 (652)
Self-Perceived Social Status % (<i>N</i>)		
Low	15.9 (282)	21 (340)
Middle	40.1 (712)	42.8 (692)
High	44 (782)	36.1 (584)
Social Activities in Public Setting % (<i>N</i>)		
Low	24.4 (433)	35.5 (574)
Middle	29.2 (518)	29.4 (475)
High	46.5 (825)	35.1 (567)
Civic Participation % (<i>N</i>)		
Low	56.2 (998)	69.1 (1117)
High	43.8 (778)	30.9 (499)
Social Group Membership % (<i>N</i>)		
Low	48.5 (861)	57.9 (936)
High	51.5 (915)	42.1 (680)
Community Group Membership % (<i>N</i>)		
Low	48.3 (858)	53.7 (868)
High	51.7 (918)	46.3 (748)

TABLE 4.7 STUDY ONE: UNADJUSTED MEANS (AND STANDARD DEVIATIONS) ON SCORES ON THE CASP-19 AND CES-D SCALES IN RELATION TO WAVE 6 (BASELINE) DEMOGRAPHIC AND SOCIOECONOMIC VARIABLES WITH T(DF) OR F(DF) VALUES FOR RESPONDENTS WITH FULL DATA ACROSS BOTH WAVES

Variable	Baseline (Wave 6)				Follow Up (Wave 7)			
	CASP-19	t / F	CES-D	t / F	CASP-19	t / F	CES-D	t / F
Gender								
Male	43.43 (7.63)		0.68 (1.28)	$t(1771.73) =$ =	43.92 (7.46)		0.69 (1.25)	$t(1764.12) =$ =
Female	42.74 (8.02)	$t(1774) =$ 1.84, NS	1.04 (1.58)	-5.23***	43.73 (7.95)	$t(1774) =$ 0.51, NS	1.09 (1.60)	-5.80***
Marital Status								
Married/Civil Partnership or Co-Habiting	43.52 (7.66)		0.76 (1.32)		44.37 (7.49)		0.80 (1.34)	
Neither	40.88 (8.39)	$t(428.28) =$ -5.13***	1.42 (1.90)	$t(376.94) =$ 5.80***	41.37 (8.27)	$t(424.29) =$ -5.987***	1.40 (1.84)	$t(386.01) =$ 5.46***
Long-Standing & Limiting Illness								
Yes	38.22 (8.55)		1.52 (1.87)		39.08 (8.46)	$t(606.22) =$ 13.94	1.59 (1.88)	
No	44.59 (6.94)	$t(617.90) =$ 14.020***	0.67 (1.24)	-8.80***	45.39 (6.78)	***	0.68 (1.22)	$t(562.88) =$ -9.221***
Ethnicity								
White	43.10 (7.85)		0.87 (1.45)		43.84 (7.73)		0.90 (1.46)	
Non-White	40.78 (7.94)	$t(1774) =$ -1.76, NS	1.08 (1.71)	$t(1774) =$ 0.87, NS	42.94 (7.68)	$t(1774) =$ -0.69, NS	1.06 (1.77)	$t(1774) =$ 0.62, NS
Education								
Low	41.69 (8.35)		1.17 (1.71)		42.46 (8.05)		1.20 (1.70)	
Middle	42.45 (8.13)		0.90 (1.46)		43.61 (7.88)		0.85 (1.39)	
High	44.39 (7.07)	$F(2, 1773) =$ 20.30***	0.67 (1.23)	$F(2, 1773) =$ 17.79***	44.87 (7.25)	$F(2, 1773) =$ 14.92***	0.75 (1.32)	$F(2, 1773) =$ 14.99***
Age								
50-59	42.56 (8.45)		0.95 (1.55)		44.06 (7.93)		0.86 (1.48)	
60-69	43.90 (7.60)		0.79 (1.38)		44.51 (7.55)		0.85 (1.41)	
70 and over	41.97 (7.49)	$F(2, 1773) =$ 10.20***	0.95 (1.49)	$F(2, 1773) =$ 2.66, NS	42.22 (7.64)	$F(2, 1773) =$ 13.34***	1.07 (1.54)	$F(2, 1773) =$ 3.61*
Non-Pension Wealth								
1 st Quartile	40.04 (8.69)	$F(3, 1772) =$ 41.92***	1.32 (1.88)	$F(3, 1772) =$ 21.01***	40.96 (8.38)	$F(3, 1772) =$ 39.56***	1.21 (1.72)	$F(3, 1772) =$ 12.27***

Variable	Baseline (Wave 6)				Follow Up (Wave 7)			
	CASP-19	<i>t</i> / <i>F</i>	CES-D	<i>t</i> / <i>F</i>	CASP-19	<i>t</i> / <i>F</i>	CES-D	<i>t</i> / <i>F</i>
2 nd Quartile	41.78 (8.17)		0.98 (1.49)		42.63 (7.70)		1.05 (1.54)	
3 rd Quartile	44.20 (6.94)		0.73 (1.24)		44.71 (7.27)		0.76 (1.34)	
4 th Quartile	45.29 (6.76)		0.59 (1.15)		46.10 (6.77)		0.70 (1.23)	
Social Network Diversity								
Low	41.55 (9.24)		1.14 (1.93)		42.53 (8.83)		0.84 (1.65)	
High	43.15 (7.75)	<i>t</i> (116.95) = -1.77*	0.86 (1.42)	<i>t</i> (114.65) = 1.48, NS	43.90 (7.65)	<i>t</i> (1774) = - 1.79, NS	0.91 (1.45)	<i>t</i> (1774) = - 0.47, NS
Social Network Contact								
Low	41.99 (8.37)		0.95 (1.58)		42.75 (8.19)		0.92 (1.47)	
Middle	42.70 (7.81)		0.87 (1.44)		43.55 (7.56)		0.97 (1.53)	
High	44.26 (7.30)	<i>F</i> (2, 1773) = 13.05***	0.82 (1.37)	<i>F</i> (2, 1773) = 1.03, NS	44.95 (7.36)	<i>F</i> (2, 1773) = 12.27***	0.83 (1.39)	<i>F</i> (2, 1773) = 1.36, NS
Social Network Support								
Low	40.17 (8.33)		1.16 (1.79)		41.43 (8.34)		1.07 (1.66)	
Middle	42.65 (7.62)		0.82 (1.36)		43.53 (7.15)		0.92 (1.46)	
High	45.47 (6.87)	<i>F</i> (2, 1773) = 73.81***	0.72 (1.23)	<i>F</i> (2, 1773) = 14.38***	45.79 (7.19)	<i>F</i> (2, 1773) = 50.17***	0.77 (1.30)	<i>F</i> (2, 1773) = 6.45**
Self-Perceived Social Status								
Low	37.02 (8.76)		1.50 (2.02)		38.14 (8.70)		1.46 (1.88)	
Middle	42.15 (7.33)		0.94 (1.46)		43.09 (7.12)		1.00 (1.50)	
High	46.06 (6.38)	<i>F</i> (2, 1773) = 173.48***	0.59 (1.10)	<i>F</i> (2, 1773) = 44.22***	46.53 (6.55)	<i>F</i> (2, 1773) = 148.75***	0.62 (1.17)	<i>F</i> (2, 1773) = 38.09***
Social Activities in Public Setting								
Low	39.82 (8.46)		1.14 (1.67)		40.86 (8.30)		1.16 (1.63)	
Middle	42.89 (8.11)		0.89 (1.44)		43.91 (7.77)		0.88 (1.36)	
High	44.86 (6.72)	<i>F</i> (2, 1773) = 62.64***	0.73 (1.33)	<i>F</i> (2, 1773) = 11.10***	45.31 (6.92)	<i>F</i> (2, 1773) = 49.74***	0.79 (1.42)	<i>F</i> (2, 1773) = 9.52***
Civic Participation								
Low	42.28 (8.21)	<i>t</i> (1747.04) =	0.99 (1.58)	<i>t</i> (1772.08) = 3.99***	43.06 (7.99)	<i>t</i> (1731.71) =	0.97 (1.48)	<i>t</i> (1774) = 2.07*

Variable	Baseline (Wave 6)				Follow Up (Wave 7)			
	CASP-19	t / F	CES-D	t / F	CASP-19	t / F	CES-D	t / F
High	44.04 (7.25)	-4.79***	0.72 (1.27)		44.79 (7.27)	-4.77***	0.83 (1.45)	
Social Group Membership								
Low	41.62 (8.13)	$t(1727.51)$	1.01 (1.54)		42.44 (7.91)	$t(1741.00)$	1.07 (1.55)	
High	44.40 (7.33)	= -7.57***	0.75 (1.38)	$t(1723.58)$ = 3.71***	45.12 (7.32)	= -7.40***	0.75 (1.36)	$t(1712.03)$ = 4.62***
Community Group Membership								
Low	42.43 (7.93)		0.93 (1.54)		43.39 (7.72)		0.94 (1.51)	
High	43.64 (7.74)	$t(1774)$ = -3.24***	0.82 (1.38)	$t(1721.34)$ = 1.58, NS	44.22 (7.72)	$t(1774)$ = - 2.29*	0.87 (1.43)	$t(1774)$ = 1.43, NS

Note: $N = 1776$, NS = Not significant ($p > 0.05$), * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

0.75; wave 7 scales; CASP-19, $\alpha = 0.88$; CES-D, $\alpha = 0.75$). The results show that the relationship between the two subjective wellbeing measures, forms of social capital and other co-variables were very similar between waves. Generally, being married/in a civil partnership or co-habiting, not having a long-standing and limiting illness, being better educated, being more financially secure, having a higher diversity of social networks and higher levels of social network contact and support all resulted in improved scores on the CASP-19 and CES-D scales. As did higher levels of social activities in a public setting, civic participation, social group membership and community group membership.

Also conducted were a series of Levene's tests for equality of variances and a Tukey post-hoc HSD which indicated significant differences between all groups of the variables with the following exceptions: for wave 6, the lowest two groups of educational attainment did not produce statistically significant differences on the CASP-19 scale. None of the age groups were statistically significantly different from one another with respect to scores on the CES-D scale with only the 50-59 and 70 and over age groups not being statistically significantly different on the CASP-19 scale. For scores on the CASP-19 scale there were no statistically significant differences between the third and fourth non-pension wealth quartiles nor the second and third or third and fourth quartiles for scores on the CES-D scale. For the study variable social network contact, none of the groups were statistically significantly different from one another with respect to scores on the CES-D scale or the lowest and middle groups on the CASP-19 scale. The middle and highest levels of social network support did not produce

statistically significantly different scores on the CES-D scale, whilst only the middle and highest levels of social activity in a public setting were not statistically significantly different from one another.

For wave 7, all results of the Tukey post-hoc test were the same as for wave 6 with the following exceptions: the two highest levels of educational attainment did not produce statistically significantly different scores on the CES-D scale. For age, only the 60-69 and 70 and over groups on the CES-D scale were statistically different from one another whilst for scores on the CASP-19 scale only the 50-59 and 60-69 groups were not statistically significantly different. All levels of non-pension wealth were statistically significantly different from one another with respect to scores on the CASP-19 scale, whilst the first and second quartiles and third and fourth quartiles of non-pension wealth were not statistically significantly different with respect to the CES-D scale. Only the lowest and highest levels of social network support were statistically significantly different. All levels of social activity in a public setting were statistically significantly different except the middle and highest levels with respect to scores on the CES-D research measure.

4.4 STUDY ONE: ANALYTICAL METHOD

There are a multitude of regression methods available that aim to portray the data in a particular way (Rodgers & Nicewander, 1988). One of the most widely used is linear regression but there are also logistical regressions, polynomial regressions, stepwise regressions, ridge regressions and lasso regressions, amongst others. Each type can be applied depending on the nature of the data, for example normally distributed, the number of dependent and independent variables and whether the variables are continuous or categorical.

However, as mentioned above, structural equation modelling techniques were preferred, using the software IBM AMOS9(v22). This technique allows a more comprehensive measurement of the regression estimations through the assessment of all measures and relationships between variables. Using SEM means measurement errors can be estimated, as can potential correlations between error variables, in addition to being able to do everything that hierarchical regression analyses can already do (Zapf et al., 1996).

Another consideration was whether it was appropriate to include a moderation or mediation analysis. AMOS(v22) allows for a multigroup form of moderation by essentially creating distinct models

each relating to different specified groups. This group model can then be tested to assess both the significance of the model but also the significance of the difference between the multigroup model or a simpler model. This moderation analysis is also distinct from a mediation analysis. In a mediation analysis, as Baron and Kenny (1986) state, a mediator is a variable that when included in a model, reduces the significance of the direct path. More recent work has indicated that a causal steps strategy (although this suffers from low power), a distribution of the product strategy (a process that involves a complex series of analyses), a product of co-efficients and bootstrapping strategies are all now advocated in the literature (Preacher, Rucker, & Hayes, 2007). Bootstrapping is becoming more popular as a form of resampling process to increase the power of the estimation.

4.5 SUMMARY

This chapter has detailed the sample used for study one. It has discussed how it was chosen and how variables were mapped to the ELSA dataset. It has also outlined the particular characteristics of this sample and how it will be analysed. The following chapter will now discuss the sample used for study two. It too will outline the particular characteristics of the sample, how variables were mapped and the analytical method used.

CHAPTER 5: STUDY TWO: RESEARCH METHODS AND SAMPLE

5.1 INTRODUCTION

This chapter will now present the various sampling issues for study two. This will include how the ELSA dataset was collated and how variables were then mapped to the concepts of the current study. Following this will be a detailed presentation of the sample characteristics, including some descriptive statistics and correlation matrices. Finally, there will be a discussion on the analytical method.

5.2 STUDY TWO: SAMPLE AND VARIABLE MAPPING

Study two's variables also had to be reconceptualised and potentially needed mapping onto the ELSA dataset in different ways. Furthermore, which ELSA waves were to be used in the analysis also needed supplementary deliberation. The following table (Table 5.1) outlines how the variables used in the later data analysis were obtained:

TABLE 5.1 STUDY TWO: VARIABLE MAPPING

Concept to be Mapped	ELSA Dataset Variable Code(s)	Variable Description	Variable Measurement
<i>Gender</i>	indsex	Gender	0 = Female; 1 = Male
<i>Age</i>	indager	Age	Continuous scale ranging from 60 to 66
<i>Education</i>	qual3	Educational attainment	0 = Less than o-level or equiv; 1 = o-level or equivalent; 2 = higher than a-level.
<i>Marital Status</i>	marstat	Marital status	1 = Married/civic partnership or co-habiting; 2 = neither
<i>Net Non-Pension Wealth</i>	Nettotw_bu_s	Total net non-pension wealth	Continuous scale broken into quintiles.

Concept to be Mapped	ELSA Dataset Variable Code(s)	Variable Description	Variable Measurement
<i>Cognitive Ability</i>	cfind	Total cognitive index (memory + executive)	Continuous scale broken into quintiles.
<i>Autonomy (Obtained from the Control, Autonomy, Self-Realisation and Pleasure Scale (CASP-19))</i>	CASPAUT	(D) Autonomy (CASP)	Continuous scale ranging from 3 to 15.
<i>Social Support</i>	scfrda, scfrdb, scfrdc, scchda, scchdb, scchdc, scfama, scfamb, scfamc	Whether these kin relationships understand the respondent and whether the respondent can open up to and rely upon these kin relationships	Scale ranging from 0 to 27; each kin relationships' level of support was assessed on a Likert scale ranging from 0 (not at all) to 3 (a lot). Support was defined as how much the respondent could open up to close friends/family/children, how much the respondent could rely upon close friends/family/children and how much the respondent felt their close friends/family/children understood them
<i>Self-Reported Health</i>	hehelp	self-reported general health	Scale ranging from 1 (excellent) to 5 (poor). Recoded so 1 = poor up to 5 = excellent.
<i>Depression (using Centre for Epidemiologic Studies Depression Scale (CES-D))</i>	PScedA, PScedB, PScedC, PScedD, PScedE, PScedF, PScedG, PScedH	8 questions from the Centre for Epidemiologic Studies Depression Scale 8-item (CES-D)	Recoded into a continuous scale ranging from 0 to 8; respondent was asked 8 questions from the Centre of Epidemiological Studies Depression scale. Answers were given as either 0 (no) or 1 (yes). Questions included 'whether the respondent felt sad much of the time during the last week' and 'whether the respondent enjoyed life much the time during the past week'. Scores were then totalled having recoded any reverse questions. Higher scores suggested higher negative affect and depressive symptoms. This was recoded again so; 0 = no depressive symptoms and 1 = at least one depressive symptom.
<i>Life Satisfaction</i>	sclifea, sclifeb, sclifec, sclifed, sclifee	5 questions relating to life satisfaction.	Questions such as '(is the respondent) satisfied with his/her life?' and 'so far, he/she has got the important things wants in life'. These were coded 1 (strongly agree) to 7 (strongly disagree). These were then recoded so 1 = strongly disagree and 7 = strongly agree.

The dependent variable used for study two's analyses was a scale developed in the sociological or psychological literature and then adopted by ELSA (the Satisfaction With Life Scale (SWLS) (Diener et al., 1985). A resource-based dynamic (Wang et al., 2011) perspective was then applied to the investigation of the effects of resources for workers (individuals with a continuous presence in the labour market through waves 5, 6 and 7 of ELSA – included as a reference group) and transitional retirees (individuals who retired between waves 5 and 7). Resources included objective cognitive ability, subjective autonomy, social support, self-reported health and net non-pension wealth.

Data was obtained from the English Longitudinal Study of Ageing (ELSA) using waves 5, 6 and 7. Participants were included in this study if they were aged between 60 and 66, had no missing data for the variables in all three waves, and they were working in wave 5. Working status was captured with the pre-existing variable 'economic activity' which included long term sick, unemployed and unoccupied. For this reason, only participants who had responded with employee, self-employee and retired were included to remove any potential confounding effects. The resulting sample was N = 649, N = 326 of which were classified as 'workers', and N = 323 'transitional retirees'.

Life satisfaction was measured at all three waves using the Satisfaction With Life Scale (Diener et al., 1985). The scale uses a 7-point Likert scale with potential responses ranging from 'strongly disagree' (7) to 'strongly agree' (1) with questions such as "if I could live my life again, I would change almost nothing". These responses were then recoded so 'strongly disagree' was 0 and 'strongly agree' was 6, leaving a scale of 0 to 30.

Depressive symptoms were captured using the Centre for Epidemiological Studies 8-item Depression Scale (CES-D) (Rasloff, 1977) which asked questions such as "I have felt everything I did during the past week was an effort". Questions were initially coded by ELSA as 1 for yes and 2 for no. These responses (after considering reverse coding for questions 'D' and 'F') were then recoded so 0 was no and 1 was yes leading to an overall scale of 0 to 8. This was then split into two categories; 1 for those with no depressive symptoms and 1 for participants who had at least one. Autonomy was obtained from the Control, Autonomy, Self-realisation and Pleasure scale (CASP-19) (Hyde et al., 2003). Question relating to autonomy (questions 7 to 11) included; "I feel that I can please myself what I can do" with 8 and 9 reverse coded. Responses ranged from 1 'often' to 4 'never' in ELSA and so were recoded into a scale from 0 to 3, which was then totalled and (due to skewed distribution) split into 5 quintiles. Social support was derived from questions such as "I can rely on my friends if i need to talk" and was coded 1 'a lot' to 4 'not at all'. Again, these answers were recoded so 0 was 'not at all' and 3 related to 'a lot' and with three kin relationships (children, friends, other relatives) and seven questions per relationship, a scale ranging from to 63 was obtained. This was again split into quintiles. Self-reported health was captured with a single item measure which asked the participants how they considered their overall general health to be, with answers ranging from 1 'excellent' to 5 'poor'. These were recoded so that the highest scores reflected better general self-reported health. Cognitive ability was assessed through a number of measures provided by ELSA. A total cognitive index that included

measures relating to verbal learning and recall, prospective memory, verbal fluency, literacy, numerical ability and accuracy and speed of mental processing. This resulted in scores ranging from 17 to 45 for the present study sample which were then divided into quintiles. Financial resources were measured by an objective variable which summed net non-pension wealth. Education was captured with a single item that measured the highest qualification obtained by the participant (lower than O-Level or equivalent to A-Level or higher). Marital status was a dichotomous variable, married or not married.

The collection timetable for the additional wave used in this analysis (wave 5) ran between 2004 and 2005. This data contained 9,090 core members (6,242 from cohort 1; 936 from cohort 3; and 1,912 from cohort 4) (Marmot et al., 2016). Wave 5 covered much of the same topic areas as in previous waves but also included some new ones, such as:

- Financial risk taking.
- New questions on cancer screening.
- Ownership of pets.
- Additional content added to the self-completion questionnaire:
 - Measure of wellbeing and personality.
 - Experience of discrimination.
 - Religion.

5.3 STUDY TWO: ANALYTICAL METHOD

Meta analyses and reviews of extant retirement literature suggest that future research might be best served by the use of longitudinal examination of the data rather than cross-sectional (Zhan & Wang, 2015). A longitudinal approach would allow for a dynamic perspective that incorporated the transitional processes involved. It would also increase the chances of providing consistent findings that were not as affected by unobserved predictors at any given time point that threatened to overshadow the effects of the contextual variables at the focus point of the research, especially when compared to cross-sectional analyses. Longitudinal data analysis also has the advantage in that it more closely reflects the true nature of reality, one that fluctuates back and forth over short and long time frames (Wang & Shultz, 2010).

However, having multiple analyses over time (cross-sectional) could still provide reliability and validity to the results obtained from statistical methods (Bond, 2002). Repeated cross-sectional analysis shares an advantage with longitudinal use of panel data in that it can investigate heterogeneity in

dynamic changes between the unit of observation, in the case of this thesis, the individual. However, when considering a two-wave longitudinal design, having a time lagged dependent variable increases the likelihood of detecting any underlying causal mechanisms, specifically as De Lange et al. (2003, p. 283) stated;

“(Cross-sectional designs) are ill-suited to test causal relationships, because they cannot provide any evidence regarding the temporal order of the variables...strong evidence on the causal order of variables requires a longitudinal design.”

Some researchers would dispute the claim that longitudinal designs guarantee the ability to draw valid causal inferences (Taris & Kompier, 2003), however, having a two or more-wave design such as those used for the current research, allows for a much more efficient and robust model, especially if the baseline outcome variable is included in regression analyses (Campbell & Kenny, 1999), or structural equation modelling is used for a path analysis. Having full panel data at both baseline and follow-up allows for greater depth and superior explanations regarding the causal mechanisms at work. Zapf et al. (1996) also recommended that longitudinal designs should attempt to have all variables measured at all time points, using the same scales and/or tools. There are, of course, disadvantages of longitudinal designs. Panel conditioning can occur whereby prior responses can influence future responses (Sturgis, Allum, & Brunton-Smith, 2009). In the case of the current study that has used the ELSA data set, the same questions were asked to respondents every two years (although some questions were dropped and others added as the study has continued), something which has the potential to cause validity issues. However, researchers have also argued that having a sufficiently large time lag, such as the two years within ELSA, can alleviate problems surrounding panel conditioning. Another concern over longitudinal research designs is panel attrition. ELSA sought to assist researchers wishing to overcome this issue with the addition of several weights, as mentioned previously, however, there are also other methods that could be used. List-wise deletion, (multiple) imputation or simply adding the means or median values to missing responses are all possible depending on the data used and the aims of the researcher. In the case of the current research, a list-wise deletion approach was adopted. This was considered appropriate since the sample was of a sufficiently large size to avoid reducing the power of the analyses too much. Furthermore, a series of correlational and means comparisons were conducted to ensure the consistency of the research variables between participants (with full data at both baseline and follow-up (waves 6 and 7)) and non-

participants (with full data only at baseline (wave 6)). De Lange et al. (2003) suggested five criteria against which a longitudinal research design should be judged and to increase the rigour and validity of the study (Table 5.2 below).

TABLE 5.2 LONGITUDINAL RESEARCH APPRAISAL FRAMEWORK

Criterion	*1 Star	**2 Star	***3 Star	****4 Stars
Design	A variable not measured at all waves at least once	A variable not measured at some waves at least once	All variables measured at all waves (two-wave design)	All variables measured at all waves (three waves or more)
Time Lag	A single time lag with no supporting explanation or theory	More than one time lag with no supporting explanation or theory	A single time lag with sound underlying theory and/or explanation	More than one time lag with sound underlying theory and/or explanation
Measures/Scales	Information is either insufficient or questionable with no references	Good references	Good references and psychometric evaluations	Good references and psychometric evaluations with the addition of an objective and non-self-reporting measure
Analytical Method/Tool	Research based purely on Correlational Analysis		Use of Multiple regression or structural equation modelling techniques	
Analysis of Non-Response	No selectivity check	Check only on baseline response or selective panel OR follow-up response	Check on baseline response AND selective panel or follow-up response	Check on baseline response AND selective panel or follow-up AND analysis on differences between participants and non-participants

*Note: *1 Star = insufficient, **2 Star = sufficient, ***3 Star = good, ****4 Stars = very good*

The present study had a complete panel design assisted with the use of the ELSA dataset. The time lag was also determined by ELSA with thorough arguments surrounding theory and methods. The scales used are widely implemented in the literature, however, there is not the inclusion of an objective measure. Correlational analysis is included in the current study but so too are more advanced statistical testing. Overall this gave study two on average, a ***3 star rating and therefore, a ‘good’ longitudinal research design.

5.4 STUDY TWO: SAMPLE CHARACTERISTICS

The mean age of workers was 62.14 and 62.72 for transitional retirees, with 56.70% of retirees being male and 60.70 of workers being male. For the latent growth analysis age was then mean centred. Full descriptive statistics and a correlation matrix can be found in Tables 5.3 and 5.4 respectively.

TABLE 5.3 STUDY TWO: DESCRIPTIVE STATISTICS

Variable	Transitional	Workers	Group
	Retirees		Difference
	<i>M (SD)</i>	<i>M (SD)</i>	<i>F/x²</i>
Sex (% Male)	56.70	60.70	4.24
Age T1	62.72	62.14	0.60***
Education	1.11 (0.82)	1.08 (0.81)	0.92
Marital Status (% Married)	76.20	77.30	0.47
Cognitive Ability (Quintiles) T1	3.16 (1.45)	3.12 (1.38)	1.69
Autonomy (Quintiles) T1	3.20 (1.41)	3.27 (1.34)	1.97
Social Support (Quintiles) T1	3.03 (1.39)	3.12 (1.43)	2.19
Self-reported Health T1	3.64 (0.89)	3.66 (0.92)	0.93
Depression (% At Least One Depressive Symptom) T1	50.80	45.70	2.17
Net Non-Pension Wealth (Quintiles) T1	2.96 (1.35)	3.05 (1.47)	6.09
Life Satisfaction T1	21.06 (6.00)	21.89 (5.45)	2.29
Life Satisfaction T2	20.98 (6.22)	21.18 (5.79)	0.56
Life Satisfaction T3	21.42 (5.85)	21.80 (5.28)	2.02

5.5 SUMMARY

This chapter has outlined the underpinning philosophical considerations behind the research and argues for a positivist approach applied to panel data drawn from the ELSA data set. The use of ELSA provided a rich source of data presented in a widespread, multidisciplinary range of variables. Path analysis and Latent growth modelling were the main analytical methods. Data analysis is presented in the following chapter, including descriptive statistics, comparison of means of variables, a structural path analysis and latent growth modelling.

TABLE 5.4 CORRELATION MATRIX

	Workers												
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Sex		-0.08	0.21***	-0.16**	-0.09	-0.04	-0.13*	-0.01	-0.20***	0.10	-0.02	-0.00	0.08
2. Age	0.28		0.03	0.02	-0.04	0.09	0.06	0.02	0.02	0.12*	0.01	0.05	-0.01
3. Education	0.10	-0.15**		-0.07	0.13*	-0.00	0.02	0.14*	-0.03	0.30***	0.02	0.07	0.09
4. Marital Status	-0.13*	0.09	-0.03		0.03	0.04	0.08	0.04	0.19***	-0.13*	-0.12*	-0.09	-0.02
5. Cognitive Ability T1	-0.22**	-0.21**	0.18**	-0.04		0.08	0.11*	0.16**	-0.07	0.09	0.09	0.06	0.04
6. Autonomy T1	-0.05	-0.01	0.00	0.01	0.05		0.26***	0.30***	-0.18***	0.15**	0.42***	0.35***	0.29***
7. Social Support T1	-0.15**	0.06	-0.03	-0.19***	0.05	0.28***		0.17**	-0.11	0.05	0.28***	0.29***	0.26***
8. Self-Reported Health T1	-0.02	-0.05	0.13*	-0.07	0.10	0.31***	0.14*		-0.19***	0.18***	0.26***	0.20***	0.13*
9. Depressive Symptoms T1	-0.14*	-0.01	-0.06	0.01	0.02	-0.27**	-0.12*	-0.20**		-0.04	-0.21***	-0.24***	-0.14*
10. Net Non-Pension Wealth T1	0.02	-0.08	0.28***	-0.22***	0.21***	0.17**	0.00	0.13*	-0.10		0.20***	0.16**	0.16**
11. Life Satisfaction T1	-0.06	-0.03	0.03	-0.24***	0.05	0.43***	0.26***	0.27***	-0.29***	0.17**		0.72***	0.69***
12. Life Satisfaction T2	-0.04	-0.02	0.05	-0.27***	0.03	0.39***	0.23***	0.30***	-0.21***	0.23***	0.73***		0.74***
13. Life Satisfaction T3	0.03	-0.08	0.05	-0.19***	-0.02	0.31***	0.20***	0.27***	-0.23***	0.19***	0.69***	0.74***	

Transitional Retirees

Note: Transitional Retirees, N = 323; Workers, N = 326; * $p \leq 0.05$; ** $p \leq 0.01$, $p \leq 0.001$

CHAPTER 6: STUDY ONE: DATA ANALYSIS

6.1 INTRODUCTION

This chapter will now present the data analysis for study one which was conducted using waves 6 and 7 of the English Longitudinal Study of Ageing (ELSA) (Marmot et al., 2016).

6.2 PATH ANALYSIS (STRUCTURAL EQUATION MODELLING)

This section shows the SEM analysis. The steps undertaken to determine the significance and validity of the multi-group model are presented followed with an analysis of individual paths and regression weights. SEM is used as it can produce unbiased estimates for relationships between latent variables and is therefore more capable of eliminating errors in measurement and co-variances.

Before any estimates could be produced by analysis model fit was determined. Initially, the full model (that did not differentiate between labour force participation) was tested showing an overall good fit to the data ($X^2 (df) = 69.87 (12)$, $p \leq 0.001$; $RMSEA = 0.05$; $CFI = 0.99$; $NFI = 0.98$), explaining 11% of the variance on the CES-D scale ($R^2 = 0.11$) and 30% variance on the CASP-19 scale ($R^2 = 0.30$). Following this, using the multigroup function in AMOS(v22), the model was split into three groups; working with no pension, bridge employee and fully withdrawn from the labour market. The model comparison statistic ($X^2 (df) = 45.96 (36)$, $p > 0.05$) showed that there was no measurement invariance between the groups. Any problems that would have arisen from the invariance tests could have hindered the validity and reliability of the conclusions drawn from the analysis. As there were no latent constructs, there was no need to test reverse causation and reciprocal causation.

The following table (Table 6.1) presents the estimated regression weights for the forms of social capital on the CASP-19 and CES-D scales for the full sample, not including labour force participation but controlling for all demographic and socioeconomic variables. The forms of social capital could co-vary, as did the residual error terms on the endogenous variables (outcome variables). Demographic

and socioeconomic variables, again measured at wave 6, were also allowed to co-vary, both amongst themselves, and the eight forms of social capital. Further paths were drawn from long-standing and limiting illness to CASP-19 and CES-D. This was done because if the effects of the control variables were not considered, any findings would have been rendered invalid. Furthermore, as discussed in the previous theory chapter, these paths are theoretically justified. The co-variances and error terms have been omitted to provide a clearer diagram.

TABLE 6.1 STUDY ONE: ESTIMATES FOR SOCIAL CAPITAL'S EFFECTS ON SUBJECTIVE WELLBEING.

Forms of Social Capital (Wave 6)	Subjective Wellbeing (Wave 7)			
	CES-D		CASP-19	
	B (SE)	β	B (SE)	β
Network Diversity	0.16 (0.14)	0.03	-0.01 (0.66)	-0.00
Network Support	-0.03*** (0.01)	-0.08***	0.33*** (0.04)	0.20***
Network Contact	-0.01* (0.00)	-0.05*	0.03 (0.02)	0.03
Self-Perceived Social Status	-0.02*** (0.00)	-0.17***	0.15*** (0.01)	0.31***
Social Activities in Public Setting	-0.01 (0.01)	0.01	0.10* (0.05)	0.05*
Civic Participation	-0.03 (0.03)	-0.02	0.41** (0.15)	0.06**
Social Group Membership	-0.08 (0.05)	-0.04	0.64** (0.22)	0.06**
Community Group Membership	0.01 (0.04)	0.01	0.36* (0.18)	0.04*
<i>R² Estimate</i>	0.11***		0.30***	

*Note: B = Unstandardized Estimate, β = Standardized Estimate, SE = Standard Errors, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$*

The results indicate statistically significant paths from social network support and scores on the CES-D and CASP-19 scales ($\beta = -0.08$, $p \leq 0.001$ and $\beta = 0.20$, $p \leq 0.001$ respectively), and from self-perceived social status ($\beta = -0.17$, $p \leq 0.001$ and $\beta = 0.31$, $p \leq 0.001$). There were also statistically significant paths from social network contact and scores on the CES-D scale ($\beta = -0.05$, $p \leq 0.05$) and from social activities in a public setting, civic participation, social group membership and community group membership to scores on the CASP-19 scale ($\beta = 0.05$, $p \leq 0.05$; $\beta = 0.06$, $p \leq 0.01$; $\beta = 0.06$, $p \leq 0.01$; and $\beta = 0.04$, $p \leq 0.05$ respectively). Tables 6.2-6.4 below show the results of the paths within the three separate models (for each labour force participation type) using a maximum likelihood

TABLE 6.2 STUDY ONE: ESTIMATES FOR INDIVIDUALS WORKING WITH NO PENSION AT BASELINE (WAVE 6)

Forms of Social Capital (Wave 6)	Subjective Wellbeing			
	(Wave 7)			
	CES-D		CASP-19	
	<i>B</i> (SE)	β	<i>B</i> (SE)	β
Network Diversity	-0.09 (0.17)	-0.02	-0.49 (1.28)	-0.02
Network Support	-0.03* (0.02)	-0.11*	0.35*** (0.07)	0.21***
Network Contact	-0.02* (0.01)	0.12*	-0.03 (0.04)	-0.03
Self-Perceived Social Status	-0.01** (0.00)	-0.13**	0.16*** (0.02)	0.33***
Social Activities in Public Setting	0.03 (0.02)	0.08	0.14 (0.10)	0.07
Civic Participation	-0.06 (0.06)	-0.05	0.56* (0.28)	0.09*
Social Group Membership	-0.07 (0.09)	-0.04	0.04 (0.41)	0.00
Community Group Membership	-0.01 (0.07)	0.01	0.29 (0.35)	0.04
<i>R</i> ² Estimate	0.08***		0.29***	

Note: *N* = 481, *B* = Unstandardized Estimate, β = Standardized Estimate, SE = Standard Errors, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

TABLE 6.3 STUDY ONE: ESTIMATES FOR BRIDGE EMPLOYEES AT BASELINE (WAVE 6)

Forms of Social Capital (Wave 6)	Subjective Wellbeing			
	(Wave 7)			
	CES-D		CASP-19	
	<i>B</i> (SE)	β	<i>B</i> (SE)	β
Network Diversity	0.07 (0.20)	0.01	-0.35 (0.93)	0.01
Network Support	-0.01 (0.02)	-0.03	0.35*** (0.09)	0.22***
Network Contact	-0.00 (0.01)	-0.02	0.03 (0.05)	-0.04
Self-Perceived Social Status	-0.01* (0.01)	-0.14*	0.15*** (0.02)	0.33***
Social Activities in Public Setting	-0.03 (0.03)	-0.08	0.02 (0.12)	0.01
Civic Participation	0.06 (0.08)	0.05	-0.04 (0.35)	-0.01
Social Group Membership	0.08 (0.11)	0.04	0.18 (0.51)	0.02
Community Group Membership	-0.06 (0.09)	-0.04	0.29 (0.43)	0.04
<i>R</i> ² Estimate	0.07***		0.26***	

Note: *N* = 311, *B* = Unstandardized Estimate, β = Standardized Estimate, SE = Standard Errors, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

TABLE 6.4 STUDY ONE: ESTIMATES FOR INDIVIDUALS FULLY WITHDRAWN FROM THE LABOUR MARKET AT BASELINE (WAVE 6)

Forms of Social Capital (Wave 6)	Subjective Wellbeing (Wave 7)			
	CES-D		CASP-19	
	B (SE)	β	B (SE)	β
Network Diversity	0.25 (0.15)	0.04	0.11 (0.71)	0.00
Network Support	-0.03** (0.01)	-0.10**	0.31*** (0.05)	0.19***
Network Contact	-0.01 (0.01)	-0.04	0.03 (0.03)	0.03
Self-Perceived Social Status	-0.02*** (0.00)	-0.19***	0.14*** (0.01)	0.30***
Social Activities in Public Setting	0.01 (0.01)	0.02	0.10 (0.07)	0.05
Civic Participation	-0.04 (0.04)	-0.04	0.52** (0.20)	0.08**
Social Group Membership	-0.15** (0.06)	-0.08**	1.06*** (0.29)	0.11***
Community Group Membership	-0.00 (0.05)	0.00	0.66** (0.24)	0.08**
<i>R</i> ² Estimate	0.13***		0.32***	

Note: N = 984, B = Unstandardized Estimate, β = Standardized Estimate, SE = Standard Errors, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

estimation and again controlling for all demographic and socioeconomic variables. The results indicate that for individuals working but not in receipt of a pension, there were statistically significant paths from social network support to the CASP-19 and CES-D scales ($\beta = 0.21, p \leq 0.001$ and $\beta = -0.11, p \leq 0.05$ respectively); from social network contact to the CES-D scale ($\beta = 0.12, p \leq 0.05$); and self-perceived social status and scores on the CASP-19 and CES-D scales ($\beta = 0.33, p \leq 0.001$ and $\beta = -0.13, p \leq 0.001$ respectively). For bridge employees, there were significant paths from social network support and self-perceived social status and scores on the CASP-19 scale ($\beta = 0.22, p \leq 0.001$ and $\beta = 0.33, p \leq 0.001$ respectively) and self-perceived social status and the CES-D ($\beta = -0.14, p \leq 0.05$). For individuals fully withdrawn from the labour market there were statistically significant paths from social network support ($\beta = 0.19, p \leq 0.001$), self-perceived social status ($\beta = 0.30, p \leq 0.001$), civic participation ($\beta = 0.08, p \leq 0.01$), social group membership ($\beta = 0.11, p \leq 0.001$) and community group membership ($\beta = -0.08, p \leq 0.01$) and scores on the CASP-19 research measure. There were also statistically significant paths from social network support ($\beta = -0.10, p \leq 0.01$), self-perceived social status ($\beta = -0.19, p \leq 0.001$) and social group membership ($\beta = -0.08, p \leq 0.05$) on the CES-D scale.

6.3 HYPOTHESIS TESTING

H1 Social capital will be positively associated with subjective wellbeing.

This was supported across almost all forms of social capital. Mean scores on both the CASP-19 and CES-D scales were higher for the highest levels of social capital investment than for the lowest. The path analysis showed that the strongest paths were from social network support ($\beta = -0.08, p \leq 0.001$, and $\beta = 0.20, p \leq 0.001$ respectively) and self-perceived social status ($\beta = -0.17, p \leq 0.001$ and $\beta = 0.31, p \leq 0.001$ respectively) with regards to scores on the CES-D and CASP-19 scales. There were further statistically significant paths from social network contact and scores on the CES-D scale ($\beta = -0.05, p \leq 0.05$) and social activities in a public setting, civic participation, social group membership and community group membership and scores on the CASP-19 scale ($\beta = 0.05, p \leq 0.05$; $\beta = 0.06, p \leq 0.01$; $\beta = 0.06, p \leq 0.01$; and $\beta = 0.04, p \leq 0.05$ respectively). However, apart from social network support and self-perceived social status which were statistically significant across all three labour force participation types, the statistical significance of the paths from social capital to subjective wellbeing for bridge employees was most like those of individuals working and not in receipt of pension rather than those fully withdrawn from the labour market. Other than civic participation which was statistically

significant for the fully working group, all other estimates for the bonding and bridging types of social capital were not statistically significant for those working with no pension or bridge employees. As mentioned above, for those fully withdrawn from the labour market, almost all forms of bonding and bridging social capital produced statistically significant results on both subjective wellbeing outcome variables.

H2 The relationship between social capital and subjective wellbeing will be moderated by labour force participation types.

This hypothesis was supported using multigroup analysis. After testing for measurement invariance across the three groups, each labour force participation type was then analysed separately to test the effects of social capital on subjective wellbeing. Social network diversity was not statistically significant for any group, whilst social network support produced very similar results on the CASP-19 scale (working with no pension, $\beta = 0.21$, $p \leq 0.001$; bridge employee $\beta = 0.22$, $p \leq 0.001$; and fully withdrawn from the labour market $\beta = 0.19$, $p \leq 0.001$) and the CES-D scale for those working but not in receipt of a pension ($\beta = -0.11$, $p \leq 0.05$) and the fully withdrawn from the labour market group ($\beta = -0.10$, $p \leq 0.01$), although it was not statistically significant for bridge employees. Self-perceived social status was also very similar for the three groups: working with no pension, $\beta = -0.13$, $p \leq 0.01$ on the CES-D scale and $\beta = 0.33$, $p \leq 0.001$ on the CASP-19 scale. Bridge employees: $\beta = -0.14$, $p \leq 0.05$ on the CES-D scale and $\beta = 0.33$, $p \leq 0.001$ on the CASP-19 scale. Fully withdrawn from the labour market: $\beta = -0.19$, $p \leq 0.001$ on the CES-D scale and $\beta = 0.30$, $p \leq 0.001$ on the CASP-19 scale). Social network contact was only statistically significant for the working with no pension group and the CES-D scale ($\beta = 0.12$, $p \leq 0.05$), however, the analyses produced very different results for the bonding and bridging distinctions between forms of social capital. For those working but not in receipt of a pension only civic participation and scores on the CASP-19 scale were statistically significant ($\beta = 0.09$, $p \leq 0.05$), for bridge employees, none of the four bonding or bridging forms of social capital were statistically significant. However, for those fully withdrawn from the labour market, civic participation ($\beta = 0.08$, $p \leq 0.01$), social group membership ($\beta = 0.11$, $p \leq 0.001$) and community group membership ($\beta = 0.08$, $p \leq 0.01$) were all significant on the CASP-19 scale, whilst social group membership was significant on the CES-D scale ($\beta = -0.08$, $p \leq 0.01$). Civic participation, social group membership and community group membership had statistically significant paths to subjective wellbeing, whilst those fully working did not. However, when considering the more generic aspects of social capital, such as social network diversity

(which was not significant for either form of labour force participation), social network support (working with no pension; $\beta = -0.11$, $p \leq 0.05$ on the CES-D scale and $\beta = 0.21$, $p \leq 0.001$ on the CASP-19 scale and fully withdrawn from the labour market; $\beta = -0.10$, $p \leq 0.01$ on the CES-D scale and $\beta = 0.19$, $p \leq 0.001$ on the CASP-19 scale), social network contact (which was only significant for the working with no pension group on the CES-D scale ($\beta = -0.12$, $p \leq 0.05$)) and self-perceived social status (working with no pension; $\beta = -0.13$, $p \leq 0.01$ on the CES-D scale and $\beta = 0.33$, $p \leq 0.001$ on the CASP-19 scale and fully withdrawn from the labour market; $\beta = -0.19$, $p \leq 0.001$ on the CES-D scale and $\beta = 0.30$, $p \leq 0.001$ on the CASP-19 scale), both forms of labour force participation had similar results.

H3 Bonding social capital will have a stronger positive association with subjective wellbeing than bridging social capital.

This was supported with scores on the CASP-19 being greater for social group membership ($\beta = 0.11$, $p \leq 0.001$) and community group membership ($\beta = 0.08$, $p \leq 0.01$) than social activities in a public setting (which was not statistically significant on either scale), although scores for civic participation ($\beta = 0.08$, $p \leq 0.01$) matched that of community group membership. With respect to scores on the CES-D scale only the path for social group membership was statistically significant ($\beta = -0.08$, $p \leq 0.01$), which again supports the hypothesis.

6.4 ADDITIONAL ANALYSES

However, considering the intricacies of the retirement process, it is also important to now conduct analyse separately on each variable in order to provide a more nuanced understanding of the relationships between the variables. When analysing data through the use of ANOVA (Analysis of Variance) a post-hoc test allows the researcher to determine which variables in particular have significant relationships with others. Analysis in study two has not used ANOVA, however, a type of post-hoc test will still be of great use when considering which variables are of the greatest significance in the lives of these individuals. When analysing data through IBM AMOS, in order to determine whether there are any statistically significant differences between variables in separate groups, a series of critical ratios are calculated. This figure (if between -1.92 and +1.92) shows if the difference between variables is significant. This kind of post-hoc test is especially important when

considering that one of the main findings of this thesis is that there is little difference between those in bridge employment and those who have yet to take their pensions.

TABLE 6.5 CRITICAL RATIOS BETWEEN LABOUR FORCE PARTICIPATION TYPES ON THE CASP-19 SCALE

	Working but not in receipt of a pension and Bridge Employment	Working but not in receipt of a pension and Full withdrawal from the labour market	Bridge Employment and Full withdrawal from the labour market
Network Diversity	0.896	0.837	-0.286
Network Support	0.005	-0.494	-0.428
Network Contact	-0.097	-0.032	0.081
Self-Perceived Social Status	-0.125	-0.571	-0.349
Social Activities in Public Setting	-0.822	-0.357	0.615
Civic Participation	-1.335	-0.101	1.407
Social Group Membership	0.211	2.03	1.5
Community Group Membership	1.062	-0.88	-1.94

TABLE 6.6 CRITICAL RATIOS BETWEEN LABOUR FORCE PARTICIPATION TYPES ON THE CES-D SCALE

	Working but not in receipt of a pension and Bridge Employment	Working but not in receipt of a pension and Full withdrawal from the labour market	Bridge Employment and Full withdrawal from the labour market
Network Diversity	0.797	2.216	1.004

Network Support	1.092	0.127	-1.112
Network Contact	-1.403	-1.231	0.517
Self-Perceived Social Status	-0.164	-1.06	-0.723
Social Activities in Public Setting	-1.858	-0.946	1.269
Civic Participation	1.243	0.201	-1.219
Social Group Membership	0.998	-0.783	-1.785
Community Group Membership	-0.555	-0.05	0.578

Highlighted in bold are those results that are statistically significant from one Isbour force participation type to another. Scores on the CASP-19 scale for community group membership were statistically significantly different between bridge employees and those fully withdrawn from the labour market. Scores on the CES-D scale were statistically significantly different between those fully withdrawn from the labour market and those working but not receipt of a pension.

Community group member ship was not a significant predictor of subjective wellbeing when measured on the CASP-19 scale for those working but not in receipt of pension, however, when fully withdrawn from the labour market, individuals are significantly different in comparison. Furthermore, network diversity was not a significant predictor of subjective wellbeing when measured on the CES-D scale for those fully withdrawn from the labour market nor those working but not in receipt of a pension, however, they were significantly different from one another as measured by the critical ratios test. The following chapter will now detail the data analyses for study two.

CHAPTER 7: STUDY TWO: DATA ANALYSIS

7.1 INTRODUCTION

This chapter will now present the data analysis for study two which was conducted using waves 5, 6 and 7 of the English Longitudinal Study of Ageing (ELSA) (Marmot et al., 2016). Individual resources and life satisfaction was measured at wave 5 and life satisfaction again at waves 6 and 7. Changes and levels of life satisfaction were therefore measured at each wave but also between waves 5 and 6, and waves 6 and 7.

7.2 LATENT GROWTH MODELLING

Levels and changes in life satisfaction across all three waves were estimated using latent growth curve modelling in IBM AMOS(v24). Measurement invariance was first determined for scores across time and groups. Two growth factors were then regressed onto the three measures of life satisfaction to estimate its level (intercept) and change (slope). The factor loadings of the intercept were constrained to 1 and the loadings for the slope were fixed to 0, 1 and 2 for waves 5, 6 and 7 respectively. Effects were measured separately for workers and transitional retirees (see Table 7.1). The measurement model showed good fit indices, $\chi^2(92) = 223.412$, $p \leq 0.001$; $CFI = 0.922$; $RMSEA = 0.047$, $CI [0.039, 0.055]$. As predicted, financial security (net non-pension wealth) was positively related to levels of life satisfaction but not to changes in life satisfaction for transitional retirees. Self-reported health was positively associated with levels of life satisfaction in both groups and changes for workers, as hypothesised, however, cognitive ability was not significantly related to any dependent variables. As predicted, autonomy was significantly positively associated with both levels and changes in life satisfaction for workers and transitional retirees, whilst social support did not have a significant positive relationship with changes in life satisfaction, but it did with levels for workers.

TABLE 7.1 STUDY TWO: LATENT GROWTH MODELLING

Variable	Workers						Transitional Retirees					
	Intercept (Level of Life Satisfaction)			Slope (Change in Life Satisfaction)			Intercept (Level of Life Satisfaction)			Slope (Change in Life Satisfaction)		
	<i>b</i>	β	<i>SE</i>	<i>b</i>	β	<i>SE</i>	<i>b</i>	β	<i>SE</i>	<i>b</i>	β	<i>SE</i>
Age	-0.08	-0.03	0.14	-0.01	0.02	0.06	0.04	0.01	0.15	-0.12	-0.17	0.07
Sex	-0.46	-0.05	0.55	0.64**	0.25**	0.24	-1.13*	-0.11*	0.57	0.53*	0.21*	0.26
Education	-0.21	-0.03	0.34	0.24	0.15	0.15	0.00	0.00	0.35	-0.00	-0.00	0.16
Marital Status	-1.71**	-0.15**	0.61	0.85**	0.28**	0.27	-3.41***	-0.28***	0.67	0.70*	0.24*	0.30
Net Non-Pension Wealth	0.42*	0.13*	0.18	-0.03	0.13	0.08	0.25	0.06	0.22	0.12	0.13	0.10
Autonomy	1.27***	0.35***	0.21	-0.22*	-0.23*	0.09	1.39***	0.37***	0.22	-0.28**	-0.32**	0.10
Social Support	0.67***	0.20***	0.19	0.06	0.07	0.08	0.32	0.09	0.21	0.02	0.03	0.10
Self-Reported Health	0.64*	0.12*	0.30	-0.32*	-0.23*	0.13	0.75*	0.13*	0.33	0.17	0.12	0.15
Depression	-1.26*	-0.13*	0.53	0.24	0.09	0.23	-1.98***	-0.19***	0.57	0.37	0.15	0.26
Cognition	0.05	0.01	0.05	-0.06	-0.07	0.08	-0.05	-0.01	0.19	-0.14	-0.17	0.09
Model Fit	$\chi^2(92) = 223.412, p \leq 0.001; CFI = 0.922; RMSEA = 0.047, CI [0.039, 0.055]$											
R²	0.34			0.30			0.39			0.25		

7.3 HYPOTHESES TESTING

H4 Higher levels of financial security (net non-pension wealth) will be positively associated with increased levels and changes of life satisfaction.

For workers, wealth was positively related to the level of life satisfaction ($\beta = 0.13$, $p \leq 0.01$), whilst it was not significantly related to changes in life satisfaction for transitional retirees ($\beta = 0.13$, $p > 0.05$).

H5 Self-reported health will be positively associated with levels and changes in life satisfaction

Health was positively related to levels of life satisfaction for both workers and transitional retirees ($\beta = 0.12$, $p \leq 0.05$; $\beta = 0.13$, $p \leq 0.05$ respectively). However, health was found to be negatively associated with changes in life satisfaction of workers ($\beta = -0.23$, $p \leq 0.05$).

H6 Cognitive ability will be positively associated with levels and changes of life satisfaction.

H6 was not supported.

H7 Autonomy will be positively associated with levels and changes of life satisfaction.

It was found to be positively related to levels of life satisfaction for both workers and transitional retirees ($\beta = 0.35$, $p \leq 0.001$; $\beta = 0.37$, $p \leq 0.001$ respectively). However, autonomy was found to be negatively related to changes in life satisfaction for workers and transitional retirees alike ($\beta = -0.23$, $p \leq 0.05$; $\beta = -0.28$, $p \leq 0.01$ respectively).

H8 Social support will be positively associated with levels and changes in life satisfaction

H8 was not supported.

This chapter has presented the results of data analysis for study two, including descriptive statistics, means comparisons, path analyses and latent growth modelling. It has focussed on levels and changes in life satisfaction. The following chapter will now provide a discussion of the findings focussing on how these results relate to extant literature. Limitations of this study and future research avenues are also considered.

CHAPTER 8: DISCUSSION AND CONCLUSIONS

8.1 INTRODUCTION

This chapter presents the key findings from both sets of data analysis. The results are evaluated within the context of extant retirement literature. Following this, implications for relevant theory and practice are addressed, as are the study's limitations and possibilities for future research.

8.2 STUDY ONE

8.2.1 KEY FINDINGS

When considering the results from tests in study one, they suggested that for older adults aged 50 and over there was a statistically significant relationship between individual-level social capital investments and activities and subjective wellbeing (as measured by the 19 item Control, Autonomy, Self-realisation and Pleasure scale (CASP-19) (Hyde et al., 2003) and the Centre for Epidemiological Studies Depression Scale (CES-D) (Rasloff, 1977)). This was after controlling for potential confounding variables such as gender, age, marital status, educational attainment, ethnicity, the presence of long-standing and limiting illness and net non-pension total wealth. Social network support, self-perceived social status and social group membership were all statistically significantly negatively related to scores on the CES-D scale (a 1-unit increase in: social network support resulted in a decrease of -0.11 units on the CES-D scale; self-perceived social status in a decrease of -0.14; and social group membership a decrease of -0.06). Meanwhile, social network support, self-perceived social status, social activities in a public setting, civic participation and social group membership were all statistically significantly positively related to scores on the CASP-19 scale (a 1-unit increase: social network support resulted in an increase of 0.20 in units on the CASP-19 scale; self-perceived social status an increase of 0.31; social activities in a public setting an increase of 0.05; civic participation an increase of 0.06; and social group membership an increase of 0.06). There were no statistically significant paths from social network

diversity, social network contact or community group membership to either the CES-D nor CASP-19 scales. However, on the CASP-19 scale, scores for network diversity were statistically significantly different between those fully withdrawn from the labour market and bridge employees. Scores on the CES-D scale were also statistically significantly different between those fully withdrawn from the labour market and those working but not in receipt of a pension for community group membership.

These results highlight the importance of social capital in the lives of older adults, and offer a greater understanding of what particular lifestyle choices and circumstances can promote better wellbeing in older adults (Netuveli, Wiggins, Hildon, Montgomery, & Blane, 2006). For the retiree, having close friends or family that can be relied upon and understand how they feel is highly related to subjective quality of life and low levels of depression. Furthermore, leading an active social life through membership of clubs and societies such as exercise classes, arts or music groups or neighbourhood watches, also contributes to an improved sense of belonging and status. In a manner similar to the concepts proposed by Jahoda (1981) and Mor-Barak (1995), replacing some of the functions of work, particularly social connectedness, structure and meaning seems to compensate for withdrawal from the labour market and enrich people's lives, improving subjective wellbeing.

The finding, that social network support, self-perceived social status, social group membership, social activities in a public setting, civic participation and social group membership all lead to higher levels of subjective wellbeing in older adults is widely supported in the literature. Steptoe, Shankar, Demakakos, and Wardle (2013) found that social isolation in men and women aged 52 and over was associated with lower levels of wellbeing and quality of life and even higher levels of mortality. Furthermore, findings from Cornwall, Laumann, and Schumm (2008) support the notion that later life events such as retirement can stimulate greater social connectedness, which in turn can lead to a better sense of wellbeing.

The findings are inconsistent, however, with some research that suggests old age leads to a reduction in social connectedness. In other words, there is no scope for an increase in social activities to increase wellbeing as social networks are universally reduced due to age and social disengagement (Besser, 2009). This view seems to be partially supported by the lack of statistically significant results for measures of social network diversity, social network contact or community group membership. However, De Jong Gierveld and Fokkema (1998) highlight the difficulties in providing a generic term

that has the same meaning to all. They studied geographical differences and how this affected the social networks of adults and found that there were significant variations between the diversity and contact an individual had with their social network but also, crucially, differences between how much contact an individual needed to sustain subjective wellbeing based on their living circumstances, in this case their geographical location (for example, rural or urban). In other words, for some, having regular contact with only a few members of their social network was sufficient whereas for others they needed much more.

Furthermore, the results suggested that for bridge employees, the effects of social capital on subjective wellbeing were most like those working but not in receipt of a pension. It could be that, as suggested by the work of Mor-Barak (1995), the generative, financial, personal and social reasons for continuing to work are over-riding the 'pull' factors associated with future post-work activities and social connectedness. Older workers are obviously still in employment and so can still derive pleasure and wellbeing from work-based social elements.

Moreover, some of the antecedents to bridge employment identified in the literature, such as organisational commitment, job satisfaction, as well as the social reasons for work, which draw people to work post-retirement, must be significant in the lives of bridge employees. Their significance could be the reason why individuals are still focused on work and the benefits it provides. This is corroborated by research conducted by Cornwall et al. (2008) who acknowledged that if the removal of work has had a negative impact on their social lives, then older adults will seek to gain back control over their social environments. However, as bridge employees are still working, albeit in a potentially reduced form, they are yet to feel the isolation that full retirees' lack of work and reduced social networks can bring and so are yet to feel the need to regain control over any loss of social connectedness. This was evidenced when making the distinction between bonding and bridging social capital. The largest difference between those fully withdrawn and the other two labour force types was the significance of bonding social capital. For full retirees, there were significant positive relationships between bonding social capital and subjective wellbeing. Essentially, full retirees were seeking to regain the close social bonds that they had experienced whilst at work.

Recent research has produced mixed results when examining how social capital can affect the lives of older adults. Some have argued that as individuals age they become less socially connected,

whilst others have said that once retired especially, social capital surges, whilst still others simply acknowledge the complexity of the processes involved (Carrasco & Bilal, 2016; Cornwall et al., 2008; Wallace, 2013).

Cornwall et al. (2008) concluded that, for older adults, increases in social connectedness through social and community-based groups could be viewed as a reaction to the decline of more interpersonal relationships whilst working. However, they also state that their findings suggest the relationship between old age and organised group membership is not statistically significant. The association between older, post-work age and the active participation in social activities is clearly one that is intricate and difficult to unpick.

Putnam (2000) offered the explanation that it was merely a generational divide; older adults were more likely to engage in social and civic activities because it was the norm for their age bracket. However, other social scientists such as Baltes and Carstensen (1996), stressed that whilst older adults may indeed be adhering to social norms, they are nevertheless still striving to replace lost social connections and attempt to, "...regain control over their social environments" (Cornwall et al., 2008, p. 200).

Having detailed the key findings, the following section considers the contribution of the thesis and implications for theory and practice.

8.2.2 CONTRIBUTION AND IMPLICATIONS

The contribution to knowledge that the results from study one can be considered two-fold; firstly, viewing the research through a social capital lens has allowed greater insight into the benefits of social networks to older adults. Secondly, including bridge employment into analysis of labour force participation alongside the extremes of working with no pension or fully withdrawn from the labour force, is, to the author's knowledge, another distinctive feature of the thesis. Findings suggest that for older workers in general, social capital is significantly related to subjective wellbeing. The relationship is strongest for fully withdrawn retirees, with bridge employees seemingly not experiencing the same connection, rather, the association between social capital and subjective wellbeing is more like that for those working with no pension.

Research into bridge employment is becoming more and more crucial. As the workforce ages, bridge employment is becoming more and more appealing (Bowlus, Mori, & Robinson, 2016), both to employees to transition more smoothly to full retirement, and employers seeking to resolve issues surrounding potential shortages in labour and consequent loss of vital skills and experience. This is particularly relevant at present as the largest section of workers, the baby boomers, are themselves preparing to fully withdraw from the labour market (Bennett et al., 2016). Bridge employment can provide better financial security, fulfil generativity needs and provide a means to benefit from continued social activities and connectedness. The need to explore what impacts the psychosocial wellbeing of this section of society is therefore growing in importance (Rowe & Kahn, 1997).

By including bridge employment into a study of how labour force participation and social capital can affect the subjective wellbeing of older adults, this thesis has furthered the knowledge into what constitutes a successful and well-adjusted retirement transition. Previous research had centred mostly on the antecedents of bridge employment paths or, if wellbeing was included as a dependent variable, it was done so with bridge employees in isolation. Having three distinct labour force participation types helps to illuminate the potential changes and differences across the retirement transition.

Having more targeted policies, that seek to improve the subjective wellbeing of older adults, are a consequence of having this type of analysis. Furthermore, as this thesis's findings suggest, if the investment by individuals into social capital is to be considered part of improving subjective quality of life and retirement satisfaction, then older adults need to be supported in building up their social networks and increasing participation in social activities (Bowling & Dieppe, 2005) by appropriate policy changes and incentives.

Volunteering has long been viewed by policy makers as a significant marker for social capital, with improving involvement with the wider community and civic participation seen as fundamental in promoting cooperative activities, thus increasing social trust (Hardill, 2003). Making older adults more aware of the opportunities and benefits of voluntary work should, therefore, be a priority. Furthermore, using the skillsets of retirees more effectively can stimulate a sense of community attachment and reduce feelings of social isolation. Moreover, as Brandt and Deindl (2013) point out, the more public assistance provided to older adults (for example, greater access to social activities and services), the more likely they are then able to offer additional help to children and grandchildren, thus creating an

intergenerational transfer of practical and financial support. Greenfield and Marks (2004) found that volunteering protected older adults against the negative effects of role loss that can sometimes accompany retirement. The protection arose because they had more social support with similar individuals, thus increasing their levels of bonding social capital and adding further support to this thesis's findings that older adults, especially those fully withdrawn from the labour market, could benefit from the social connectedness volunteering can provide.

Public or state assistance could also come in the form of improved pension choice, whilst keeping it as simple as possible, and making sure that retirees are fully informed about what is available. However, the tendency towards early retirement and bridge employment has meant that employers are effectively 'pushing' older workers out of the labour market (Vickerstaff, Cox, & Keen, 2003). Providing work based incentives that promote the development of social capital could help to 'pull' older workers to stay at organisations, although this would first mean acknowledging that older workers had skillsets that were worth keeping. Alternatively, work based policies might be best suited focusing on providing more opportunities to work flexibly, perhaps working fewer hours or with less responsibility. Encouraging bridge employment, for example, could also appeal to employers as they would be able to retain the skills and experiences accumulated over a lifetime of work that would otherwise be lost to the organisation and almost impossible to substitute (Johnson, 2011). Policies geared towards the promotion of flexible working might be the preferred direction to take when considering this thesis' findings, that investment in social capital did not have as significant an effect on subjective wellbeing for those working with no pension and bridge employees than those fully withdrawn from the labour market.

Furthermore, the finding that bridge employees do not seem to have as significant relationship with social capital as those fully withdrawn from the labour market, also has implications for how this segment of the workforce can be supported through their retirement trajectory. Research thus far has suggested that organisations with human resource practices that are tailored to older workers can be the most attractive to work for (Armstrong-Stassen, 2008). In addition, given that perceived job control and demands can help to predict early retirement (Elovainio et al., 2005), greater emphasis on the psychosocial aspects work provides older workers could, therefore, lead to better retention levels and higher levels of subjective wellbeing (Björklund, Erlandsson, Lilja, & Gard, 2015) rather than investment in social capital.

However, depending on the definition of bridge employment used, it could be problematic identifying individuals who are within this subset of late-life workers. This is perhaps due to one such definition describing bridge employment as, "...the labor force participation patterns observed in older workers between their career jobs and complete labor force withdrawal." (Shultz, 2003, p. 215). The problem lies in the description of a 'career job' which has been, "...portrayed as increasingly irrelevant in a world where organizations are either unwilling or unable to offer job security..." (Clarke, 2013, p. 684).

Despite this view, there are a plethora of 'careers' that have been proposed, not simply an 'organisational career'. The 'boundary-less career' (Arthur, Khapova, & Wilderom, 2005), 'protean career' (Briscoe, Hall, & DeMuth, 2006) and the 'kaleidoscope career' (Mainiero & Sullivan, 2005) have all been suggested as alternative employment paths in extant literature. Consequently, it could be said that the notion of a career has not disappeared, rather it has developed into something different; a more personal idiosyncratic experience. Furthermore, this thesis has used an alternative description of bridge employment, thus avoiding any problems in defining a career. Bridge employment can also be conceptualised as the continuation of work (working whilst receiving some form of monetary remuneration) and simultaneously receiving a pension income, be it a state pension or private/occupational (Davis, 2003; Topa, Alcover, Moriano, & Depolo, 2014).

8.3 STUDY TWO

8.3.1 THE NEED TO CONSIDER THE WIDER CONTEXT OF RETIREMENT

The results from study one that studied a wide range of ages and stages within the retirement process were valid and reliable. However, it was argued that failure to consider the societal, economic and political landscape in which retirees were situated ultimately resulted in limiting the extent to which the implications of the study could be applied.

Viewing retirement and retirement transitions through a life-course perspective lens, the contexts surrounding an individual can be expected to help shape subjective wellbeing and life satisfaction (Hershey & Henkens, 2014). Due to withdrawal from the labour market being, potentially, a huge event in the lives of retirees, and one that has a variety of possible complicated outcomes, past and future events can be consequently altered and perceived radically differently by the individual. This

can be confounded by the fact that the social support supplied by work and the identity-reinforcing nature of that support is removed when leaving work. Furthermore, if the retirement transition is experienced 'out of sync' with contemporaries, then there will be the potential for a lack of support from these individuals also.

Leaving full-time employment also requires a change in role by the retiree, which is another major life event, especially when viewed through a life-course perspective lens. The role of worker that has been adopted for several decades is now replaced by the role of 'retiree', which is one that is, thus far, alien to the individual (Feldman, 1994). This role transition is also potentially experienced alongside other major life events, such as the onset of health-related conditions, marital breakdowns, cognitive decline etc.

8.3.2 KEY FINDINGS

When considering the results from tests in study two, it was suggested that for older workers aged between 60 and 66, financial security was positively related to increased levels of life satisfaction but was not significantly related to changes in life satisfaction for those transitioning to full retirement. Self-reported health was positively related to levels in life satisfaction for older workers and transitional retirees but not to changes in life satisfaction for workers. Hypotheses relating to cognitive ability were found to be not statistically significant, however, autonomy was found to be positively related to levels in life satisfaction for workers, whereas the hypotheses relating to a positive relationship with changes in life satisfaction for both workers and transitional retirees was not supported. Hypotheses 5 was also not supported as social support was not found to be positively related to changes in life satisfaction. These results highlight the importance of resources in the lives of older workers and those transitioning to full withdrawal from the labour market. Financial security and health were found to have the strongest relationships with life satisfaction.

The finding of study two, that indicates cognitive ability not to be a significant predictor of satisfaction with life, among the 60 to 66 year olds going through the retirement transition, is surprising given the breadth of extant literature that would suggest otherwise. However, it is perhaps the reasons for improved cognitive ability that research has identified that can provide the reason for the disparity. Research has shown that physical activity, for example, can help to improve cognition among older adults. It could, therefore, simply be the case that the sample obtained for study two did not contain

enough individuals who were partaking in strenuous exercise, for example, to allow for the conceptual link to provide positive results. Netz, Wu, Becker, and Tenebaum (2005) conducted a meta-analysis of intervention studies to investigate the link between physical activity and cognitive wellbeing in older adults. They found a significant positive relationship between the two and suggested that it was due to self-efficacy and the belief that an individual has in their own capabilities. Lautenschlager et al. (2008) also found, after a randomized trial, that physical activity improved cognitive function. Interestingly, the results of study two's hypothesised relationship between self-reported physical health and wellbeing was found to be significant. However, the apparent contradiction may be down to how self-reported physical health was measured. In study two, it is measured through a self-evaluation tool. It has been noted in the literature that objective measures of physical health are not always matched by their more subjective counterparts (see, for example, Gorber, Tremblay, Moher, & Gorber, 2007). One reason is that other factors can affect how an individual might view their current situation. Financial security can lead to a more positive outlook, with the findings of study two also suggesting that better finances, especially when transitioning through retirement, can improve life satisfaction and alter a person's perception of their actual physical and emotional state (Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007).

The significant positive relationship identified between autonomy and life satisfaction is another key finding of this thesis. This is widely reported in extant literature (Kasdan & Rottenberg, 2010), in fact, it has also been linked to other positive aspects of an individual's psyche such as gratitude (Wood, Froh, & Geraghty, 2010), coping (Bonanno & Burton, 2013) and positive adjustment (Bonanno & Diminich, 2013). For the older worker, these positive outcomes of improved autonomy have also been linked to increased levels of life satisfaction, due to being able to better adjust and cope with the new role of retiree, especially during the actual transition.

8.3.3 DIFFERENCES BETWEEN DATA ANALYSES

Whilst study one suggested that social support was a primary driver for subjective wellbeing, this was measured for a wide range of ages. When studying the actual transitional period (study two), this was not reflected in the results. Instead, financial security and self-reported health were statistically significantly positively related to levels and changes in life satisfaction. Research into retirement transitions is also becoming more and more crucial, if providing enough support to an ageing workforce

is to be possible. As with study one, results in study two suggest that there needs to be more targeted policies towards this section of society. However, before any discussions on how the findings in the current study can begin, it is also crucial to remember that, as with study one, the limitations of the research are also considered. Whilst a limitation connected to study one was that investment in social capital could be linked to financial resources. Study two was only focused on the actual transitional period covering 60 to 66 years old and so attempted to limit this effect. Study two also attempted to remove the issue of the two-wave longitudinal design that was employed initially. Having three waves of ELSA used in the design could better account for fluctuations in employment, especially as participants were grouped specifically due to their employment transitions. Furthermore, by focusing on a much smaller range of ages, it was able to better acknowledge the possible effects of social, economic and political contexts in which the retirement transition was situated.

With regards to study two, it was assumed that focusing on a smaller band of ages would allow more appreciation of contextual issues surrounding the retirement transition. However, having a more explicit recognition of these issues would help to confirm the importance of the influence arising from wider society. Therefore, including social support elements for example, that acknowledge what Kim and Moen (2002, p. 213), describe as 'linked lives', will improve the current study and allow future research to incorporate the notion that lives are interdependent and that any developmental process must always occur within the context of others' lives and retirement experiences.

8.4 FUTURE RESEARCH

If focusing purely on the data analyses connected with study one, then expanding the concept of bridge employment to include its career-based and alternative-field forms would allow more detailed research into social capital and its relationship with retirees. As stated previously, research has suggested that there are different antecedents and consequences for the different types of bridge employment. Any differences in the bridge employment landscapes between career-based and alternative-based, therefore, have the potential to produce social capital investments that differ in significance and ability to affect subjective wellbeing.

Whilst study two incorporated three waves of ELSA, an even longer design covering multiple waves might yield more comprehensive results. Rafnsson et al. (2015) studied the longitudinal

influences of several aspects of social networks on the subjective wellbeing of older adults, for example. Their research design covered six years of ELSA, with the baseline set at wave 2 and follow-up data collected at wave 5. Their results suggested that social network support and contact were statistically significantly related to subjective wellbeing, although they used labour force participation as a co-variable and not as a means to separate the sample into distinct groups. Their research showed that social network characteristics seemed to be related to older adults' wellbeing levels six years later. Their work is an endorsement of the recommendations made by Wang et al. (2011) who suggested that a resource-based dynamic approach spanning several years was perhaps the preferable way to approach such research.

Considering that retirees may change their labour force participation multiple times (Maestas, 2010), having such a framework would enable a researcher to see the correlations of changes in work status, social connectedness and overall adjustment and/or satisfaction with the retirement process. However, there is also the possibility for revisions to the theoretical underpinning of the current thesis that could uncover more of the complex nature of retiree's relationship with labour force participation and its social elements. Feldman and Beehr (2011), for example, recommend adopting self-categorization theory or a social normative approach as potential avenues for future research. Self-categorization theory could allow researchers to consider how retirees categorize themselves, perhaps as an older worker or a retiree and how this would affect decision making and adjustment to retirement. A social normative approach could enable the examination of difference between various organisational norms and what was the appropriate age for retirement and into what post-retirement activities one should enter.

Looking at what are the socially accepted norms for retirees within different organisations and different labour force participation types, with regards to investment in social capital, are therefore a possible avenue for future research. Furthermore, research into the differences in social norms and participation in activities that promote the nurturing of social capital could be on differences between the genders. Studies in this area could provide divergent results, especially as women's relationship with the retirement process can differ somewhat from the experiences that men describe. Diekmann and Eagly (2000), for example, suggested that women still had a more significant caregiving role compared to their male counterparts, which could lead to a more disrupted employment history and, therefore, a less prominent and significant retirement transition.

For female retirees, understanding the relation between social connectivity and subjective wellbeing could help to explain some of the motivations and expectations women have when it comes to entering retirement. Women are more likely to hold secondary labour market jobs, such as part-time or fixed contract (Quinn & Kozy, 1996) and with having potential restrictions on their ability to work, such as pregnancy, women can experience more exits and re-entries into the workforce than men (Davis, 2003). This can reduce the likelihood of a continuous long-term employment history and so future, post-retirement activities might look a lot different than those participated in by men. Furthermore, if the retirement landscape is different for women than for men, it could also be reasonable to consider that the relationship between activities that promote social connectivity and improved social capital, and subjective wellbeing, is therefore also different. Research into this potential disparity could offer further insights into the relationships between participation in the labour market, social capital and subjective wellbeing.

Further work has also been conducted into exactly what is meant by the term 'retirement'. The self-identification of retirement and trajectories of work disengagement could also be used as a proxy but also how the motivation to continue working in relation to actual retirement and subsequent satisfaction with the retirement process (DeWind et al., 2017). This could also have an effect on the effectiveness of any investments the retiree makes or the resources they may draw from, as they may not fully consider the future, post-retirement, and be working involuntarily (Feldman & Beehr, 2011).

Furthermore, research by Fisher, Stachowski, Infurna, Faul, and Grosch (2014) suggests that the level of cognitive functioning, as measured by episodic memory (immediate and delayed word recall) and mental status (counting backwards from 100 in 7s and tests for orientation capacity) was higher for individuals with higher levels of mental job demands (for example, work activities that included making decisions and problem solving and thinking creatively). Moreover, post-retirement, these individuals were also partly protected from cognitive decline.

However, as with much research surrounding retirement issues and their effects on retirees, these findings are not entirely consistent across the literature. In their study that was underpinned by human capital theory, Mazzonna and Peracchi (2012) found that retirement caused a universal decline in cognitive ability. They claim this was due to retirees not being in the labour market and so not having the same incentive as workers to continue with activities that promoted cognitive ability (and therefore

increase their chances of better wages and work status). However, what neither study included was the social aspect of retirement. Studies on the effects of mental job demands and retirement itself, on cognitive functioning, could be broadened with the inclusion of social capital variables. Improved social connectedness could moderate how significant the effect of mental stimulation (or lack of it) is on cognitive ability and even subjective wellbeing if social networks were to improve cognition.

Another consequence of the ageing population is that there is a growing need to provide informal care to older relatives and more opportunities to care for grandchildren, perhaps whilst adult children are at work (Pivodic et al., 2014). Informal care provision can drastically affect social networks, both in diversity and contact. Providing informal care, despite some research suggesting caregivers often suffer from 'caregiver burden' and experience negative effects on wellbeing (Pivodic et al., 2014), can generate numerous benefits to the carer. Informal care support networks would allow a carer to share concerns, helping to develop social capital further (Carlisle, 2000).

As Horsfall, Noonan, and Leonard (2012) stated, the support networks for carers can be extensive and help to develop community engagement in addition to having a crucial role in affecting positive outcomes for the individual. Rumbold (2010) also argued that this type of civic engagement development could effectively contribute to a general model of care to be aspired to follow by the greater ageing community. Social capital can be built through the act of connecting to other carers, moreover, it is important to note that it can also become self-sustainable due to the positive effect that relationships formed with others, experiencing similar difficulties in their role as informal carer, can have on their outlook for the future and subjective wellbeing (Horsfall, Leonard, Evans, & Armitage, 2010). Future research that included informal care provision could, therefore, benefit by developing a more detailed picture of how social capital can affect older workers. Having outlined the contributions and implications and possible future research opportunities, the following section discusses its main limitations.

8.2.3 LIMITATIONS

One such limitation is that the thesis does not distinguish between multiple forms of bridge employment. As identified in the Chapter 2 relating to social capital theory, career-based, alternative-field and volunteering have all been suggested as distinct bridge employment paths (Wang et al., 2008). Had these distinctions been included, they might have produced very different results. Separate

antecedents and consequences have been suggested for different bridge employment paths within extant literature (Shultz, 2003). Wang et al. (2008) found that retirees who were younger, better educated, had better health, had experienced less stress and more satisfaction with preretirement jobs and had thought less about retirement were more likely to engage in career-based bridge employment than to fully withdraw from the labour market. They also found that retirees who fit the above criteria but crucially also had better financial security were more likely to follow bridge employment into an alternative field than to fully withdraw from the labour market, whilst retirees who had better financial security and had experienced less stress and more satisfaction in preretirement jobs were more likely to engage in bridge employment that was career-based rather than an alternative field.

Having different financial resources could affect how the investment in social capital has the potential to shape subjective wellbeing. Roberts et al. (2000) suggested that poor social functioning was linked to poor financial circumstances. In their study, the lack of financial security led to a reduction in physical and mental health which in turn led to a reduction in the desire and success in nurturing social connections and networks. Bruhn (2015) also found that significant financial loss can severely impact an individual's investment in their social network and even participation in community activities. The potential for financial security to alter subjective wellbeing and investment in social capital could therefore be significant especially when examining different bridge employment outcomes and paths. However, as mentioned previously, the concept of bridge employment was not split into its theoretical varieties and so any differences in the path analysis that would have been revealed in the present thesis, between career-based and alternative-field bridge employment, were not revealed.

Another limitation is the two-wave longitudinal design used which would be unable to account for fluctuations in employment, such as whether the retiree's employment status changed over time. It also did not include labour market relationships such as long-term sickness, unemployment or 'unretirement', when the retiree re-joins the labour market after a significant period of withdrawal (Maestas, 2010). Instead, study one examined the longitudinal effects of working with no pension, bridge employment and fully withdrawn from the labour market. Wang et al. (2011) proposed a 'resource-based dynamic process model of retirement' as a means to overcome these limitations. Their work incorporated role theory (Ashworth, 2000), continuity theory (Atchley, 1999), stage theory (Gall et al., 1997), the life course perspective (Settersten, 2003) and the resource based perspective (Hobfoll, 2002). Their integrated theoretical approach was to conceptualise the retirement trajectory as a

continually fluctuating process dependent on access and changes to individual resources, consequently, the approach can accommodate numerous patterns of individuals' adjustment. Adopting the resource-based dynamic process framework, would have allowed for a much more thorough examination of how changes in the quantity and quality of investments in social capital could affect the retirees' adjustment, satisfaction and wellbeing.

Study one sought to examine how these investments in social capital could affect subjective wellbeing. It also made the distinction between bonding and bridging social capital to assist this examination; however, it omitted a third type; linking social capital. This was done because of the difficulty in accurately mapping concepts onto an existing dataset. Linking social capital is similar to the bridging kind in that they are both outward looking, however, the difference lies in their direction; bridging social capital relates to social networks across different social and ethnic groups, whereas linking social capital is typified by norms of respect and trust across different levels of authority and influence. Operationalising linking social capital has proved difficult, perhaps because it is not fully developed or agreed upon within extant literature, both in terms of how it could be measured and its conceptualisation (Poortinga, 2012). Voting behaviour, contact with colleagues who are at different hierarchical positions and political trust are just three examples of how it has been included in research, yet none of these could be reliably tied to an existing variable in ELSA. In fact, the use of an existing dataset such as ELSA restricted what concepts could be included in the study as a whole. Testing of any hypothesis could only be done once the dataset was screened for suitable variables that were an accurate, reliable and valid representation of what was desired. Future research might be best suited to the development of a novel and bespoke dataset with greater detail on relationships with the labour market, subjective wellbeing and the nature of social capital. One of the largest limitations of the data analysis in study one, was that it failed to acknowledge the importance of the social, economic and political contexts in which retirement is situated. In addition, by including individuals from such a large range of ages, it struggled to capture the perceived subjective wellbeing of those undergoing the transition itself, something which study two sought to overcome.

8.5 SUMMARY AND CONCLUSIONS

Overall, this thesis has provided support that whilst older workers with different labour relationships may have different experiences with social capital, it is also crucial that the wider contexts

of the retirement transitions are considered. Therefore, in order to understand the full extent of how social capital and contextual issues shape the experiences of retirees, more research is needed that investigates the transitional period but with the inclusion of specific variables that relate to societal, political and economic differences.

APPENDICES

APPENDIX 1 VARIABLES USED IN THE ELSA DATASET

Concept to be Mapped	Original ELSA Variable(s)	ELSA Variable Definition	Action Taken/Re-coded Variable (if applicable)
Gender	indsex	N/A.	Sex.
Age	indager	N/A.	Age: capped at the 50-90 range.
Education	edqual	1 = nvq4/nvq5/degree or equiv, 2 = higher ed below degree, 3 = nvq3/gce A level equiv, 4 = nvq2/gce O level equiv, 5 = nvq1/cse other grade equiv, 6 = foreign/other, 7 = no qualification.	0 = no qualification, 1 = foreign/other, 2 = nvq1/cse other grade equiv, 3 = nvq2/gce O level equiv, 4 = nvq3/gce A level equiv, 5 = higher ed below degree, 6 = nvq4/nvq5degree or equiv. This was then divided into equal tertiaries; 0 = up to but not including O-Levels, 1 = O-Level and up to but not including degree and 2 = degree or over for the means comparison.
Marital Status	marstat	1 = single, never married, 2 = married (inc civil partnership) and co-habiting, 3 = divorced or separated, 4 = widowed.	1 = married/civil partnership or cohabiting, 0 = neither.

Concept to be Mapped	Original ELSA Variable(s)	ELSA Variable Definition	Action Taken/Re-coded Variable (if applicable)
Long-Standing Limiting Illness	Llsill	0 = no long-standing illness, 1 = has long-standing illness, not limiting, 2 = has limiting long-standing illness.	0 = no long-standing limiting illness, 1 = has a long-standing limiting illness.
Non-Pension Wealth	Nettotw_bu_s	N/A.	Divided into equal quartiles.
Ethnicity	Fqethnr	1 = white, 2 = non- white.	0 = non-white, 1 = white.
Social Network Diversity	scchd = whether the respondent has any children, scfam = whether the respondent has any other immediate family, scfrd = whether the respondent has any friends, scfrdl = how many friends the respondent has a close relationship with	1 = yes, 2 = non.	scchd, scfam and scfrd (where scfrdl > 0) recoded into 0 = no and 1 = yes. This then totalled into a scale ranging from 0 – 3. Lastly, when applicable was divided into two 50% splits; 1 = low, 2 = high.
Social Network Support	scfrda = how much these friends understand how respondent feels about things, scfrdb = how much respondent can rely on these friends if they have a serious problem, scfrdc = how much the respondent can open up to these friends if they need to talk, scchda, scchdb, scchdc; same as above relating to children	1 = a lot, 2 = some, 3 = a little, 4 = not at all.	All variables recoded into 0 = not at all, 1 = a little, 2 = some, 3 = a lot. each variable per kin relationship totalled to give three variables ranging from 0 – 9.

Concept to be Mapped	Original ELSA Variable(s)	ELSA Variable Definition	Action Taken/Re-coded Variable (if applicable)
	scfama, scfamb, scfamc; same as above relating to other immediate family		These three variables then summed to give a total ranging from 0 – 36. Lastly, when applicable was divided into tertiaries; 1 = lowest, 2 = middle, 3 = highest.
<i>Social Network Contact</i>	scchdh = how often the respondent meets up with their children on average, scchdi = how often the respondent speaks on the phone to their children, scchdj = how often the respondent writes to or emails their children, scchdk = how often the respondent sends or receives text messages from their children scfamh, scfami, scfamj, scfamk; same as above relating to other immediate family scfrdh, scfrdi, scfrdj, scfrdk; same as above relating to close friends	1 = three or more times a week, 2 = once or twice a week, 3 = once or twice a month, 4 = every few months, 5 = once or twice a year, 6 = less than once a year or never.	All variables recoded into 0 = less than once a year or never, 1 = once or twice a year, 2 = every few months, 3 = once or twice a month, 4 = once or twice a week, 5 = three or more times a week. Again, four forms of contact were totalled for each kin relationship and again to give a total ranging from 0 – 60. Lastly, when applicable this divided into tertiaries; 1 = lowest, 2 = middle, 3 = highest.
<i>Self-Perceived Social Status</i>	sclddr = self-perceived (subjective status	respondent answered on a scale from 5 (worst off) through 5-point increments to 100 (best off).	Where applicable divided into tertiaries; 1 = lowest, 2 = middle, 3 = highest.
<i>Social Activity in a Public Setting</i>	scacta = how often the respondent goes to the cinema, scactb = how often the respondent eats out of the house, scactc = how often the respondent goes to an art gallery or museum, scactd = how often the respondent goes to the theatre, a concert or the opera	All variables were coded as follows; 1 = twice a month or more, 2 = about once a month, 3 = every few months, 4 = about once or twice a	All variables recoded into 0 = never, 1 = less than once a year, 2 = about once or twice a year, 3 = every few months, 4 = about once a month, 5 = twice a month or more.

Concept to be Mapped	Original ELSA Variable(s)	ELSA Variable Definition	Action Taken/Re-coded Variable (if applicable)
		year, 5 = less than once a year, 6 = never.	Then totalled to give a scale ranging from 0 – 20. Also divided into tertiaries where applicable; 1 = lowest, 2 = middle, 3 = highest.
<i>Civic Participation</i>	erfolmo = whether volunteered: raising money/taking part in sponsored events, erfolle = whether volunteered: leading group/being member of committee, ervolor = whether volunteered: organising or helping to run activity or event, erfolca = whether volunteered: campaigning	All variables; 0 = not mentioned, 1 = mentioned.	Summed into scale ranging 0 – 4. Where applicable divided into 50% split; 1 = low, 2 = high.
<i>Social Group Membership</i>	scorg05 = respondent is a member of education, arts or music groups or evening classes, scorg06 = respondent is a member of social clubs, scorg07 = respondent is a member of sports clubs, gyms exercise classes	All variables; 0 = not mentioned, 1 = mentioned.	Summed into scale ranging 0 – 3. Where applicable divided into 50% split; 1 = low, 2 = high.
<i>Community Group Membership</i>	scorg01 = respondent is a member of a political party, trade union or environmental group, scorg02 = respondent is a member of a tenants group, resident group or neighbourhood watch, scorg03 = respondent is a member of a church or other religious group, scorg04 = respondent is a member of a charitable association	All variables; 0 = not mentioned, 1 = mentioned.	Summed into scale ranging from 0 – 4. Were applicable divided into 50% split; 1 = low, 2 = high.
<i>Labour Force Participation</i>	hours = hours of main job (employed or self employed), spen_r_i = state pension income (iapam/iappam) value (incl. imputed values), wppp_r_i = priv pension income currently received (wppyr) – value (incl. imputed values)	N/A	Where hours > 0 recoded into a variable 0 = not working, 1 = working. Where spen_r_i and/or wppp_r_i > 0 recoded into variable 0 = pension income 1 = no pension income.

Concept to be Mapped	Original ELSA Variable(s)	ELSA Variable Definition	Action Taken/Re-coded Variable (if applicable)
			Finally, for labour force participation variable 1 = working but no pension, 2 = working and receiving pension (bridge employee), 3 = not working but receiving a pension.
Subjective Quality of Life (CASP-19)	scqola = CASP19 scale: How often feels age prevents them from doing things they like, scqolb = CASP19 scale: How often feels what happens to them is out of their control, scqolc = CASP19 scale: How often feels free to plan for the future, scqold = CASP19 scale: How often feels left out of things, scqole = CASP19 scale: How often can do the things they want to do, scqolf = CASP19 scale: How often family responsibilities prevents them from doing things, scqolg = CASP19 scale: How often feels they can please themselves what they do, scqolh = CASP19 scale: How often feels their health stops them doing what they want to do, scqoli = CASP19 scale: How often shortage of money stops them doing things, scqolj = CASP19 scale: How often look forward to each day, scqolk = CASP19 scale: How often feels that their life has meaning, scqoll = CASP19 scale: How often enjoys the things they do, scqolm = CASP19 scale: How often enjoys being in the company of others, scqoln = CASP19 scale: How often looks back on their life with a sense of happiness, scqolo = CASP19 scale: How often feels full of energy these days, scqolp = CASP19 scale: How often chooses to do things they have never done before, scqolq = CASP19 scale: How often feels satisfied with the way their life has turned out,	'CASP19': original variables coded from 1 = often, to 4 = never with questions 'a', 'b', 'd', 'f', 'h' and 'l' reverse coded.	Using the syntax provided by ELSA (see Appendix 2), variables recoded into 'qolarc', 'qolbrc', 'qolcrc', 'qoldrc', 'qolerc', 'qolfrc', 'qolgrc', 'qolhrc', 'qolirc', 'qoljrc', 'qolkrc', 'qollrc', 'qolmrc', 'qolnrc', 'qolorc', 'qolprc', 'qolqrc', 'qolrrc' and 'qolsrc' with responses then totalled to give scale ranging from 0 – 57.

Concept to be Mapped	Original ELSA Variable(s)	ELSA Variable Definition	Action Taken/Re-coded Variable (if applicable)
	scqolr = CASP19 scale: How often feels that life is full of opportunities, scqols = CASP19 scale: How often feels the future looks good to them.		
Centre for Epidemiologic Studies Depression Scale (CES-D)	PScedA = whether felt depressed much of the time during the past week, PScedB = whether felt everything they did during past week was an effort, PScedC = whether felt their sleep was restless during past week, PScedD = whether was happy much of the time during past week, PScedE = whether felt lonely much of the time during past week, PScedF = whether enjoyed life much of the time during past week, PScedG = whether felt sad much of the time during past week, PScedH = whether could not get going much of the time during past week.	All variables 1 = yes, 2 = no, with variables 'D' and 'F' reverse coded.	Recode into 0 = no and 1 = yes and then totalled into scale ranging from 0 – 8.

APPENDIX 2 ELSA SYNTAX FOR THE RECODING OF THE CASP-19 SCALE RESPONSES IN SPSS (V24)

```
"NUMERIC CASP19 (F2.0). RECODE scqola scqolb scqolc scqold scqole scqolf
scqolg scqolh scqoli scqolj scqolk scqoll scqolm scqoln scqolo scqolp scqolq
scqolr scqols (1=3) (2=2) (3=1) (4=0) (-9 thru -1 = sysmis)

INTO qolarc qolbrc qolcrc qoldrc qolerc qolfrc qolgrc qolhrc qolirc qoljrc
qolkrc qollrc qolmrc qolnrc qolorc qolprc qolqrc qolrrc qolsrc.

EXECUTE.

RECODE qolarc qolbrc qoldrc qolfrc qolhrc qolirc (3=0) (2=1) (1=2) (0=3).

EXECUTE.

COMPUTE CASP19 = qolarc + qolbrc + qolcrc + qoldrc + qolerc + qolfrc +
qolgrc + qolhrc + qolirc + qoljrc + qolkrc + qollrc + qolmrc + qolnrc +
qolorc + qolprc + qolqrc + qolrrc + qolsrc.

EXECUTE.

IF SYSMIS(CASP19) CASP19 = -1.

EXECUTE.

VAR LAB CASP19 '(D) CASP 19'. VAL LAB CASP19 -1 "Not applicable (including
Refusals and Don't Know's)"."
```

(SPSS (v24) Syntax provided by ELSA (Marmot et al., 2016))

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