Transitions In Later Life: The impact of residential relocation on well-being.

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STATEMENT OF THE CANDIDATE'S CONTRIBUTION TO THE RESEARCH

This thesis reflects the candidates own original work. The candidate played a significant role in the design of the study and was responsible for the data collection. The candidate independently analysed all of the data and drafted all chapters for this thesis. Chapters were circulated for review amongst the candidate's supervisory panel. Professor Kaarin Anstey and Dr Tim Windsor provided feedback on all of the thesis chapters. Associate Professor Peter Butterworth provided feedback on the methodology and results chapters (chapters 7-14).

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ABSTRACT

In the face of normative age-related declines in health and mobility, increasing numbers of older adults are considering self-care accommodation within the context of a retirement community as a mechanism to maintain independence. Whilst the benefits of down-sizing in older age are well established, relocation to a retirement community offers the additional provision of a) facilities to cater for current and anticipated future healthcare needs; b) general household maintenance and/or cleaning services; c) the security of an enclosed complex that increases older adults' sense of physical safety; and d) a close and supportive community network that reduces social isolation. The present study employed a prospective longitudinal design to examine the adaptation of 83 older Australians (aged 57 to 90 years) to independent living units within a retirement village over a 12 month period. A number of health, subjective well-being, and social network outcomes are examined. Comparisons are made with a sample of community-dwelling older adults of the same age. A promising indicator of the decision to relocate as a positive life change, results indicate that 12-months post-relocation, those who relocated to the village rated the environment as more positive than their pre-move residence. A reduction in perceived loneliness and an increase in neighbour social networks were then found to be the most significant benefits to relocation. Characteristics of those older adults likely to adapt best to living in a retirement village were dependent largely on the outcome in question. Contextual factors associated with the move, physical health, personality characteristics, and perceived control each contributed to adjustment. This investigation of the impact of relocation to a retirement village on the social networks and well-being of older adults provides an important contribution to our understanding of the needs and experiences of our ageing community. Both government policy and aged care providers should benefit from monitoring and continued improvement of housing options for older adults. Through indentifying the needs and experiences of our older population, along with the factors characterizing successful transition, we can strive to ensure that relocation performed either out of preference or necessity is a positive experience and a step toward continued healthy ageing.

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Abbreviations

ACT	Australian Captial Territory
AEC	Australian Electoral Commission
DASS	Depression Anxiety Stress Scale
DET	Dynamic Equilibrium Thory
FFM	Five Factor Model
ICC	Intraclass Correlation Coefficient
IRT	Illawarra Retirement Trust
LET	Life Engagement Test
LSNS	Lubben Social Network Scale
M	Mean
MHC	Mental Health Component
MIS-T	Memory Impairment Screen - Telephone
NA	Negative Affect
PA	Positive Affect
PANSE	Positive And Negative Social Exchanges
PANAS	Positive And Negative Affect Schedule
PHC	Physical Health Component
SD	Standard Deviation
SOC	Selective Optimisation and Compensation
SST	Socioemotional Selectivity Theory
SWB	Subjective Wellbeing
SWLS	Satisfaction With Life Scale
TIPI	Ten-Item Personality Theory

INTRODUCTION

Australia's older population has experienced rapid growth. The Australian Bureau of Statistics (1999) has estimated that by 2051 almost one quarter of the total population will be aged 65 years and over, an increase from 12% in 1998. In line with the ageing of the population, government policy has moved to support older adults in maintaining independent living in self-care accommodation as an alternative to traditional nursing home and aged care institutions. As a result, the proportion of Australians in self-care accommodation such as retirement villages has increased by over 37% since 1996 (ABS, 2003). However, a survey of Australian households conducted in 2002-03 found that 83% of persons aged 65 and over remain living in their own home (ABS, 2005); the preference to "age-in-place" a reflection of the strong desire to remain independent as long as possible.

Despite the desire to remain in one's own home, normal declines in health and mobility can present major challenges to this end (Gardner, 1996; Stimson & McCrea, 2004). Increased vulnerability to illness and the prevalence of chronic health conditions associated with advancing age play a critical role in everyday functioning and can have debilitating effects on independence and quality of life. While in-home support aids to assist with personal and physical safety are available, modification to the home environment can be costly or impractical. In addition, concerns for affordability (VanderHart, 1998), neighborhood safety (Fonad, Robins Wahlin, Heikkilä, & Emami, 2006) and proximity to support services may also become important (Bekhet, Zauszniewski, & Nakhla, 2009; Sergeant & Ekerdt, 2008). These challenges each present motivations underlying decisions for relocation in later life. Self-care accommodation within retirement villages which provide independent living units, a

supportive community of peers and continuing care facilities (e.g., health, home care and transport services), may then be an option many older Australians consider.

While the ability to maintain independence in a secure community environment may make retirement village living an attractive housing option, residential relocation can also be a complex, confronting and stressful transition for older adults to face (e.g., Antonucci et al., 2002; Liddle, Carlson, & McKenna, 2004; Sergeant & Ekerdt, 2008). While retirement village residents report an increased quality of life following relocation (Gardner, Browning, & Kendig, 2005; Graham & Tuffin, 2004), not all attitudes toward retirement villages are positive. Some older adults fear a lack of privacy, loss of independence and social isolation (e.g., Dupis-Blanchard, Neufeld, & Strang, 2009; Graham & Tuffin, 2004). Clearly there are environmental and personal characteristics that influence older adults' attitudes and experiences of retirement village living.

As the transition from living within the community to a retirement village may have important consequences for the health and well-being of older adults, it is important to identify key factors which contribute to the quality of the relocation experience. Frameworks such as Lawton's person–environment model (Lawton, 1991) emphasize the extent to which well-being depends on the fit between an older person and their environment. The conceptualization of the older person as an active participant in this type of transition, through recognising individual needs, preferences and personal qualities, in addition to environmental characteristics, is vital in the examination of outcomes following relocation.

Thesis objectives

This thesis describes an examination of the processes surrounding adaptation to residential relocation in later life. The thesis seeks to provide a comprehensive view of the experience of relocation to a retirement village by examining changes in measures

of subjective well-being (SWB), social networks and engagement in life across this transition (indicators of adaption); and the extent to which adaptation is influenced by pressure to move, perceived control, physical health, perceptions of the environment, personality, social support, and satisfaction with the environment. This thesis examines both immediate and short-term outcomes with comparisons made between well-being and social supports prior to moving and those at 1, 6 and 12 months post relocation. In addition, characteristics of older adults relocating into a retirement community will be compared with those of older adults residing within the wider community. Specifically, the following research questions (outlined in further detail in Chapter 6) are investigated:

Research Question 1: *Do those older adults relocating to the retirement village differ from their peers residing in the community in socio-demographic, health and well-being, or environmental characteristics?*

Research Question 2: *a) What expectations regarding relocation do prospective retirement village residents hold prior to relocation, and b) what benefits and difficulties do they report in the initial stage of transitions?*

Research Question 3: *a) Do perceptions of the home environment change over time? b) Are perceptions of the new home environment more positive than those of the old residence?*

Research Question 4: *Are changes in social networks and exchanges experienced following relocation to the retirement village?*

Research Question 5: *Are changes in SWB (positive and negative affect, and life satisfaction) experienced following relocation to a retirement village?*

Research Question 6: *Does engagement in life change following relocation to a retirement village?*

It is anticipated that the identification of factors contributing to positive or negative relocation experiences will provide a foundation for informing policy in areas such as housing and aged care.

Outline of dissertation

Using existing theoretical models of adaptation, this thesis first establishes a conceptual framework to guide the investigation of relocation as a major late life transition. In chapter 2, the nature of retirement villages today as a developing industry and the role of the environment, person-environment fit and attachment-to-place as part of the transition process is discussed. Motives for relocation in later life are also explored (e.g., declines in physical health and functioning, social isolation, lifestyle factors, and financial pressures), highlighting the multiple push and pull factors underlying decisions to relocate. Chapter 3 addresses the significance of social networks in later life and the impact of major life transitions, such as relocation, on an individual's social support systems and relationships. The role of personality and physical health as moderators of change in social networks is also examined. Chapter 4 focuses on subjective well-being (affect and life satisfaction) as an indicator of successful adaptation to relocation, with consideration extending to psychological resources as determinants of well-being in the adjustment process. This includes closer examination of the importance of perceived control and independence to psychological functioning, and the role of social networks in the adaption process. Perceived external pressure associated with the move experience, personality characteristics, and physical health as moderators of well-being outcomes are also explored. Chapter 5 examines the impact of later life transition on engagement in life as a further indicator of adjustment. Social network composition is explored as facilitating changes in engagement following major life events. Personality and physical health status as moderators of engagement following relocation are also addressed.

Moving to the present study, chapter 6 and 7 provide specific details of the aims and research questions to be addressed. The measures, procedure and statistical analysis employed for the study are detailed, including an overview of the participant sample and retirement village from which observations are made. Chapters 8 to 14 address the key research questions. The final chapter provides a broad discussion of the findings, highlighting the contribution of this study to knowledge regarding the residential relocation transition, recommendations for future research and implications for policy development.

Chapter 1. Transitions in Later-life: Models of transition and adaptation

1.0 Chapter overview

The Set-point or Dynamic Equilibrium Theory (DET; Headey & Wearing, 1989) and Selective Optimization with Compensation model (SOC; Baltes, 1987) provide general frameworks outlining the processes through which adults deal with life changes and stress. The following chapter explores the contribution each of these models can make to our understanding of late life relocation. In addition, stress buffering models are noted briefly as highlighting the important role of social support in coping with such events.

The subjective assessment of well-being and the absence of loneliness are particularly important indicators of one's adjustment to age associated changes (Freund & Baltes, 1998). Subjective well-being (SWB) provides a reflection of an individual's evaluation of their life. It incorporates both an affective component, referring to evaluations regarding the presence of positive affect and the absence of negative affect, and the cognitive judgement of life satisfaction (Diener & Lucas, 1999). Feelings of social connection (absence of loneliness) reflect supportive social relationships which cultivate a sense of meaning in life and contribute to positive physical and mental health and well-being (Cherry et al., 2011; Pin, Guilley, Spini, & Lalive d'Epinay, 2005). In addition, distinct from the indicators of SWB we explore engagement (purpose) in life as a reflection of an individual's engagement in personally meaningful activities which further contribute to physical health, cognition and well-being (e.g., Bosma et al., 2002; Boyle, Buchman, Barnes, & Bennett, 2010; McKnight & Kashdan, 2009). Therefore, the present study utilised subjective well-being, social network indicators and engagement in life as representing positive outcomes following late life relocation.

In developing an understanding of late life relocation, the SOC model (Baltes, 1987) is applied to describe the progression of actions undertaken, and the role of relocation, in the pursuit of maintaining independence in later life. The DET (Headey & Wearing, 1989; Headey & Wearing, 1992) examines the process of adaptation in respect to the association between SWB, life events and personality characteristics. Finally, stress buffering models (Cohen & Wills, 1985; Wheaton, 1985), which reinforce the multidimensional nature of transitions highlights the influence of external environmental characteristics such as social support in assisting to "buffer" the negative outcomes (e.g., stress) of major life events.

Drawing on these models, a proposed conceptual framework for investigating late-life relocation in the present study is outlined. While acknowledging the array of factors impacting decisions to move, this framework identifies relocation to a retirement village as an adaptive function, or active compensatory process, for such motives (outcomes) as maintaining independence or reducing social isolation. It then proposes both individual and contextual factors (e.g., perceived pressure to move, personality characteristics, health) guide the experience and contribute to the transition outcomes.

1.1 Selective Optimisation with Compensation: A framework

The Selective Optimisation with Compensation model (SOC; Baltes, 1987) provides a basis for understanding the process of adaptation whilst acknowledging the life-long nature of development as an ongoing system of gains and losses. Associated with indicators of successful ageing such as subjective well-being, positive emotions and the absence of loneliness (Freund & Baltes, 1998), the process outlined by Baltes (1987) represents a continuous cycle throughout development and ageing. Comprising three components; selection, optimisation and compensation, which interact to characterise the processes of adaptation, the SOC model may be used to explain relocation as an

action undertaken to maintain independence in the face of normative functional decline in later life.

The first component, *selection* refers to the prioritisation of goals in line with available resources. In the context of later life development, this may reflect a decision to restrict one's daily activities to only those most important to the individual when maintaining a diverse range is no longer sustainable. By attending to high priority needs the individual adjusts their expectations to maintain a sense of satisfaction and personal control. *Optimisation* is the engagement in behaviours that maximise capacity to achieve selected goals. The final element, *compensation*, involves the use of strategies for dealing with situations or difficulties, to maintain a desired state in the face of losses (e.g., declining functionality) (Baltes & Baltes, 1990; Hyer, Rafalson, & O'Hea, 2004). These SOC processes operate simultaneously across multiple goals in order to maximise developmental potential.

In applying the SOC model to our understanding of residential relocation, late life relocation may be considered an adaptive strategy for maintaining independence, control and a positive quality of life. However, the reason for relocation, whether in response to functional decline and a desire to maintain independence or avoid loneliness, is central to the application of the SOC model (Sergeant & Ekerdt, 2008). The example depicted in Figure 1.1 explores functional decline as the primary motive for relocation to a retirement community. The selected goal for the individual is to maximise and maintain independence. Here, the most relevant element of SOC is *compensation.* Compensation may first occur prior to considering relocation and subsequent to the initial signs of health and functional decline. It involves the individual striving to maintain independence for as long as possible through altering daily activities and behaviours or through the use of personal aids which assist independent living. In response to age-related declines, a final act of compensation may

then be the decision to pursue the avenue of obtaining a residence which provides a less demanding physical environment (e.g., a retirement village which provides independent living in close proximity to health services).

However, not all older adults who choose to relocate will do so in response to immediate concerns related to functional limitations. For example, relocation borne out of the desire to maintain engagement in social and leisure activities, rather than focusing one's energy on maintaining a large household and garden, is more in keeping with processes of *selection.* In relocating to a retirement community, individuals are able to downsize their living environment and utilize facilities that assist with general home maintenance and health care services. The provision of a less demanding physical environment provided by a retirement complex allows individuals to maintain independence while investing their time and resources in activities they find enjoyable (*selection*).

Progressing through the SOC model it is seen that individuals result with a reduced and transformed, but effective, life. While relocation to a retirement community finds the size of one's immediate physical environment to be reduced, ideally the opportunity for social networks to be expanded increases and ability to maintain a maximal level of functional independence is strengthened. In essence, the SOC model views individuals' as having taken control of their own successful ageing and the maintenance of their well-being by concentrating on goals held as a high priority (e.g., social networks, independence), while relinquishing those related to lower priority domains (e.g., home ownership).

Furthermore, the SOC processes outlined are dynamic and ongoing in the context of relocation transition. The process of compensation, within the post-retirement relocation context, may continue to involve individuals' striving to ensure that they retain as much independence as possible through building their confidence with the new

environment, the policies and procedures of the village, and maximising their use of the services provided. In light of increasing declines in health and functioning, individuals may find that additional compensation is required and selection is focused on the service provisions of a higher care facility or nursing home environment within the retirement community.

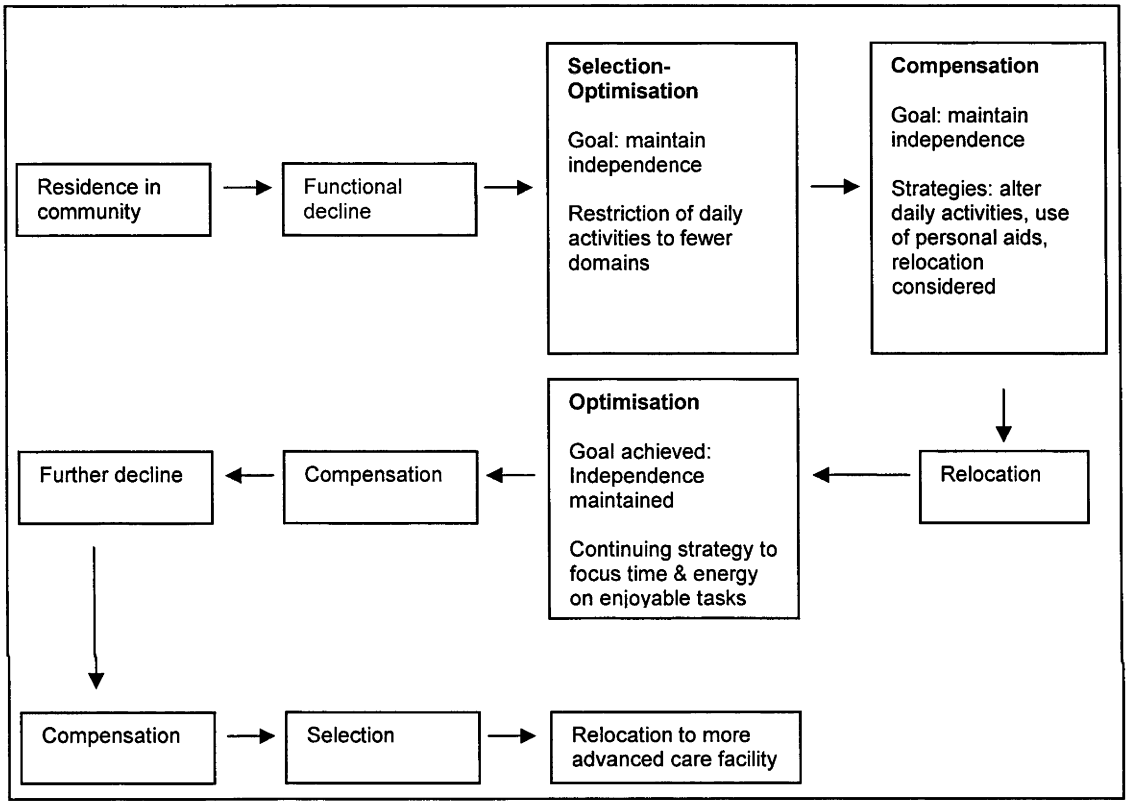

Figure 1.1 Selective Optimisation with Compensation framework

Note. In this example functional decline is the trigger for change. The primary goal is to maintain independence.

The application of the SOC model in Figure 1.1 focuses on compensation as the mechanism for relocation following age-related decline; however, other motives may underlie relocation. A desire to reduce feelings of isolation resulting from declining social networks in later life may be the goal. In this instance, selection would occur to foster a sense of belongingness to a community and increase one's social network or engagement in leisure activities. Individuals would then optimize the social support services and community activities provided and encouraged within the retirement

village to achieve a sense of well-being. It is also likely that SOC processes operate across multiple goals simultaneously such that a need to maintain independence and build one's social network and support system are concurrently driving relocation decisions. Finally, the decision to relocate may not be immediate to the needs of the individual, but rather result from the functional decline or additional needs of a partner. While the same process would be followed, the goal would be altered to place focus on the partner, which may then have different implications for adaptation occurring within the transition process for both parties.

1.2 The Dynamic Equilibrium Theory

A further perspective on processes of adaptation to significant life transitions is provided by the Dynamic Equilibrium Theory (DET; Headey & Wearing, 1989; 1992). Specifically, the DET provides a conceptual link between significant life events, personality and subjective well-being (SWB) to aid in understanding the long-term impact late life relocation on an individual. According to DET, individuals have a base level of SWB that under normal circumstances remains relatively stable. However, significant life transitions such as residential relocation can result in short-term changes (improvements or declines) in base levels of SWB. These changes are considered to be temporary under most circumstances due to the influence of stable personality traits, which as primary factors influencing long-term levels of SWB (Diener, 2000), play a crucial function in reverting individuals back to base levels after a period of time.

While considerable research has supported DET's premise that well-being remains predominantly stable over time, with many life events resulting in temporary departures from base set-point (e.g., Eid & Diener, 2004; Suh, Diener, & Fujita, 1996); more recent evidence has emerged leading to a revision of DET. Specifically, it has been argued that a more integrative approach that considers the effects of specific life

events alongside individual characteristics (e.g., global personality traits) may better explain changes in SWB.

Through the examination of several longitudinal panel studies, Lucas (2007) demonstrated that following significant events (e.g., marital transition, unemployment, or disability), long-term levels of SWB, particularly life satisfaction, do change and that adaptation is not inevitable. In some cases declines that occurred in life satisfaction appeared permanent, and did not return to pre-event levels even following a return to pre-event status, such as in the case of regaining employment (Lucas, Clark, Georgellis, & Diener, 2004). Importantly, research has indicated that adaptation levels appear to vary depending on both individual characteristics and the type of event. While it has been found that on average people adapt to marriage relatively quickly (Lucas, Clark, Georgellis, & Diener, 2003); Lucas and Clark (2006) showed that individuals marrying at a later age (38 years and over) report significant and enduring increases in life satisfaction following marriage. Moreover, adjustment to a negative event such as divorce is evidenced to be very slow or incomplete, with levels of SWB never returning to pre-event set-points (Lucas, 2005).

In addition, secondary examination of some studies, including long-term follow-up assessments, has indicated that initial returns to set-point following a significant event are not necessarily permanent. Using a sample comprised of married persons aged 55 years and under, Booth and Amato reported the complete adaptation of participants following divorce (Booth & Amato, 2001). However, using the same longitudinal study and conducting a further follow-up of participants, Johnson and Wu (2002) found that permanent changes in levels of distress were indicated. Follow-up analysis demonstrated that for individuals who remained divorced, it was the experience of further role transitions such as a reconciliation or commencement of a new relationship that prompted a return to pre-divorce SWB (Johnson & Wu, 2002). These

findings suggest that closer investigation of long-term adaptation to major life transitions is warranted.

Diener et al. (2006) also raised the possibility that some components of SWB return to set-point following a significant life event more readily than others. Specifically, positive and negative affect are thought to adapt more readily to change than life satisfaction. Furthermore, research must consider that between-person variability exists in the experiences and reactions of individuals following different events and between individuals experiencing the same event (Lucas, 2005). In the case of residential relocation in later life, while one longitudinal study has suggested that the experience of voluntary housing relocation on healthy older adults may produce only a transitory psychological vulnerability (Lutgendorf et al., 2001), the transition to a retirement village may not be a positive experience for all persons. Therefore, the present study examined individual differences in changes to SWB observed over the transition.

1.3 Stress buffering models

Stress buffering models provide a framework to explore the individual and contextual factors that may serve to moderate the potentially stressful effect of relocation on transition outcomes. Principally, the stress-buffering hypothesis (Cohen & Wills, 1985; Wheaton, 1985) suggests that social support suppresses the effects of stress through an interactive buffering model. It proposes that in the presence of a stressful life event (e.g., late life residential relocation), individuals with greater support from family and friends are less likely to experience negative outcomes (e.g., depression), and cope more effectively than individuals with less support. It is proposed that the social support received by the individual enhances social and psychological resources such as control,

self-esteem and efficacy, which increases confidence and boosts one's ability to cope successfully with the event (Burton, Stice, & Seeley, 2004).

Throughout the transition of relocation to a retirement community it is anticipated that social support networks will play an important role. Under the expectation that relocation is a stressful life event for many (Kampfe, 2002), not only does the development of new social networks represent integration into the new living environment, but the quality of one's social support network prior to relocation (and changes in networks which may coincide with relocation) is likely to influence positive well-being following relocation. In chapter 3 the review of the literature focusses further on social networks and network change as an indicator of successful transition. The impact of social networks on adaptation indicated by SWB is explored in chapter 4.

1.4 Formulating a framework for investigating relocation in later life

Taken together, key elements of the SOC, DET and stress buffering models provide a framework for understanding relocation in later life and its impact on the individual. The SOC model provides a basis for understanding how processes of developmental self-regulation underlie the motivation to relocate. The DET introduced a conceptual basis for predicting observed adaptation to the relocation transition as indicated by SWB. Finally, the stress buffering model reflected the potential role of social support in moderating the stress associated with relocation to support positive outcomes. Building upon this, Figure 1.2 presents a proposed framework for the study of relocation in later life and demonstrates the complex interaction of factors that may facilitate, inhibit, and indicate adjustment. This framework first highlights three outcomes for investigation following relocation to a retirement village: social networks, engagement in life, SWB. It is then proposed that adjustment to a new residential environment may be influenced

by several underlying mechanisms. It is anticipated that changes in social networks following relocation may be influenced by physical health and personality characteristics. In addition to health and personality characteristics, engagement in life may also be influenced by one's perception and confidence in the home environment. The extent to which relocation affects SWB may vary as a function of individual differences in personality, social support, physical health and external pressure to move. Finally, the framework acknowledges that a multitude of factors may provide motives for relocation which may impact the experience.

As relocation in later life is a significant event and may have important consequences for the health and well-being of older adults, it is important to identify those factors which contribute to the quality of the relocation experience. In particular, aged care providers should benefit from a greater understanding of the needs and experiences of older adults in order to improve the services they provide and the well-being of their residents. To date, little research has comprehensively investigated this transition. The following sections integrate relevant theory and empirical research in outlining support for a comprehensive framework that captures the role of key psychosocial processes thought to influence both positive and negative outcomes in response to residential relocation into a retirement community. An initial inspection of potential precipitators to the move identifies the context in which a decision to relocate is considered. The experience of relocation will then be explored in respect to changes in social networks, SWB and engagement in life over the transition period. Personality (characterised by the Big Five traits), pressure (representing perceived pressure to move), physical health and pre-move social support networks represent moderators (conditions to be explored under which adaptation may occur); while changes in social networks, perceptions of the home environment and global control represent further explanatory mechanisms, to be investigated in understanding successful adaptation.

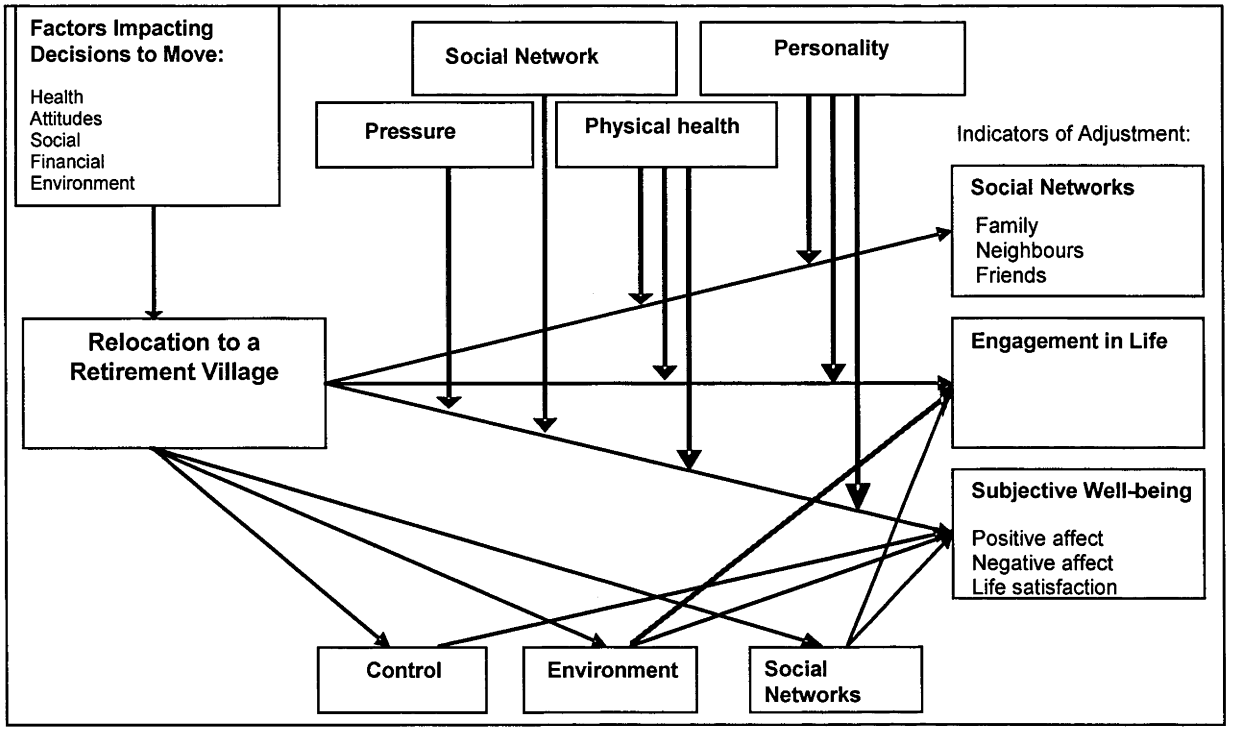

Figure 1.2 Research framework for adaptation to relocation in later life

1.5 Chapter summary

The theoretical frameworks provided by the SOC, DET and stress buffering models each contribute to formulating an understanding of how an individual may cope with significant changes in later life. Drawing from these models, the present study explored an array of factors that may influence social networks, and personal and subjective well-being following relocation to a retirement village to gain a comprehensive understanding of this transition. The present study: (1) explored change in social networks occurring over the relocation experience and the moderating effect of personality and physical health on this change; (2) investigated the impact of relocation on SWB, and explore the impact of changes to perceived control and social networks over time and the effects of pressures to move, personality, physical health and social

supports at baseline on well-being over time; (3) investigated the impact of relocation on engagement in life, and examine the impact of changing social networks, and the moderating effect of personality and physical health on engagement over time.

Chapter 2. Residential relocation in later life: a major life transition

2.0 Chapter overview

Throughout life we experience many important transitions. In later life these transitions increasingly relate to changes in health and mobility, social networks, financial status and housing. Residential relocation is a significant life event and complex transition, which even under voluntary circumstances, can be highly stressful and present significant challenges (Antonucci et al., 2002; Sergeant & Ekerdt, 2008). Motives for relocation in later life differ considerably from other experiences of residential relocation. Moreover, the nature of the relocation, typically characterised by downsizing the home, and the coinciding stress associated with a loss or consolidation of possessions accumulated over one's lifespan is also a unique challenge of this transition (Marcoux, 2001; Sergeant & Ekerdt, 2008). However, the transition to retirement community living can also be accompanied by a number of psychological benefits and importantly a feeling of security (McDonald, 1996; Woodbridge, 2003). This chapter explores the importance of the familiar home environment in processes of change and adaptation for older adults and provides an overview of the retirement village industry in Australia. The different motives underlying later life relocation are then investigated as a foundation for understanding the experience of relocation and the impact of the transition on the individual. Finally, preliminary discussion into the impact of residential relocation will begin to highlight the complexity of investigating post-move outcomes and the need to examine a variety of distinct indicators of adjustment to provide a detailed understanding as to whom relocation may be most beneficial and how successful village environments can be cultivated.

2.1 The significance of the home environment in later life

The stability and familiarity of the home environment holds important significance for older adults. For those who have spent the majority of their adult life in the one residence, the home is an extension of one's identity and provides meaning and a sense of security. It represents a place where older adults can maintain autonomy and control. As such, the home environment can help facilitate well-being and the successful adjustment to any number of changes which occur in later life (Butler, Lewis, & Sunderland, 1998; Chaudhury & Rowles, 2005; Gilleard, Hyde, & Higgs, 2007; Reschovsky, 1990). As older adults experience limitations in physical health and cognitive functioning, their immediate environment and neighbourhood becomes increasingly important. The application of the SOC model (Baltes & Baltes, 1990) outlined in chapter 1, viewed relocation to 'age-appropriate' housing (i.e., a retirement village) as an adaptive compensation strategy (Wiles, 2009). However, one's perception of both the original and new home environment requires consideration in understanding the impact of relocation on an older adult's health and well-being. Housing both directly and indirectly impacts on health, social support, quality of life and well-being. Therefore, the impact of perceptions of the home environment and neighbourhood on the decision to relocate, and associated outcomes, represents an important element to consider when examining aspects of adjustment to retirement village living.

The competence-press model (also Lawton's ecological model; (Lawton & Nahemow, 1973), proposes that behavioural outcomes are the result of the combined function of personal competence and the demands placed on an individual as a function of their environment. Individuals who are able to generate control over their environment experience greater feelings of competence and positive well-being than those who cannot (Lawton, 1998). Derived from this ecological model, Lawton's person–environment model (Lawton, 1991) also supports the dependent nature of well-

being on the fit between an older person and their environment. When applied to the retirement village context, the person-environment model emphasizes the importance of achieving a balance between needs for security and autonomy and opportunities for continuing challenges and growth in promoting quality of life (Gardner et al., 2005). While this theory integrates objective and subjective aspects of the environment and provides a good framework for studying adaptation, it does not fully account for the extent to which individuals manage their environment in order to reduce demands (as implied in the SOC model), or offer an understanding for how the environment is used as a resource for people with high levels of competency (Gitlin, 2003; Lawton, 1999). However, Lawton's models highlight the value of examining the quality of life and well-being of independent older people in conjunction with community membership, and the appropriateness and desirability of the home environment and neighbourhood.

According to the person-environment fit model, the appropriateness of the immediate home environment for an older person in the face of functional decline is fundamental to well-being. To support safety, well-being, and independence, the minimization of hazards associated with tripping and falling, the elimination of electrical problems or other dangerous objects, and the incorporation of features which support daily functioning are essential (Gitlin et al., 2002). However, the perception of 'home' is also important in the development of acceptable long-term housing for older people. Satisfaction and comfort within a living environment, achieved through the personalization of the living space, the presence of meaningful or personal items, the freedom to be one's self and a sense of interpersonal warmth is important for adjustment to any new residence. In examining adjustment to relocation, it is therefore important to investigate perceptions of the new home environment in comparison to the previous residence. Older adults relocating to a retirement community can develop an investment in the residence and may adapt more readily to the transition if these

considerations are addressed (Gitlin et al., 2002; Young, 1998). If the new residence does not reflect an improved environment, or regulations imposed by the retirement village provider prevent personalization of the living space, adaption may be impeded.

Considering the wider neighbourhood, physical or aesthetic characteristics such as trees, well-maintained homes and good air quality and community cohesion, can also influence residential satisfaction. The objective and subjective perceptions of social, economic, and demographic neighbourhood characteristics, along with location, and accessibility to services and amenities within the area, all contribute to person-environment fit and the physical health and well-being outcomes of older adults (Butler et al., 1998; Rojo Perez, Fernandez-Mayoralas Fernandez, Pozo Rivera, & Rojo Abuin, 2001). In assessing the level of residential satisfaction among 65-84 year olds 'ageing-in–place', Rojo Perez et al. found that overall residential satisfaction was primarily associated with physical attributes of the home. However, neighborhood quality, and positive neighbourhood social network characteristics were also important. Considering person-environment fit in the context of relocation to a retirement village, a sense of belongingness to a neighbourhood may be a particularly important resource associated with adjustment. Moreover, despite person-environment fit being an important predictor of both residential mobility and well-being, Kahana, Lovegreen, Kahana, and Kahana (2003) highlighted that much of the research on person-environment influences has omitted discussion of the specific living environments of older adults, who may show more variability in their preferences and level of tolerance in respect to environmental stimulation than other cohorts. It is therefore important to consider that while objective assessment of the home environment eliminates contamination of perceptions based on personal needs or well-being, subjective measures offer the benefit of identifying respondents' perceptions of the environment and the characteristics most salient to their needs (Kahana et al., 2003). Considering the individual's perceived experience as

central to examining the impact of relocation to a retirement village on well-being, the present study utilized a subjective measure of individuals' perceived home environment. If achieving person-environment fit is fundamental to facilitating well-being, and relocation is driven by a desire to improve one's living situation, change (improvements) in perceptions of home and neighbourhood should be associated with other positive outcomes (e.g., SWB, engagement) following relocation. This hypothesis was examined in the present study.

2.2 Retirement villages today

Retirement villages are housing complexes characteristically targeted at adults aged 55 years and over, which often combine independent living units with nursing home care, and community and recreational facilities (Stimson & McGovern, 2002). Predominantly populated by persons over the age of 75 years (constituting 66.5% of retirement village residents), retirement villages as distinct from other forms of aged care accommodation (e.g., hostel and nursing home style care), represent a desirable housing choice for an increasing number of older adults. Accommodating for the needs of residents, represented in the key motives for relocation, the physical environment of a retirement village combines the features of security, independence and communality (Gardner et al., 2005; Graham & Tuffin, 2004). Often retirement village complexes also extend to provide options for continuing care through the incorporation of formal living assistance or nursing care facilities on site. Therefore, resident-funded retirement villages can provide an avenue for older adults to obtain manageable housing with the social and physical supports that enable them to age-in-place for longer and enter more formal residential care (e.g., nursing homes) later than people in the community (Gardner et al., 2005).

A report released in 2008 indicated that 1,756 retirement villages were currently operating in Australia, which accommodated up to 150,000 residents. This represented an approximate increase to 5.25% of the population over the age of 65 years residing in retirement village having occurred over the previous 8 to 9 years (McMullen & Sam, 2008). Even taking this proportion of the population as a figure that will not continue to increase, projected growth in population size and the ageing of the Australian population means that the retirement village industry will need to continue to grow to meet a demand of up to an additional 65,000 residences over the next 15 years. Attention is therefore required to ensure that adequate environments are developed that promote and maintain health and well-being of our older adults (McMullen & Sam, 2008).

Within Australia, guidelines regulating the rights and obligations of residents and retirement village operators are clear. The Retirement Villages Industry Code of Practice (Director of Consumer Affairs for the Australian Capital Territory, 1992) outlines: 1) the facilitation of disclosure of information to prospective residents of retirement villages; 2) requirements of contracts between residents and operators of retirement villages to ensure full details of the rights and obligations of the parties are detailed; 3) the facilitation of resident input, where desired by residents, into the management of retirement villages; and 4) appropriate mechanisms for the resolution of certain disputes between residents and operators of retirement villages assurance is provided in the regulation of industry operators.

Physically, independent living units within a retirement village are very similar to other medium-density housing in the community. However, with age-segregated communities incorporating physical health, recreation and social supports for those with varying care needs, the residential environment differs considerably from most housing within the community. Importantly, it is more restrictive than community living.

Residents are not only governed by contractual rules but also the behavioural and social norms of the community which evolves. This is a characteristic which may negatively impact individuals (e.g., cause stress) through the requirement to conform to expectations (Stein & Morse, 2008).

The importance for considering perceived control in the context of the home environment is reiterated as retirement villages work toward the goal of at least maintaining, if not enhancing, quality of life amongst residents. In particular, retirement villages need to strive toward providing a lifestyle which satisfies the different needs of older adults, recognizing the importance and benefits of sustaining independence, in order for them to be a viable accommodation option in later life. Encouragingly, with the support of government policy in the areas of independent living for adults in later life, the Australian housing industry is expanding in its development of a variety of housing options which support the need for the range of self-care accommodation and high-care support facilities (Stimson & McCrea, 2004).

2.3 Making the decision to move

Ageing-in-place can be vital to some older adults' sense of independence, safety, comfort and care (Kendig & Bridge, 2007). However, despite a strong preference to remain in the family home as they age, increasingly older adults are deciding to relocate to retirement communities which offer independent living in close proximity to facilities or services (Stimson & McCrea, 2004). Echoed in the themes emerging from internationally diverse research investigating the accounts of both older adults and their families, there may be any number of motives driving a decision to relocate. Principally they include: 1) the declining health or functioning of one's self or one's partner and the need for continuing care; 2) the burden associated with maintaining the current residence; 3) feelings of social isolation and the desire to be close to family and friends;

4) personal security, and financial pressures (Bekhet et al., 2009; Buys, 2001; Krout, Moen, Holmes, Oggins, & Bowen, 2002; Sergeant & Ekerdt, 2008; Stimson & McCrea, 2004).

Theories proposed as to why older adults relocate suggest that it may be a combination of push and pull factors (Bogue, 1969), stressors and circumstance, that underlie relocation decisions. Push factors refer to stressors (e.g., declining health, safety or financial concerns) prompting an individual to leave their current residence; pull factors refer to desirable characteristics associated with an alternative location (e.g., affordability, proximity to public transport, social activities) that encourage a move (Stimson & McCrea, 2004). In a study of 985 retirement village residents across Australia, Stimson and McCrea identified four push and three pull factors influencing the decision. Push factors included a change in lifestyle; the difficulty and cost associated with home maintenance; social isolation and the desire to be close to family (particularly following the death of a spouse or partner); and most commonly health and mobility issues and the resulting need for assistance. Predictors of these motives included the influence of family and friends, the distance required to move to a village, age, and relationship status. Pull factors explaining an attraction to a particular village included the village attributes and affordability, location and proximity to public transport and social activities, and the ability to maintain aspects of their existing lifestyle in terms of proximity to family, friends and services. A more recent report exploring the relocation intentions of 3050 Western Australian residents found that 39% of persons over 50 did not intend to remain in their current residence indefinitely (Boldy, Grenade, Lewin, Karol, & Burton, 2010; National Seniors Australia Productive Ageing Centre, 2009). Wanting a lifestyle change, considering where to spend the remainder of one's life, and retirement transitions most commonly influenced intentions to move.

An understanding of the motives driving relocation provides an important basis for examining relocation outcomes. As such, health and functioning, the physical environment, beliefs and attitudes, and social and financial pressures, being the major factors impacting the decision to relocate, is examined further in the subsequent sections to provide the basis for understanding the experience of relocation.

2.3.1 Health, Functioning & the Physical Environment

Changes in physical health and functioning, and the suitability of the home environment are the most commonly cited motives driving decisions to relocate in later life. While declining health may represent a stressor (push factor) prompting an individual to leave their current residence, the facilities offered within a retirement village for maintaining independence in the face of health decline may encourage relocation (pull factor). *The push element:* Although many older adults retain the ability to remain independent in their own homes, as people age, a decline in physical and cognitive functioning can result in difficulty caring for one's self and a current or anticipated need for residential care. The risk of cancer, malnutrition, reductions in bone density and muscle strength causing vulnerability to falls, increases in blood pressure and cholesterol (Australian Institute of Health & Welfare, 2007; Staehelin, 2005), changes in sensory capacity such as vision and hearing (Fozard & Gordon-Salant, 2001; Schieber, 2006), and reductions in motor control (Ketcham & Stelmach, 2001; Newell, Vaillancourt, & Sosnoff, 2006) all increase with advancing age and play a critical role in everyday functioning. Data from the Australian Bureau of Statistics has indicated that approximately 40% of all persons aged over 60 years need at least some assistance to manage and cope with daily activities. This increases to over 80% for persons aged over 85 years (ABS, 2004). The recognition that one can no longer take care of themselves and/or their partner and that there is a need for assistance, or the acknowledgement that continuing care will be required in the future and the desire to not become a burden to family, are primary push

factors for relocation to a suitable retirement community (Bekhet et al., 2009; Gardner et al., 2005; Groger & Kinney, 2006; Krout et al., 2002; Piggot & Sane, 2007; Stimson & McCrea, 2004).

Similarly, the inadequacy of one's current residence may promote relocation. As the result of either normal age related decline, or reduced mobility due to a health condition, the home environment may no longer support an individual's needs. Design features such as open living spaces offering easy single-level access become increasingly important in maintaining independence. While in-home support aids to assist with personal and physical safety concerns are available, modification to the family home may be costly or in some cases impractical (Rioux, 2005).

In the absence of any physical limitations preventing an individual remaining in their own home, the burden associated with the size of the residence or garden and maintenance required for upkeep, may also be a push factor influencing relocation. The desire to reduce responsibilities and the effort required to manage a large house and property in favor of downsizing to a smaller unit (Bekhet et al., 2009; Groger & Kinney, 2006; Krout et al., 2002), the desire to plan for future health needs, and importantly, a desire to have input into one's future whilst able to do so (Groger & Kinney, 2006), all represent motives consistent with a selection response identified by the SOC model.

Finally, in respect to the physical environment, concerns regarding neighborhood safety can be an important motive behind the decision to relocate to a retirement community (Fonad et al., 2006; Sergeant & Ekerdt, 2008). As previously established, the neighbourhood environment is important in maintaining independence and can have a substantial influence on older adults' continued engagement in positive health behaviours such as physical activity (Tucker-Seeley, Subramanian, & Sorensen, 2009). Confrontational relationships with neighbours, safety concerns and traffic can all present barriers to older adults maintaining health and remaining in the community and

motives for relocation (e.g., Fonad et al., 2006; Graham & Tuffin, 2004). In contrast, retirement home residents report that feelings of vulnerability associated with reduced functional capacity are lessened through relocation to a village where predominantly residents felt safe and secure (Fonad et al., 2006; Graham & Tuffin, 2004). Indeed these potential benefits may then be even more important than maintaining independence in regards to the improvement of quality of life for older adults.

The pull element: As an alternative to health concerns being implicated in a push to leave a current residence, the retirement village environment may offer features perceived as beneficial for continued health and independence. Not only may one's current residential environment fail to support an increasing need for services, alternative residential options may simply offer better access. For example, driving cessation, a further life transition which may occur in association with age-related functional decline and the need for relocation (Liddle, McKenna, & Broome, 2004), brings an increased reliance on public transport for which easy accessibility is highly desirable if one is to maintain independence and avoid social isolation. Therefore, a desire to simply be within closer proximity to services and amenities such as shops, health and recreational clubs, community activities and medical facilities, and the proximity of a retirement community to such services, may be a pull factor encouraging relocation (Bekhet et al., 2009). Similarly, the design features and layout of apartments/units as having easily accessible living spaces (e.g., wheelchair friendly), along with maintained outdoor areas, may prove attractive incentives 'pulling' an individual to this residential option.

Physical health as a motivation for a change of residence is particularly significant in examining outcomes following relocation as functional capacity may dictate the degree to which the transition impacts a person's life. With the right person-environment fit, relocation may prove most beneficial for older adults with poor

physical health as they maximize the environment and opportunities afforded by the village in line with the SOC framework. Alternatively, those persons in better physical health, motivated to relocate for other reasons, may be more able to engage in the social and leisure aspects of the retirement village, thus affording them more positive outcomes in respect to social networks, engagement and subjective well-being. However, statistics indicate that despite reporting need for assistance, over 80% of persons over 65 remain living in their own homes (ABS, 2005). Therefore other factors in conjunction with declining health must drive decisions to relocate. The association between physical health and adjustment to relocation (i.e. social network change, engagement in life, SWB) was explored in the present study.

2.3.2 Social Influences on the decision to move

The loss of social support systems as individuals experience the loss of a partner or the relocation of friends and neighbours represents another major motive for relocation (Gardner, 1996; Sergeant & Ekerdt, 2008). Specifically, (1) perceived social isolation accompanying changes to one's social network in later life; and (2) the contrasting community friendly design of many retirement complexes represent important push and pull factors influencing residential location. *The push element:* Research investigating the migration of adults toward retirement communities in mid to late adulthood suggests that relocation is often motivated by social considerations, particularly when elderly persons live alone or do not live in close proximity to children (Silverstein & Zablotsky, 1996). Widows are more likely to move than other non-married persons, while married persons are the least likely to move (Choi, 1996). These motives center on the location of a retirement community placing older adults desiring social contact in closer proximity to family and pre-existing friends (Bekhet et al., 2009), driving decisions for relocation.

The pull element: Retirement communities may be a solution to perceived social isolation or loneliness through their community friendly design and encouragement of social engagement and participation (Graham & Tuffin, 2004). One survey of retirement village residents found 32% reported that a reason for relocating was to meet new friends (Buys, 2001). Regardless of the effort made to form new social contacts, condensed housing environments (such as retirement villages) increase the likelihood of engaging in informal social interactions with others (Percival, 2001; Sugihara & Evans, 2000). While chapter 3 presents a further detailed discussion of the importance of social networks for older adults, the experience of living in congregate housing can have a particularly positive impact on an individual's well-being if a previous environment has resulted in social isolation or loneliness (Buys, 2001). The appeal of a community environment, often promoted in age-segregated housing villages may therefore be a clear motive for relocation and can greatly influence other relocation outcomes. The association between social supports and adjustment to relocation (i.e. engagement in life, SWB) was explored in the present study.

2.3.2.1 Social influences discouraging relocation

Social influences also have the potential to discourage relocation. Negative attitudes and stereotypes associated with ageing can have a detrimental impact on the self-esteem (O'Connor & Rigby, 1996) and confidence of older adults (Hess, 2006). Similarly, relocation to a retirement community can be stigmatised, and negatively impact residents' self perceptions, self-concept and relationships with others as they are confronted with not only their own feelings but the reactions expressed by friends and family in respect to what the move represents (Fisher, 1990). Perceptions surrounding retirement village relocation can include an expectation that residing in such an environment dictates dependence or incompetence; a fear of becoming social isolated; and the idea that retirement villages are "places where old people live". It can also

involve having to confront the reality of ageing as something that not just "happens to others" and an adjustment to a different type of lifestyle (Fisher, 1990; Grant, 2006). Such beliefs act in opposition to motives for relocation and can present a barrier for successful relocation or initiate a negative experience that impedes adaptation. Moreover, attachment to one's community has also been identified as an important correlate of ageing-in-place. Relative to homeowners who have little contact with their neighbours, those who know almost all of their neighbours appear less likely to move (Sabia, 2008).

Finally, if an individual is pressured to relocate by family (even with the best of intentions) against their wishes, the move may create greater stress and further hinder adjustment (Smider, Essex, & Ryff, 1996). However, where positive attitudes and support surround the need to relocate, and the individual can take an active role toward future planning for later life (Lawton, 1991) the transition may be a constructive and positive experience. Beliefs and attitudes toward ageing, and aged care accommodation options, in addition to pressures felt from family members, can therefore significantly influence motives and outcomes for residential relocation in later life. The impact of pressure to move on adjustment to relocation (i.e. SWB) was explored in the present study.

2.3.3 Financial pressures

The socioeconomic status of a household has a strong influence on relocation decisions. Both the affordability of retirement community living and changes in economic status or financial constraints in later life reflect important factors influencing relocation (VanderHart, 1998). Reduced income following retirement or a change in personal circumstances (e.g., the death of a partner) may dictate the viability of residential options (Piggot & Sane, 2007). Financial pressures may initiate a move through a need to downsize to a more affordable residence (Stimson & McGovern, 2002). Similarly,

the financial status of the individual in retirement may influence perceptions of retirement village housing affordability (Finn et al., 2011). In fact, VanderHart posited that despite much of the literature emphasizing family, health and retirement status as impacting on housing changes, economic status factors such as income and financial assets play a significantly more important role than is often recognised.

An examination of the issues reported by retirement village residents in Australia has highlighted various financial concerns impacting the relocation process. Prior to relocation, prospective residents face financial considerations pertaining to the sale of the family home and concern for ensuring financial stability throughout retirement (Finn et al., 2011). The influence of housing tenure and the differential ease with which renters in comparison to owner-occupiers may be able to adjust and pursue new accommodation options has important implications. Furthermore, relative to renters, the more substantial and costly process of selling a residence, the perception of the home as an investment, and attachment to neighbourhood, reason homeowners are most likely to want to 'age-in-place' (Olsberg & Winters, 2005; Reschovsky, 1990). However, a 2000-2001 survey of retirement villages in Australia found that 94% of retirement village residents financed their relocation by selling their home, a necessary avenue for self-funded retirees (Gardner et al., 2005).

The affordability (or expense) of a retirement village residence may then be the most significant consideration dictating relocation options (Finn et al., 2011). As there are no regulated guidelines for the financial structure of buying into a retirement village, prices and payment systems depend on the village concerned. A variety of fees may be charged before or upon entry to the village. These often include: a deposit, based on the type of the property that constitutes rent for the duration of residence; management fees; and ongoing service fees for the maintenance of the complex. Additional entry and exit fees may also be applicable. Many providers offer multiple payment systems, or mixed

tenure financial arrangements, depending on the particular legal structure employed by the governing organization. These may offer residents either secure tenure (e.g., purchase of a freehold property) or the more affordable but less secure arrangements such as rental arrangements (McGovern & Earl, 2002). However, affordability remains an issue.

In the 1990s the National Housing Strategy conducted along side the Aged Care Reform Strategy (Howe, 1992) included an analysis of housing options for older people that addressed affordability and proposed a wide range of policy options. However, largely as a result of much of the growth having occurred in the private housing market, outside the scope of direct Commonwealth and State interventions, few initiatives followed (Howe, 2003). More recently, a report on demand and supply for retirement accommodation and residential aged care in the ACT (Howe, 2006) proposed further strategies in support of both assisting older Canberrans to remain in their own homes and the promotion of availability and affordability of appropriate aged accommodation. Since this time important steps have been undertaken to remove barriers to affordable housing and increase residential options for older adults as part of the ACT Affordable Housing Action Plan: Phase II (ACT Government, 2009).

While issues and community opinions relating to the affordability of retirement villages, particularly within an Australian context, have largely not been addressed within the literature, real and perceived costs associated with attaining a residence within a village complex may be an important barrier for some older adults (Finn et al., 2011; Gardner et al., 2005; Krout et al., 2002). An in-depth investigation of the financial arrangements of prospective retirement village residents is beyond the scope of the present study. However, an appreciation for the practical considerations and means through which individuals and couples feel they have the capacity to explore housing

alternatives is important in understanding the issues faced by existing and prospective retirement village residents.

2.4 Variability in motives for relocation

Substantial variability clearly exists in the reasons for relocation. With retirement housing attracting persons aged 55 years and over who display diversity in their employment, health and functionality, and family status. Research indicates that younger retirees who remain relatively healthy and are likely to be more financially comfortable and married, relocate with the intention of finding a better quality of life and increased access to facilities and services such as community, health and recreational clubs. In comparison, older retirees, who are likely to have experienced decreases in health and functionality and as such are more dependent and more likely to be widowed, relocate based on assistance needs with the purpose of support services, or to be closer to family (Bradsher, Longino, Jackson, & Zimmerman, 1992; Carter, 1988; Stimson & McCrea, 2004). Moreover, research supports Gardner's (1996) identification of two distinct groups of individuals who relocate to retirement villages; those identified as planners, who indicate future health concerns as major considerations in moving; and the reactors who, often older, move because of current health problems.

As a result of any combination of these push and pull factors (summarized in Table 2.1) older Australians may consider relocation to a retirement village. The reasons underlying a decision to relocate in later life may have a substantial impact on adaptation to the transition and adjustment to the new environment. As pull factors largely represent motivations suggesting voluntary relocation, they may reflect a more desirable and positive experience in contrast to involuntary relocation largely depicted by the push factors highlighted. However, in many cases, multiple factors may encompass one's motives for relocation, reflecting that SOC processes are operating

across multiple goals simultaneously to drive decisions (Bekhet et al., 2009; Stimson, McCrae, & Star, 2002) and deal with changes in late life (Choi, 1996).

Table 2.1
Motives for relocation: Summary of primary push and pull factors

Push factors	Pull factors
Declines in physical health or cognitive functioning of one's self or one's partner	
Inadequacy of current living environment pertaining to health/functional limitations	Better access to support services
Burden associated with size of current residence and maintenance required	More manageable residence
Social isolation	Community environment
Affordability	Affordability
Safety concerns	

Overall, it is clear that establishing an appreciation of the motives for relocation is important in understanding the experience and service needs of our older population. Although a major transition, relocation to a retirement village may be viewed as a favorable alternative avenue for 'ageing-in-place' where moves are made prior to any need for residential care. It is anticipated that within the social and physical supports constructed by the retirement village environment, residents are able to remain more independent than otherwise possible in the wider community, and maintain control through this significant life choice. Where issues of continuity of residential experience are important in maintaining a sense of meaning and identity amongst the experience of further changes to social networks, financial status or health, a supportive residential environment may play a critical role in enabling continued independence and well-being and the maintenance of a healthy lifestyle (Bridge & Kendig, 2005).

2.5 The Impact of residential relocation

As outlined, the relocation process can be a stressful experience. It can produce feelings of grief, insecurity and a loss of control and sense of identity (Morgan, Reed, & Palmer, 1997). Additional stressors such as changes in social networks, widowhood, illness or financial strain, may both underlie motives for relocation and provide challenges to well-being throughout the transition (Antonucci et al., 2002; Sergeant & Ekerdt, 2008). Further, negative consequences including increased health decline and associated increases in health care utilization, reduced financial independence, and decreased quality of life may then also accompany the move (e.g., Choi, 1996; Krout et al., 2002).

Investigation of the impact of retirement village transition has also highlighted that although such high-density living aims to foster social connection, a potential downside of condensed housing villages is a perceived lack of privacy amongst residents (Dupis-Blanchard et al., 2009). Discursive analysis on the experiences of retirement village residents has indicated that privacy is of major importance and concern to both current and prospective residents, with the perception that privacy violations are more likely in the village environment than in the wider community (Graham & Tuffin, 2004). As retirement village environments often promote community engagement, such fears can impede one of the benefits to this style of living. It is therefore important that village communities achieve a balance between sociability and privacy through the "careful management of relationships and respect for people's choices" (p. 187).

Despite this concern, the reports of retirement village residents are largely positive. Research examining the day-to-day experiences of residents across New Zealand retirement villages (Grant, 2006) found that despite residents reporting the experience of relocation as confronting and that such a move would never be made of one's volition, benefits were realized after only a short period of time. Village residents

reported that the physical and social environment (which incorporated a variety of intellectual, aesthetic and recreational activities) provided by the village had a "stimulating effect and helped them escape the stereotypes of old age" (Grant, 2006, p. 44); similarly "participants were unanimous that in spite of the stigma attached to these places, moving to a retirement village ensured one's identity was restored and there were numerous opportunities to engage with others – provided a feeling of rejuvenation" (p. 45). The same research (Grant, 2006) reported that this sense of renewed vitality was gained as a result of the peace of mind achieved through living in a community environment surrounded by people of similar age where their independence was reinforced. Moreover, resilience was demonstrated by the adaptation of residents to the number of often unpredictable physical and social changes occurring with ageing and the pursuit of activities and relationships that provided motivation to maintain an active lifestyle. Rather than a predicted pattern of withdrawal from community and social interactions occurring in later life, based on disengagement theories of ageing, the transition to retirement village living was viewed as a "type of new beginning, a desire for continuity" (p. 50).

Furthermore, a cross-sectional survey study comparing residents of independent living units within retirement villages and the community (Gardner et al., 2005) found village respondents retrospectively reported greater improvement in quality of life (overall life satisfaction, satisfaction with friendships, satisfaction with social life) since moving compared to persons who had considered relocation but remained in the community. Further satisfaction was also reported in the suitability of the new home and garden compared to their previous housing environment. Enhanced quality of life for village residents was achieved through the balance between autonomy and security in the residential environment. Amongst those residents reporting that overall they had experienced an improvement in life, reasons for the change were reported as a

consequence of the community environment, the more manageable residence, and the health support and physical aspects of the village. Examining outcomes to an independent living community, Rossen and Knalf (2003) have also reported residents as healthier, with an improved perceived quality of life, post-relocation. Specifically, well-integrated individuals have been found to report higher self-esteem, lower depressive symptoms and higher quality of life than those experiencing either partial or minimal integration.

Overall, the research suggests that retirement villages are an accommodation option that can enhance the social networks, engagement and well-being of our older population, and provides some evidence that the supportive residential environment can buffer the impact of other lifespan transitions for those who choose to move to a village. However, variability in the reactions of individuals to this transition suggests that the impact of the relocation experience is associated with a range of determinants, such as sociodemographic and environmental characteristics, social supports, and an individual's psychological resources (Armer, 1996; Rossen & Knafl, 2003; Smider et al., 1996). to the present study aimed to identify the key factors which contribute to a positive relocation experience and long-term adjustment as a foundation as a means to assist aged care providers in encouraging positive environments and well-being amongst their residents.

2.6 Chapter Summary

The importance of the home environment in the lives of older adults highlights the significance of relocation for well-being in later life. Importantly, successful adjustment to living in a retirement village may largely depend on the extent to which the new environment provides a sense of home and 'fit' with the individual. A variety of motives may drive relocation. Most commonly these include a decline in physical health

status, desire for social support, and financial considerations. Through establishing an appreciation of the circumstances initiating a move, we may better understand the impact of relocation, and the process of adjustment to this transition. Past research highlights the potential for negative experiences (e.g., a lack of privacy) as well as the positive impacts of relocation on the well-being and social relationships of older adults. In the following sections focus on social networks, subjective well-being, and engagement in life, as specific indicators of adaptation following relocation, and the underlying determinants of adjustment in each domain. Although personal characteristics may define the type of person for whom this style of living is most suited, and there is considerable diversity among the characteristics of Australian retirement villages, further comprehensive investigation into the experience of new residents can only benefit the future of the industry.

Chapter 3. Social networks as indictors of adjustment to transition

Social networks play an important role in maintaining positive health and well-being in late life through providing support, belongingness, companionship, and cultivating a sense of meaning in life (Matt & Dean, 1993; Mendes de Leon et al., 1999; Seeman, Lusignolo, Albert, & Berkman, 2001). Individuals with fewer social ties experience poorer physical health; specifically, impaired immune functioning, poorer sleep efficiency and quality, and elevations in circulating levels of cortisol (Pressman et al., 2005). Even after controlling for sociodemographic and health characteristics, research has found social engagement (close contact with friends and family) has beneficial effects on maintaining functional physical health and independence and facilitating physical activity (Cherry et al., 2011; Pin et al., 2005).

Research has also established a connection between social support networks and cognitive functioning. Poor social networks and a lack of engagement in social activities amongst older adults has been noted to accelerate the appearance of cognitive decline and dementia (Fratiglioni, Wang, Ericsson, Maytan, & Winblad, 2000; Zunzunegui et al., 2004). In contrast, an extensive social network can delay cognitive decline by providing emotional and intellectual stimulation, practical support, and enabling an elderly person to more easily compensate for any mild cognitive impairment (Fratiglioni et al., 2000).

Both cross-sectional and longitudinal research have supported that a linear decline in network size is typical with advancing age (e.g., Fung, Carstensen, & Lang, 2001; Shaw, Krause, Liang, & Bennett, 2007). However, rather than network size, it is the level of perceived connectedness and the quality of social interactions, whether positive or negative, which most strongly relate to well-being, physical and psychological health

throughout life, and sustained independence in later life (Baumeister & Leary, 1995; Berry & Rickwood, 2000; Fiori, Antonucci, & Cortina, 2006; Newsom, 2005).

Social network change and the impact of social networks on individual well-being in later life have been explored from different theoretical approaches, most notably the convoy model and socio-emotional selectivity theory (Carstensen, 1995; Carstensen, 1993; Kahn & Antonucci, 1980). Each propose mechanisms for change throughout the lifespan and the reported decline in social contact occurring with age (Lang & Carstensen, 1994). If social networks typically decline with age, the collective examination of structure, function and quality of social networks presents a unique contribution to the examination of well-being in the context of ageing (Fiori, Smith, & Antonucci, 2007). The following discussion outlines these theoretical approaches and addresses the nature and development of social networks in later life. Investigation then focuses on empirical evidence highlighting changes to network size in late life, the impact of social networks on positive health and functioning, and the importance of examining the quality of social exchanges. The impact of major late life transitions such as residential relocation on social networks is then examined. Personality is investigated as a factor that may contribute to social network change throughout the relocation transition.

3.1 Theoretical models for social network change in later life

The Social Convoy model (Carstensen, 1993; Kahn & Antonucci, 1980) and Socioemotional Selectivity Theory (SST; Carstensen, 1993; 1995) represent two theoretical frameworks for understanding changes in social networks throughout the lifespan. The convoy model describes the structure and function of one's social network as comprising layers of network members which provide differing degrees of social support in the face of challenges over the lifespan. It suggests support is

primarily obtained from one's inner circle of close friends and family members. However, acknowledging changes which may occur to networks in later life it offers encouragement for the retirement village environment improving support systems and social connection. SST then provides a framework for understanding change (decline) in network size in later life. It poses an adaptive process, not dissimilar to the SOC model, whereby older adults become selective in their social exchanges over time to favor quality over quantity of network members.

3.1.1 The Convoy Model

The social convoy model proposed by Kahn and Antonucci (1980) provides a broad framework for organizing the diverse nature of social relationships across the lifespan. Grounded in theories of attachment and social roles, it describes an adaptive lifespan process whereby individuals form part of a dynamic network, or convoy, of family and friends. This network, shaped by personal (age, gender, personality) and situational (role expectations, demands) factors, serves to support the individual in coping with various life challenges. The convoy model suggests one's social network is flexible and acknowledges that relationships change across the lifespan, particularly in the experience of major life transitions. Proposing that both individual and situational characteristics influence the formation and continued evaluation of the convoy (Levitt, 2000), the structure, function and fundamental quality of social networks (as perceived by the individual) are most important to mental and physical health and well-being in later life (Fiori, Antonucci, & Akiyama, 2008). The convoy model suggests that careful selection of social partners is adaptive such that individuals construct the social networks that satisfy their needs (Lang & Carstensen, 1994).

In conceptualising the model, an individual's social network, or convoy, is represented as a hierarchy of concentric circles whereby those network members within the innermost circle, often immediate family, are seen to be the most important and

most constant network members over time. It is this inner circle which is proposed to provide most of the support received. The outer circles increasingly reflect acquaintances which may buffer social isolation, but offer little support or additional positive benefit to the individual. Research supporting the convoy model has demonstrated that in the presence of life transitions, such as following retirement from work, changes to the outer-circle support systems, in this instance occupied by co-workers, do not affect the immediate inner-circle of the social network and may not impact personal well-being. However, transitions that may involve a disruption to inner social networks can have a significant impact (Bossé, Aldwin, Levenson, Spiro, & Mroczek, 1993).

In later life, a reduction is social networks may be a function of widowhood, the loss or relocation of friends, or physical distance from other family; however, the convoy model suggest that the retirement village lifestyle may be adaptive. Supporting ideas also advanced by the SOC theory (Baltes, 1987), relocation to a retirement village presents opportunities for the restructuring of one's convoy to maintain positive well-being. In a close, age-segregated community, older adults may find new friends and neighbours who serve to occupy the inner circle of the convoy. The close contact and physical proximity within the community helps in facilitating what may be one of the most significant exchanges of social and emotional supports an individual receives. The convoy model may explain the flexibility and change which can occur in one's immediate social support systems that is encouraging for adjustment to a new environment and the prospect of relocation to a retirement village reducing social isolation and loneliness.

3.1.2 Socioemotional Selectivity Theory

Socioemotional Selectivity Theory (SST; Carstensen, 1993; 1995) provides a further avenue for investigating the psychological mechanisms involved in patterns of social

contact across the lifespan. SST is based on the assumption that social interaction is central to human survival and that it is for this reason that people engage in behaviours to achieve goals such as social attachment (Carstensen, Isaacowitz, & Charles, 1999). SST posits that as motivation for social connection becomes more prominent over the course of adulthood, a function of perceiving future time as limited and the need to achieve psychological goals (e.g., regulation of emotions), individuals become more selective in their choice of social partners to fulfill their needs. Consequently, the relationships invested in are those that provide the most pleasure and emotional meaning (Carstensen, 1995; Hyer et al., 2004). Importantly, SST argues that rather than explaining the decline in social networks observed in old age as a result of biological changes and losses unique to later life, it is a reflection of cognitive and emotional processes, originating in early development, operating to influence social behaviour across the lifespan (Carstensen, 1995). Decreasing contact with peripheral network members is seen as an adaptive response that maximizes social attachment, support and positive well-being (Bossé et al., 1993).

According to SST, both knowledge and emotion-related goals drive social behaviour throughout life, with a desire to establish a sense of social embeddedness and satisfaction in life particularly characteristic in old age (Carstensen, Fung, & Charles, 2003; Carstensen et al., 1999). It is proposed that when future time is perceived as limited, a shift occurs from long-term social relationship goals, such as vocational ambition, to an emphasis on emotionally meaningful, present-oriented goals (Carstensen et al., 1999). As a result, people are more likely to have smaller social networks comprising familiar, emotionally meaningful social partners (Carstensen et al., 2003) and engage in behaviour that maximises emotional gratification (Hendricks & Cutler, 2004). The smaller social networks of older people are then associated with strong feelings of social embeddedness (Lang & Carstensen, 1994). In contrast, when time is

perceived as open ended, future oriented goals, such as obtaining knowledge and developing new skills, are more likely to be pursued. Empirical evidence supports that in comparison to younger adults, older adults show stronger preferences to spend time with familiar social partners over acquaintances or other novel persons through whom they could gain knowledge (Carstensen et al., 1999).

SST has important implications for areas of developmental psychology and gerontology. Research supporting SST suggests that behavioural changes in late life do not simply reflect efforts to cope with loss. Rather, they represent active adaptation to new circumstances and environments, and the influence of social context and individual personality characteristics (Lang, Staudinger, & Carstensen, 1998). This theory complements the SOC model of adaptation to late life transitions (Baltes, 1987). Through the selective restriction of social contacts, older adults compensate for reduced physical and cognitive resources and allow more time and energy to be devoted to close supportive relationships, rather than trying to maintain contact with a diverse group of acquaintances (Carstensen et al., 1999).

Expanding on these theoretical perspectives, empirical research examining the specific characteristics of social networks in later life and the subsequent impact of later life transition is discussed in the following sections. As older adults increasingly experience resource deficits (such as widowhood, illness and financial strain) that challenge their health and well-being; social relations and the degree to which both positive and negative social exchanges promote healthy ageing, positive affective states or exacerbate the risk of depressed affect requires consideration (Antonucci et al., 2002).

3.2 Social network size in later life

The social networks of individuals vary greatly in size, composition, geographic proximity and frequency of social contact. In particular, different life stages are often accompanied by changes to social networks. In later life, changes coinciding with significant events such as the birth of grandchildren, widowhood, and relocation, highlight the continual variability of support networks. However, despite this, the accumulation and development of a network over time is unique and significant as a form of social capital influencing the exchange of supports (Ajrouch, Blandon, & Antonucci, 2005).

Research examining network size as the most basic structural characteristic of social networks in later life, highlights the variability of network development and structure demonstrated in the theoretical models. Providing evidence for SST, cross-sectional research comparing the network size of younger and older cohorts (e.g., Fung et al., 2001; Litwin, 1996) has suggested that a linear decline in social network size is typical with increasing age. However, these age differences appear predominantly the result of reductions in peripheral social partners rather than close significant relationships, and may reflect the role that life transitions (e.g., retirement from work, relocation) have on social networks (e.g., Bossé et al., 1993). Moreover, for many older adults, the number of close relationships (with friends or family) and the amount of emotional support received appears to remain relatively stable (Due, Holstein, Lund, Modvig, & Avlund, 1999; Ertel, Glymour, & Berkman, 2009; Lang & Carstensen, 1994; Schnittker, 2007). This is consistent with the concept of selection proposed in the social convoy model (Kahn & Antonucci, 1980).

While much of the evidence for age-related change is based on cross-sectional data, and therefore cannot be used to establish individual change over time, the limited longitudinal data available do also offer some support for SST. Examining social

embeddedness, identified by the level of contact with social network members rather than raw network size, differences are also observed across network domains. While overall reductions in the social networks are observed, over time older adults report declines in friend networks but stable levels of contact with family (Shaw et al., 2007). However, increasingly evidence is supporting the importance and stability of friend networks in late life. The Longitudinal Aging Study Amsterdam (Stevens & Van Tilburg, 2011) found within a cohort of 55-64 year olds evidence for stability in friend networks continuing to 77 years of age, rather than the steady decline often considered characteristic of later life.

Distinctions made in identifying separate friend, family and neighbour network domains, may be of particular significance in the investigation of changes which occur following transitions such as relocation to a retirement village. Considering the significance of ties beyond the family, in later life, friends may play a central role as a helping resource. Friend networks figure in a number of supportive roles, particularly among older people without children or those who are single. Many older adults have lifelong friends who may be as, if not more, emotionally and practically significant to their lives as relatives. In addition, given the increasing geographical mobility and the dispersion of families, friends often offer crucial support and assistance (Bernard, 2001).

In seeking to understand the impact of social network size on major life transitions and the well-being of older adults, the broader social context, individual experiences and the role of sociodemographic factors require consideration (Antonucci et al., 2002; Stevens & Van Tilburg, 2011). While it has been suggested that gender differences observed in the social networks of younger adults may fade with advancing age (McLaughlin, Vagenas, Pachana, Begum, & Dobson, 2010) and investigations into the differences in the network composition of older men and women across nations has

found no significant differences in overall network size (Antonucci et al., 2002), some evidence still indicates that even into later life women maintain larger networks than men (McLaughlin et al., 2010).

In addition, other demographic characteristics also demonstrate moderate influences on social network size and composition. Lower socioeconomic status, reflected by level of education and employment status, has been associated with smaller networks, lower levels of social contact and greater perceived loneliness (Antonucci, 2001; Broese van Groenou & van Tilburg, 2003; Shaw et al., 2007; Stevens & Van Tilburg, 2011). In contrast to expectations, some research has indicated persons (men and women) widowed in later life report a sustained increase in social support networks following the loss of their partner (Utz, 2002). Therefore, while other studies have found no such association with social networks (e.g., Davidson, Brooke, & Kendig, 2001), it is largely acknowledged that socio-demographic characteristics often function to determine the nature and quality of social relationships and therefore require consideration when investigating change over time (House, Landis, & Umberson, 1988).

3.3 Quality of exchanges

Although an analysis of network size is valuable and informative, it does not signify social support or the level of embeddedness in a network (Magai, Consedine, King, & Gillespie, 2003). The impact of social networks and relationships on well-being is complex and while loneliness is consistently negatively related to positive affect and life satisfaction (Lee & Ishii-Kuntz, 1987), even close relationships are multifaceted making investigation into their impact on an individual a unique challenge (Ryan & Deci, 2001). Importantly, it is the perception of satisfying social relationships and the

type and quality of social interactions, whether positive or negative, that relate most strongly to physical and mental health and well-being in later life (Antonucci, 2001; Pressman et al., 2005). The reported quality and satisfaction with social relationships has even been noted to explain more of the variance in mental health and well-being than social network size (Antonucci, Fuhrer, & Dartigues, 1997; Ryan & Willits, 2007).

Despite social network size indicating declines with age, ratings of satisfaction with social interactions appears to increase (Lansford, Sherman, & Antonucci, 1998). Research has also indicated that people become more positive regarding their social relationships with advancing age (e.g., Fingerman, Hay, & Birditt, 2004; Rook, 2003). Older adults report better relationships with their children, closer friendships, and more positive relationships with their partner/spouse, than middle-aged and younger adults (Fingerman et al., 2004; Rook, 1984; Rook, 2003). Small social networks, indicated by a lack of friends, the loss of a spouse and the absence of a close relative are often considered to be indicative of loneliness in late life (Savikko, Routasalo, Tilvis, Strandberg, & Pitkälä, 2005). However, while older adults may report less perceived social support, as a function of smaller social networks, in general they are also less likely to report being lonely (Stevens & Van Tilburg, 2011). Moreover, older adults report fewer negative social experiences and a reduction in interpersonal conflicts with age (Fingerman et al., 2004).

Both structural changes in the networks and the interpersonal skills of older adults help explain why the quality of social relationships may improve in later life (e.g., Blanchard-Fileds, 2007; Lang & Carstensen, 1994; see Luong, Charles, & Fingerman, 2011 for review). According to SST (Newsom, 2005), positive relationships in later life may be optimised as a result of effort and time invested in maintaining those relationships from which older adults get the most pleasure and achieve the most benefit (Carstensen, 1995; Hyer et al., 2004). However, research on age differences in

appraisals of social situations has found that older adults both focus more on positive experiences and social interactions and disengage from negative experiences than younger adults. Thus, it may be that older adults ignore or indeed avoid negative social situations (Charles, Mather, & Carstensen, 2003). Older adults may also possess greater social expertise in diffusing negative social interactions (Hess, 2006; Hess, Bolstad, Woodburn, & Auman, 1999; Hess, Osowski, & Leclerc, 2005) and are more likely to engage in coping strategies aligned with avoiding conflict, thus increasing the likelihood of experiencing positive social exchanges (Birditt & Fingerman, 2005).

Positive social exchanges comprise the receipt of informational, instrumental, or emotional supports or companionship (Newsom, 2005). Positive social exchanges can have an immediate impact on positive affect, and individuals who report more intimate and higher-quality relationships tend to demonstrate greater positive well-being (Newson, Nishishiba, Morgan, & Rook, 2003). However, a significant source of stress in daily life can also emanate from interpersonal exchanges with family, friends and neighbours (Newsom, Mahan, Rook, & Krause, 2008). It has been suggested that negative social exchanges, characterized as unwanted advise or intrusion, failure to provide help, unsympathetic or insensitive behaviour, and rejection or neglect (Newsom et al., 2008), are more consequential and more reliably related to an individual's psychological health than positive interactions (Antonucci et al., 2002; Newsom, 2005). Examining the impact of positive and negative social exchanges on well-being and psychological distress amongst older adults aged 65 to 90 years, Newson et al. (2003; 2005) found that while negative social exchanges were related to lower levels of positive well-being and a greater degree of psychological distress, positive social exchanges were only associated with positive well-being. Despite initial cross-sectional analyses indicating support for a domain specific model of independent effects of positive exchanges on positive affect and negative exchanges on negative affect;

longitudinal models have demonstrated positive social interactions to have temporary positive effects on positive well-being, whereas negative social interactions demonstrated a more lasting impact on both positive and negative components of well-being.

The experience of negative social exchanges has also been found to predict associations with an increased risk of depression amongst older adults, even after controlling for factors such as demographic characteristics, personality and health status (Finch & Zautra, 1992). Moreover, Schuster, Kessler and Aseltine (1990) found that the absence of negative interactions are as important, or in some cases more important, than social support for combating depressed mood and promoting emotional functioning. In addition, daily negative social interactions have also demonstrated associations with physical health status. Rook (2003) utilizing daily diary measures over a period of two weeks found that a greater number of negative exchanges were reported by older adults also reporting a greater amount of life stress and more chronic health problems.

The impact of social networks on healthy ageing is an important area of research requiring development. As the population ages it will become increasingly critical to identify characteristics that can help to maintain and improve the lives of older people. While further research is required to determine if positive and negative exchanges are influencing the same or different dimensions of well-being (Rook, 1990); it appears that the quality of social relations can provide insight into the negative impact of challenges experienced by older adults and provide an avenue for identifying and increasing positive ageing outcomes (Antonucci et al., 2002; Newsom, 2005). In respect to relocation, it is clear that the characteristics of one's social network and perceived connectedness can be used to signal adaptation to a new environment; particularly in light of the social experience being a principal element promoted by service providers

as a benefit of retirement villages. However, as discussed in subsequent chapters, gaining an understanding into the impact of positive and negative social exchanges should also provide insight into how social resources facilitate other indicators of adaptation.

3.4 The impact of residential relocation on older adults' social networks

Social influences are some of the primary mechanisms behind decisions to relocate to a retirement community (e.g., Gardner, 1996; Sergeant & Ekerdt, 2008). Motives relating to a desire to increase social networks and reduce feelings of isolation, loneliness and loss, or be closer to family and friends, particularly following the death of a spouse, suggest retirement village living is an adaptive process in later life (Bekhet et al., 2009; Choi, 1996; Sergeant & Ekerdt, 2008; Silverstein & Zablotsky, 1996). However, despite the increasing trend of residential relocation to a retirement village, issues of adjustment within the context of friend, family and neighbour social networks is a topic few studies have examined. The following discussion examines evidence for the actual impact of such a major transition on social networks.

Available research examining the impact of residential location on contact with friend networks has found support for retirement village living increasing social networks. Importantly, research has also demonstrated that the establishment of new social contacts developed as a result of relocation does not appear to eliminate existing contacts. A case study of an Australian retirement community conducted between 1985 and 1987, found that the majority of responding residents indicated having formed close friendships with other residents, whilst still maintaining life-long friends (McDonald, 1996). More recently, an Australian study conducted by Buys (2001) also demonstrated that while residents living independently in retirement villages have more close contact with village friends than with friends living in the wider community, when telephone

contact was considered, contact with community friends was also significantly greater than their community-dwelling counterparts. Although as might be expected, visits to or from friends in the community became less frequent than those involving friends within the complex.

Contrasts made between older adults living within regular age-integrated community environments and those in age-segregated housing have also found that those living in the community are likely to experience greater isolation from friends than retirement village residents (Davidson et al., 2001). Specifically, retirement village residents report an increased experience of incidental contact with friends and neighbours than would be expected in an ordinary neighbourhood, which reduce feelings of isolation. For those retirement villages which place residences within walking distance to community activity centers and other services, residents also perceive greater social support and a sense of safety as a result (Percival, 2001; Sherman, 1975; Sugihara & Evans, 2000).

The composition of neighbours within ones social network is of particular significance in evaluating retirement village living. While community comparisons have found older Australians (60+ years) are more likely to visit neighbours, in part a function of the greater proportion of time spent a home, in a retirement village the role of neighbours may be extensive (Bauma et al., 2000). 'Neighbouring' traditionally involving the "exchange of goods and services between people living in close geographical proximity" (McDonald, 1996, p. 170) serves a unique function for maintaining an individual's sense of security and can be particularly strong in age-segregated housing complexes. For example, 'curtain signalling' (e.g., McDonald, 1996) is one common practice observed to have developed in retirement communities as a way for neighbours to unobtrusively check on each others' welfare each morning. The opening of one's curtains each morning 'signals' that everything is okay

(McDonald). Similar to incidental contact, this can provide comfort and a sense of safety, particularly for residents who live alone. In addition, other acts of 'neighbouring' such as providing meals or assistance with small home maintenance tasks also appear common within many retirement villages (e.g., McDonald) making these networks a significant source of support.

While some research has indicated that family networks remain irrespective of the geographic distance of family members, distinct from friendships that are more location dependent (Heisler, Evans, & Moen, 2003), research must also consider the impact of relocation to a retirement village on family relationships as an important component to many older adults' social networks. While work in this area is limited, a study by Buys, Miller, and Barnett (2006) demonstrated an increased utilization amongst retirement village residents in seeking instrumental support from village services. This resulted in consequences for the amount of time spent with family who would otherwise fulfill the same needs for assistance. While the choice to employ paid services may represent the desire to spend quality time with family, and to not be a burden, the result can be an overall reduction in family involvement and contact for residents in institutions such as retirement villages. This reduced family contact as a function of relocation is an important, unanticipated, and undesirable outcome in the evaluation of retirement village housing.

While it appears that living in an age-segregated or retirement community is largely characterized by opportunities for positive social contact and engagement in activities that serve to benefit older adults, the reality of living in such an environment can have other negative consequences. A study conducted by Dupis-Blanchard, et al. (2009) on residents of a senior-designated apartment building found that many residents (having a mean age of 79 years) did not seek to establish meaningful friendships. Instead, residents reported only superficial relationships with co-residents, looking to

other relationships to fulfill personal support needs. Similarly, as identified in chapter 2.5, other research (e.g., Caouette, 2005; Dupis-Blanchard et al., 2009; Forssén & Carlstedt, 2006) has found that within retirement village communities, which aspire to foster sociability, a perceived lack of privacy and separation from one's neighbours can represent an adverse outcome.

Finally, in investigating the impact of relocation on social networks it appears individual demographic characteristics (age, marital status) influence experiences. The study conducted by Davidson and colleagues (2001) investigating older adults living in age-segregated housing found that for residents over the age of 75 years, living in such an environment was positively associated with friendship interactions; however, no such relationship was indicated amongst those aged 65 to 74 years. In addition, simply living in proximity to others may not combat loneliness. A study of the living arrangements of older adults that pose a risk for perceived loneliness found single older adults were not only at risk of loneliness when living alone. Older adults living with others that were not a partner/spouse (i.e., relatives or friends) were also at a greater risk of loneliness than those with a partner (Greenfield & Russell, 2011). Moreover, research has suggested that the impact of age-concentrated housing varies with other individual and social factors, such as personality characteristics (Krause, Liang, & Keith, 1990), which may influence the relationship between proximity of residents and the degree of social engagement. However, further investigation is required.

From the available literature, it is apparent that retirement village life should not be regarded as a housing option suitable for all older adults. Issues of privacy and barriers to the formation of meaningful social relationships can and do exist. However, the nature of living in close proximity with other people in a setting such as a retirement village, can indirectly influence the amount of informal contact older adults have with each other. For those individuals who seek alternative accommodation due to isolation

or loneliness, living in congregate housing may be a beneficial option and ultimately have a positive impact on well-being.

3.5 Personality as a moderator of social network change following transition

In examining adaptation to transitions and positive ageing experiences for older adults, individual differences affecting the nature of the experience may be particularly important in explaining varying outcomes. The influence of personality characteristics on later life change in social networks, well-being and engagement in life (discussed in chapters 4 and 5), may have significant implications for examining relocation transitions. In the present study, the possible implications of personality traits, as identified in the Five Factor Model (Costa & McCrea, 1992b; McCrea & John, 1992), on the relocation transition were investigated.

3.5.1 The Five Factor Model of Personality

The Five Factor Model (FFM) of personality (Costa & McCrea, 1992b; McCrea & John, 1992) has emerged as a well accepted and widely used framework applied to the study of individual personality traits. Comprising five broad dimensions of personality (extraversion, agreeableness, openness, conscientiousness and neuroticism), each composed of a number of more specific and related traits or facets (Costa & McCrea, 1988), the model was derived through the statistical analyses of traits demonstrating a tendency to co-occur in people's descriptions of themselves and others.

The first of the personality dimension, extraversion, is characterised by the frequent experience of positive emotions and tendency toward being outgoing and sociable. Extraversion encompasses traits such as talkative, energetic, and assertive. Individuals high in extraversion are enthusiastic and seek engagement in social

activities. In contrast, introverts (those people low in extraversion) require comparatively less stimulation and prefer to be alone, portraying a more reserved character. However, although not as sociable they may be active and energetic.

Agreeableness is characterized by qualities of warmth and cooperation and encompasses traits such as sympathetic, kind, and affectionate. Individuals high in agreeableness have a propensity to be easily influenced by others, are trusting, submissive, considerate, friendly and generous. In contrast, people low in agreeableness tend to be suspicious of others, unfriendly, uncooperative, stubborn and often very competitive.

The third dimension, conscientiousness, influences the way in which people control, direct and regulate their impulses. It portrays a preference for organization and a planned approach to completing tasks and accomplishing goals. Individuals high in conscientiousness are well organized, self-disciplined, competent, thorough and dependable. Individuals low in conscientiousness are more likely to be more easygoing, disorganized, and may be careless or lazy.

Neuroticism (also referred to as emotional stability) reflects the level of anxiety or emotionality within the individual. It encompasses tendencies toward being tense, irritable, and anxious. People high in neuroticism demonstrate a tendency toward negative emotions, and may be hostile, overly sensitive to criticism, sad and lonely. Individuals low in neuroticism have a propensity to be emotionally stable, secure, calm, and relaxed even under stressful conditions.

Finally, Openness to Experience is reflective of a willingness to try new things and a general appreciation of art, adventure, imagination and variety in experience. Individuals high in openness have a tendency to exhibit traits such as curiosity, whereas those low in openness are likely to display more traditional or conventional interests and

approaches to tasks, and may be more rigid in their approach (Costa & McCrea, 1992b; Goldberg, 1990).

It is suggested that the combination of traits within these domains help explain and characterize behaviour patterns, understand how individuals deal with stressors, and understand the coping mechanisms employed in the adjustment to novel environments and major life events (Bolger & Zuckerman, 1995; Schmutte & Ryff, 1997; Suls, David, & Harvey, 1996). Each aspect of character forms a distinct contribution to health, well-being and social engagement (Bardi & Ryff, 2007). High neuroticism has been linked to greater perceived stress, greater number of reported conflicts and reactions of anger and depression (Bolger & Zuckerman, 1995; Kling, Ryff, Love, & Essex, 2003). Extraversion and openness are associated with increases in self-esteem and coping ability, and lower levels of stress and fear (Kling et al., 2003). Agreeableness facilitates coping strategies that draw on social support and conscientiousness, while holding to responsibility and control for an event, is associated with reduced stress (Kling et al., 2003; Penley & Tomaka, 2002). Personality characteristics then present a further complex but important facet in the process of examining the adaptation of individuals to significant life events, as explored in subsequent chapters.

3.5.2 Personality and social networks

Research has demonstrated connections between personality characteristics and a diverse range of social networks (e.g., friends, family). However, the focus of previous studies has largely centered on extraversion and neuroticism in line with the traits characterizing each. Research has shown that individuals high in extraversion typically demonstrate attributes reflecting good social skills, larger social networks and greater perceived social support (Digman, 1990; Russell, Booth, Reed, & Laughlin, 1997). In contrast, those high in neuroticism are somewhat less sociable reporting fewer positive

social relationships and lower levels of social support (Kalish & Robins, 2006; Russell et al., 1997). Furthermore, it has been suggested that agreeableness should be associated with increased experience of social support, particularly in the context of a relocation transition (e.g., Bardi & Ryff, 2007). However, research is limited in respect to a direct examination of the size and composition of support systems in relation to personality.

Past research has also provided limited investigation of personality characteristics and the social networks of older adults. Applying an understanding of how personality characteristics influence an individual's adjustment to change in later life may indicate why some older adults adapt more readily to the new environment. Specifically, individuals high in extraversion, may be attracted to, and actively seek engagement in the social opportunities offered by retirement villages. In addition, if high agreeableness, and conscientiousness is associated with adaption to different life events and new environments (Bardi & Ryff, 2007) and individuals high in openness seek challenging and novel experiences (Koenig & Cunningham, 2001a), individuals with these characteristics may experience more positive outcomes following relocation. However, few studies have examined personality traits as predictors of adjustment to transition and it appears that a gap exists within the literature, particularly in relation to evidence documenting the impact of a major life event on the social networks of older adults. Importantly, longitudinal research would allow an investigation of the way in which personality influences networks and the changes which result over time as the result of life events (Roberts, Wilson, Fedurek, & Dunbar, 2008). It is here that the present study sought to expand the present knowledge base in investigating the moderating effect of personality on changes in social network composition and relationship characteristics following relocation.

3.6 Chapter Summary

Social interaction is an important function of human behaviour (Carstensen, 1995). While evidence supports a general decline in network size with age, the quality and satisfaction with social interactions appears to increase. Importantly, it is the quality of social exchanges that appear to relate most strongly to health and well-being in later life. However, while positive social support can enhance physical and mental health, cognition, and well-being, negative social exchanges are associated with significant psychological distress, and may be more consequential, and more reliably related to an individual's health than positive interactions. The good news for older adults is that for many reasons (e.g., socio-emotional selectivity, age differences in appraisals of social situations, and experience) older adults do report fewer negative social exchanges than their younger counterparts.

With motives for relocation often tied to a desire to increase social networks or reduce loneliness, an investigation into the impact of residential relocation on older adults' social networks holds important implications. Available research into the experience of retirement village residents supports the proposed benefits to this style of housing as fostering the formation of new friendships and social networks, importantly while maintaining existing contacts. However, consistent with some factors noted as discouraging relocation, privacy is an important issue requiring investigation. Moreover, the provision of instrumental support in the context of the village services has the potential to negatively impact the role of family members in providing key social supports. The present study aimed to identify changes in social networks and exchanges experienced over time following relocation to the retirement village. To capture change within differing social networks, friend, family and neighbour networks were examined separately. Global perceptions of positive and negative exchanges and perceived loneliness were subsequently investigated over time. Based on the past

research it was anticipated that while initial declines in social networks may be observed in social networks and exchanges immediately following relocation; over time increases in friend and neighbour social networks and positive social exchanges, and reductions in perceived loneliness would be observed.

The examination of social network change in later life, particularly in considering late life relocation, also highlights a need to consider individual differences. Retirement village living may not be an ideal housing option for all older adults. Not only may an examination of personality characteristics help identify who is most attracted to this style of housing, it may subsequently indicate whether certain personality types adapt more or less successfully in respect to social engagement. It is anticipated that individuals high in extraversion, agreeableness, conscientiousness, or openness may possess characteristics most adaptive to the relocation transition.

In addition, physical health may also perform a role in facilitating the formation of new social networks, or maintenance of existing networks, following relocation. Currently, there is a paucity of research examining this aspect of the social network – physical health relationship. Following relocation, older adults with poor health may have functional limitations which create barriers to participation in activities that promote the formation of new social contacts. Alternatively, social exchanges may increase to a greater extent for individuals with poor physical health in an environment that serves to counteract issues associated with declining functionality. The association between physical health and social network change was explored in the present study.

Finally, the role of contextual factors (i.e., timing of the move in relation to the development of the village and opportunity for meeting new residents) in adjustment and social network change following relocation were examined.

Chapter 4. Subjective Well-Being and transitions in later life

Subjective well-being (SWB) combines both the affective (mood) and cognitive (life satisfaction) evaluation of one's life. Providing an assessment of positivity or wellness, an evaluation of SWB considers the individual as the best judge of their own well-being. Early research supporting the Dynamic Equilibrium Theory (DET; Headey & Wearing, 1989; Headey & Wearing, 1992) of adaptation indicated that SWB was largely stable. Grounded in genetically based predispositions, the impact of significant life events on levels of well-being was thought to be often only temporary. However, more recent studies have led to revisions of the theory and suggest that the environment may indeed play a significant role in changing one's set-point. In addition, increasingly research has provided evidence that at least following some events, a permanent change in well-being is observed (Headey, 2010). The impact of residential relocation in late life therefore presents an interesting case for studying the impact of major life transitions on SWB. While some research reports improvements in life satisfaction as a consequence of moving (e.g., Gardner et al., 2005); to date, no studies have examined changes over time in SWB following relocation. Moreover, little is known about factors associated with adjustment to such a transition.

The connection between control beliefs, positive health and well-being has been well established (e.g., Lachman & Weaver, 1998a; Peterson, 1999). As motives for relocation often center on age-related loss, the capacity for the new environment to assist in recovering control and independence is particularly important (Butler et al., 1998). Moreover, perceptions of control related to decisions to move may also have significant implications for post-move adjustment (Kampfe, 1999). As another principal motive for relocation (e.g., Sergeant & Ekerdt, 2008) and reported benefit of retirement village living (e.g., Percival, 2001), social support networks may be the most significant

mechanism by which relocation is associated with well-being (Antonucci et al., 1997) and may be particularly important in buffering the stress associated with such a major life transition. Finally, personality traits may represent both enduring dispositions leading directly to SWB and indirect associations which increase the likelihood of engagement in other areas of life that have subsequent impacts on well-being (McCrae & Costa, 1991). The following chapter reviews existing literature on the conceptualization of SWB and examines issues around adaptation following major life events. In investigating the potential impact of late life relocation on SWB, perceived control, social networks and personality are proposed as potential moderators of the relationship between relocation and for changes in SWB.

4.1 The conceptualization of subjective well-being and the Dynamic Equilibrium Theory

SWB as a broad construct is a reflection of an individuals' evaluation of their life. It incorporates both an affective component, comprising the dimensions of positive and negative affect, and the cognitive judgement of life satisfaction (Diener & Lucas, 1999). Furthermore, SWB may be examined as a transitory state, for example, affect may be assessed over a specified period of time (e.g., the last month), or as a stable trait, such as overall life satisfaction (Eid & Diener, 2004). Deconstructing the individual components to SWB, positive affect (PA) reflects the degree to which an individual feels enthusiastic, active and alert. High PA is characterised by a high level of energy, concentration and positive engagement, whereas low PA reflects sadness and lethargy. Negative affect (NA) represents a level of subjective distress and the extent to which a person experiences negative feelings such as anger, guilt, fear, and nervousness, while a high level of NA assumes greater distress, low NA depicts a state of calmness (Watson, Clark, & Tellegen, 1988). In contrast, life satisfaction is a conscious judgement of

quality of life based on an individual's own set of criteria. A comparison made between one's perceived life circumstances and standards they hold to represent a high level of life satisfaction (Pavot & Diener, 1993; Shin & Johnson, 1978). Although theoretically similar to optimism and self-esteem (e.g., Green, Goldman, & Salovey, 1993; Green & Salovey, 1999; Tellegen, Watson, & Clark, 1999a; 1999b), analyses of the discriminant validity of established scales supports PA and NA as related, albeit distinct constructs (Schmukle, Egloff, & Burns, 2002; Watson & Clark, 1997) and along with life satisfaction, optimism and self-esteem each provide discrete contributions to the conceptualisation of well-being (Lucas, Diener, & Suh, 1996).

Among hedonic psychologists, well-being is viewed as a level of subjective happiness encompassing all judgments made regarding positive and negative experiences in life. However, well-being is a multidimensional phenomenon and debate exists over the validity and measurement of SWB as an indicator of psychological wellness. Supporters of the eudemonic perspective assert that SWB does not equate with well-being. Rather it is psychological well-being (PWB) that fosters healthy living (Ryan & Deci, 2001). However, the present study accepted SWB as an operational definition of well-being under an alternate position that being satisfied with one's life and feeling both relatively more positive affect and less negative affect frequently points to psychological wellness (Ryan & Deci, 2001). In support of this approach, Diener, Sapyta and Suh (1998) have highlighted that the study of SWB is particularly important as it "allows individuals rather than experts (us) to decide what is important to them" concepts incorporated in psychological well-being such as mastery are worthless "unless they help individuals to create more satisfying lives for themselves and others" (p. 37).

In developing an understanding of SWB as a major indicator of adjustment following residential relocation, Dynamic Equilibrium Theory (Headey & Wearing,

1989; Headey & Wearing, 1992) introduced in chapter 1, provides a useful perspective on adaptation, with the concept of set-point fundamental in predicting the influence of major life events. The primary idea behind the set-point approach to SWB is that over time people have a tendency to adapt to both the positive and negative experiences encountered in life (Brickman & Campbell, 1971; Brickman, Coates, & Janoff-Bulman, 1978). Life events can result in temporary fluctuations in SWB; however, personality characteristics predispose a stable baseline to which SWB returns after a period of time (Headey & Wearing, 1992). It is proposed that this long-term stability in SWB is greatly influenced by genetically based predispositions and as such genes have at least a moderate influence on variation in long-term SWB (Lykken & Tellegen, 1996). However, others (e.g., Huppert, 2005) argue that environment makes a larger contribution to SWB, and actions which are under the control of the individual have a more lasting impact. Furthermore, although there may be some genetic influence on SWB estimates, effect sizes vary greatly and influences on environment and genetics may be dependent on the component of SWB studied.

Although DET suggests that following a significant event SWB should return to pre-event levels, empirical evidence is inconsistent regarding adaptation following different life events and the time period required for adjustment to occur. Some studies have shown that in general people adapt to most life events relatively quickly and return to a base level of SWB within a short space of time. Suh et al. (1996) found the impact on levels of SWB following a range of different life events (including marriage and death of a family member or friend) to have diminished by six months post event. However, other studies have indicated that the same significant events can have a more lasting impact on SWB. Winter, Lawton, Casten and Sando (2000) reported that changes in SWB identified following marriage and widowhood remained notable six to eight months post event. Moreover, while detailed study of adjustment following

residential relocation is limited, Rossen and Knafl (2007) found that at four months post-move, reported quality of life showed improvement compared with pre-move levels, indicating a return to base levels was yet to occur.

Since its conception, revisions to the DET have extended the original model to acknowledge the impact of different life events and individual characteristics (e.g., personality traits) on SWB which may predispose people to experience variable degrees of change (Headey, 2006). Specific examination of the nature and stability of life satisfaction has found a modest constancy or "soft baseline" whereby it appears that individuals do have a largely stable set-point around which fluctuations occur. However, for a (small) proportion of individuals, events can cause a permanent, significant and substantial change to occur (Fujita & Diener, 2005).

Longitudinal examination has reinforced the stability of SWB such that affect and perceptions of life satisfaction appear to remain moderately consistent across an individual's life experiences (Diener & Lucas, 1999). However, although temperament may be an underlying influence of both affect and life satisfaction, life satisfaction is inclined to show more stability than the affective components of well-being. Moreover, life satisfaction is considerably less stable than personality (Fujita & Diener, 2005; Roberts & DelVecchio, 2000) suggesting that more unstable environmental factors may exert a larger influence over time than genetic predispositions (Fujita & Diener, 2005). In particular, Eid and Diener (2004) found stability in satisfaction with life over 4 weeks, with 74% of variance accounted for by stable individual differences. However, enduring stability over two years has shown a strong positive association with education (Meeks & Murrell, 2001).

Luhmann and Eid (2009) further extended previous work (e.g., Lucas et al., 2004) to demonstrate that if experienced repeatedly, some life events (e.g., unemployment) are associated with an increased sensitivity and permanent reduction in life satisfaction as a

result of accumulated stressors and financial and social pressures. However, for other life events, such as divorce, adaptation continues to occur, with subsequent divorces having a smaller impact than the initial experience. In a similar manner, they found that the experience of a single marriage generated a greater level of life satisfaction than did entering into a second, third or fourth marriage. In a recent review, Luhmann, Hofmann, Eid and Lucas (2012) further identified that the initial impact and rate of adaptation may vary substantially across different life events and that life events may have differential effects on the affective and cognitive components of well-being. Taken together, the existing research highlights the degree to which adaptation occurs in SWB may vary largely according the nature of the event. This confirms the value in considering changes in SWB as they relate to relocation.

Investigating reported declines in SWB occurring over the lifespan, in the absence of specific life events, Diener and Lucas (2000) have reported that the multidimensional nature of well-being may drive the inconsistencies in conclusions drawn regarding stability. Suggesting that measures of PA focus on arousal and excited states in contrast to the less active states of NA, they have proposed that while PA tends to decline with age, life satisfaction and NA are more likely to remain stable. The focus on less activated states of NA or life satisfaction in some research may then account for the lack of observed declines and the variable degrees of stability. However, overall research suggests that not only does SWB not typically decline in old age, but that overall SWB increases despite the challenges and losses associated with ageing. Specifically, research indicates a U-shaped relationship between age and affect whereby both young and older portions of the population are found to report the highest levels of SWB in comparison to a decline which occurs within the middle age cohorts (Lacey, Smith, & Ubel, 2006; Mroczek & Kolarz, 1998; Windsor & Anstey, 2010).

Overall, research establishing the nature of SWB, both in the presence and absence of significant life events, suggest that there are varying degrees of stability of in an individual's SWB over time. Despite a proposed genetic component to baseline levels of SWB, some significant events appear to result in long-term changes in SWB. Others appear to produce only temporary fluctuations. While this may be a function of the type of event experienced, or the component of SWB studied (PA, NA, or life satisfaction), it is also important to acknowledge the impact of other factors contributing to an individual's well-being.

4.1.1 Correlates of SWB

While a number of factors have found to correlate with well-being over time, relatively few factors have emerged as consistent predictors of SWB. Those which have, include personality characteristics, social relations, income, employment status and societal/cultural influences (Pavot & Diener, 2004; Vaillant, 2004). Examining the impact of socio-demographic characteristics, Meeks and Murrell (2001) found that higher educational attainment was associated with low NA, and low NA was associated with greater life satisfaction (and better health). In addition, a strong relationship between SWB, health and longevity (see Chida & Steptoe, 2008; Diener & Chan, 2011), has also been identified, supporting that illness, injury or functional limitations may directly increase NA, and reduce PA and life satisfaction. Specifically, an early meta-analysis by Okun et al. (1984) relating self-reported physical health to SWB found an average correlation of 0.32. However, highlighting that the subjective experience of health status can be a major factor in SWB, Okun et al. found that when health was rated by others the correlation dropped noticeably to 0.16.

Finally, indicators also point to a number of further short- intermediate- and long-term influences. Key factors include not only personality characteristics, which may underlie the stability of SWB, but other psychological characteristics (e.g., perceived

control) and available resources (e.g., social support). Perceived control over one's immediate environment has been identified as a major determinant of well-being amongst older adults (Lachman & Weaver, 1998b). Individuals with a higher sense of control report greater life satisfaction and a more optimistic outlook for the future (Lachman & Firth, 2004). Social networks, particularly the nature of interactions as either positive or negative relate to well-being and psychological health in later life (Newsom, 2005). Finally, personality characteristics may contribute to SWB by influencing how one copes with stressful events, and new situations. For example, within the context of relocation, an event with the potential for positive, negative, or neutral outcomes, personality may be associated with individuals' perceptions of the move.

Turning to a more detailed discussion of the potential impact of relocation on SWB, it is acknowledged that methodological limitations restrict the conclusions that can be drawn from many studies of adaptation. A major challenge in the investigation of SWB and change over time has been the validity and sensitivity of measures to minor life events (van Hoorn, 2007). Moreover, most studies are not longitudinal and fewer are prospective, meaning that pre-event levels of SWB are unknown and changes over time cannot be established to adequately identify the processes underlying adaptation (Lucas, 2007; Suh et al., 1996). In light of the impact of individual characteristics (e.g., personality, social supports) on adaptation, investigation is required to examine the role of different moderators in the process over time. This would advance an understanding of the role of individual differences in long-term outcomes following significant life events, and the identification of characteristics which promote or prevent adaptation (Diener, Lucas, & Scollon, 2006; Lucas, 2007).

4.2 The impact of residential relocation on subjective well-being in later life

With the general nature of well-being established as a fluctuating albeit largely stable and consistent indicator of adjustment, the impact of relocation to a retirement village on SWB is considered as an interesting case of adaptation to a significant late life event. As indicated in previous sections, relocation to a retirement community can have important implications for social networks and engagement in later life through combating social isolation and loneliness. However, despite a strong research focus into processes driving decisions to move, and the significance of the home environment to older adults in regards to attachment to place; to date, only a couple of studies have examined the actual experiences of residents following relocation in respect to their SWB.

As briefly discussed earlier, a cross-section survey conducted by Gardner, et al. (2005) compared the life satisfaction of residents of independent living units within retirement villages and the community. While actual changes in satisfaction over time cannot be established, the retrospective accounts of respondents indicated that those who had relocated to a retirement village (in the preceding 0.4-4.3 years) reported a significant improvement in all measures of quality of life post-move, compared with community residents. In addition, Rossen and Knalf's (2003) report of residents' perceptions of the transition process were also positive, indicating improvements in their perceived quality of life post-relocation. However, it appears that no previous research has addressed factors associated with adaptation, in conjunction with a prospective longitudinal investigation of relocation outcomes on resident well-being.

Nonetheless it is anticipated based on the larger body of adaptation research that although relocation in later life may produce an initial reduction to individuals' level of well-being, a consequence of the stressful nature of the experience, the potential benefits of the new environment should subsequently result in increased SWB.

Increased confidence in one's ability to cope may be in itself a significant contributor to positive adjustment and result in sustained increases in positive affect and life satisfaction (Armer, 1996). However, what is unknown is whether relocation would be expected to lead to lasting changes in SWB, or if consistent with set-point theory, residents experience a return to relatively stable levels of well-being after a period of time. The present study aimed to explore this question.

4.3 Psychological resources and determinants of well-being in the adjustment to transition

In the adjustment phase following any major life transition, the consequences for an individual's well-being are likely to be linked with their pre-existing psychological resources and social support systems. However, further research is required to establish factors relating to immediate, short- and long-term outcomes following late life relocation. Previous studies, such as that by Smider et al. (1996) have indicated the importance of investigating the impact of the psychological resources of the individual and contextual factors relating to the move (e.g., pressure felt to move and relocation difficulties) on post-move outcomes. In particular, the study by Smider et al., following a sample of older women (aged 55 and over), for a period of 15-months, examined aspects of psychological well-being, the moving experience and emotions related to relocation. They found that having a sense of autonomy and control somewhat buffered the aggravating effects following the move. Furthermore, as would be expected, greater difficulties associated with the move were predictive of higher levels of aggression. Overall, their evidence suggested that: (1) investigating psychological resources is important in understanding emotional responses to relocation; and that (2) contextual characteristics are especially significant in understanding short-term adaptation to a life change such as relocation. The following section outlines the potential influence of

perceptions of control and independence on SWB. In addition, the role of social support systems in promoting well-being across the transition is discussed. Finally, as major determinants of well-being and adjustment, the potential role of personality characteristics in influencing SWB across the relocation transition is addressed.

4.3.1 The role of perceived control in subjective well-being change

Control is important to psychological functioning. Experimental and correlational research conducted across the lifespan has demonstrated that the perception of control over one's life and immediate environment is a major determinant of physical and mental well-being amongst older adults, and a contributor to successful ageing (Rowe & Kahn, 1997). Individual differences in perceived control are related to a variety of positive outcomes, including health, achievement, optimism, persistence, motivation, coping, self-esteem, personal adjustment, and both success and failure in different life domains (Skinner, 1996). When people perceive that they have a high degree of control, they exert effort and initiate action when presented with challenges, and persist in the face of failures and setbacks. They evoke interest, optimism, sustained attention, problem solving and an action orientation. When people perceive control as impossible, they withdraw and become passive in the face of challenges. They can become fearful, depressed, pessimistic and distressed (Lachman & Weaver, 1998a; Skinner, 1996). Two basic distinctions are used here to form a framework for constructs of control. The first distinguishes objective control, subjective control and experiences of control. The second distinguishes specific versus global control.

The distinction between objective and subjective control is essential in the discussion of research, as perceived (subjective) control may influence behaviour and emotions, independent of actual (objective) control conditions. Importantly, subjective control may be a more powerful predictor of functioning than actual control. Moreover, the effect of loosing or gaining control is only of psychological significance if the

person recognises (accurately or inaccurately) the loss (Skinner, 1996). Rather than actual conditions (objective control) or beliefs (subjective control), the experience of control, referring to a person's feelings as they interact with the environment and attempt to either produce a desired or prevent an undesired outcome (Skinner, 1996), may be most significant in adjustment to age-related challenges and new environments.

In addition, control beliefs can be situation specific or global beliefs. Global beliefs span all outcomes and areas in life and may be considered an individual's world view. Global beliefs are operationalised along the dimensions of personal mastery and perceived constraints (Lachman & Weaver, 1998a) . Personal mastery represents the "sense of efficacy or effectiveness in carrying out goals". Perceived constraints refer to the extent to with an individual "believes there are obstacles or factors beyond one's control that interfere with reaching goals" (Lachman & Weaver, 1998a, p. 765). However, beliefs may also be expressed in relation to specific life domains (Lachman & Weaver, 1998a). For example, a high level of control may be felt over one's own health, while low levels of control are felt in regard to social relationships.

An understanding of these processes, and the identification of different types of control (specifically subjective control), may be particularly important in considering the experience of relocation and the impact on an individual's well-being in light of motives for relocation often centered on compensating for age-related loss.

4.3.1.1 How and why is control important?

The connection between control beliefs, specifically perceived control (subjective control) and positive outcomes across many domains has been well established (see Lachman, 2006 for review; Lachman & Weaver, 1998a; Lachman & Weaver, 1998b). It has been demonstrated that greater perceived control over one's health is related to better access to services, perceived reduced risk of major disease such as cancer and heart disease and overall fewer health problems, a more active lifestyle and overall

better health (Lachman & Weaver, 1998a). Individuals who believe that they have control over their work environment, report greater job satisfaction and performance (Judge & Bono, 2001). Moreover, people with a higher sense of control report greater life satisfaction and a more optimistic outlook for the future (Lachman & Firth, 2004). In examining the impact of significant life events, such as residential relocation, on well-being, perceived controllability over the event has also demonstrated a positive association with the individual's physical health, psychological well-being, and the use of adaptive coping strategies (e.g., Bandura, 1997; Rodin, 1986). While the possession of personal control is allied with facilitating positive well-being, a lack of control finds associations with decreased morale, poor health, social isolation and academic and vocational failure (Peterson, 1999).

This has particular significance in relation to the pressures older adults feel in relation to the move and the consequences for adjustment to the new environment (Schulz & Brenner, 1977; Smider et al., 1996). A study by Kampfe (2002) examining perceptions of residential relocation to a retirement village, found that while most residents reported that they had control over the decision to move and the event, a number did not. It should therefore be considered that some older adults may experience a sense of disempowerment following relocation, which could place them at risk of using maladaptive coping strategies or having a low sense of life satisfaction following the transition.

Turning to domain specific beliefs, the control one has over the home also has important significance in late life. As discussed previously, the home environment plays a central role in maximising personal control to maintain independence (Butler et al., 1998), and as such relocation to a retirement community can provide significant benefits (e.g., Gardner et al., 2005; Grant, 2006). Specifically, an examination of the relationship between perceptions of relocation and life satisfaction, by Kampfe (1999),

found that perceptions of controllability and an overall favourable perception of the move were positively related to life satisfaction. People who thought they had control or who perceived that the move was positive had higher life satisfaction than did their counterparts (Kampfe, 1999). However, a lack of control over modification of the residence, within the policies of a retirement village, could be considered a barrier for positive well-being.

Financial control may be a further important domain for older adults in the context of post-retirement housing and relocation, as financial status (along with health) greatly influence the level of control one has over where they live (Schwirian & Schwirian, 1993). With a growing body of evidence indicating that home modification and home ownership improve safety, well-being and mental health (e.g., Faulkner & Bennett, 2002), the prospect of retirement village living introduces concerns over the impact of relinquishing this control. The ability to modify one's home environment to address issues of suitability is largely dependent on home ownership and financial status (Bridge & Kendig, 2005). While just over 80% of older Australians aged 65 and over are home owners, a substantial number of older people (11% in public/private rental situations) would not be in a position of control over their living environment due to the nature of private tenancy arrangements or other contractual arrangements (Australian Institute of Health & Welfare, 2007). Therefore it may be important in investigations of environmental and neighbourhood perceptions that investigations are conducted in recognition of potential differences between homeowners' sense of loss of freedom in moving to retirement village style living and that of renters. It is likely that home ownership provides a significant degree of personal control, especially in the areas of accommodation and the provision of a secure sense of home that is crucial to one's sense of autonomy and well-being (Howden-Chapman, Signal, & Crane, 1999). However, with increasing age, variability in preferred amounts of control increases and

sometimes greater control can have negative consequences such as increased stress, worry and self-blame (Rodin, 1986).

Overall, perceived control over the decision to relocate from one's existing residence to a retirement village is of high importance for many individuals making the transition and can play a significant role in their adjustment to the new environment (Armer, 1996). Personal control in particular is both a cause and a consequence of the way people respond to their environment (Peterson, 1999) and important in understanding and supporting adjustment following any major life transition. In particular, relocation to a retirement village makes an interesting case study whereby although the move to maintain independence and plan for future health and aged care needs seemingly promotes personal control, the nature of the residential setting and immediate living environment could result in a loss of perceived control.

4.3.2 The role of social networks in subjective well-being change

Social networks may be the most significant mechanism by which relocation to a retirement village is associated with positive SWB. As one of the principal motives for relocation (Gardner, 1996; Sergeant & Ekerdt, 2008) and reported benefits of retirement village living (e.g., Buys, 2001; McDonald, 1996; Percival, 2001), social networks unquestionably play a significant role in adaptation to this type of transition. Consistent with research indicating social network size predicts PA (Isaacowitz & Smith, 2003), new experiences associated with the formation of new social relationships (e.g., starting a new job or joining a sporting club) are also typically characterised by positive affect (Baumeister & Leary, 1995).

As discussed in chapter 3, the need to belong is particularly important in later life with implications for general health and well-being and adjustment to age associated changes and challenges (Freund & Baltes, 1998; Seeman et al., 2001). While different types of social support (instrumental, emotional) emerge in various ways to impact

well-being, particularly in the face of a stressful event, it is emotional support which is considered to have the most direct impact on SWB, by buffering against negative outcomes and boosting one's ability to cope (Burton et al., 2004; Cohen & McKay, 1984). However, relocation may also be accompanied by the dissolution of social bonds as older adults move away from the family home and familiar environments containing friends and neighbours. As a result, these threats to personal attachments may increase NA (Baumeister & Leary, 1995).

Stress buffering models (Cohen & Wills, 1985; Wheaton, 1985) suggest that social supports increase confidence, self-esteem and perceived control. However, empirical evidence for such models has been inconsistent (Zimmerman, Ramirez-Valles, Zapert, & Maton, 2000), suggesting different network domains play different roles. In general, social networks play a significant role in subjective well-being, particularly amongst older adults (Antonucci, 2001; Fiori et al., 2007; Litwin, 2001). While the quality of social relationships is often found to be the best overall predictor of well-being (Antonucci et al., 1997; Ryan & Willits, 2007), a meta-analysis conducted by Pinquart and Sorensen (2000) found different associations in the way in which friends and family impact well-being. For friends, the quantity of contact emerged as the most important correlate of SWB, whereby a high degree of contact with friends indicated positive exchanges. For family; however, a high degree of contact can represent obligation or care needs (detrimental to SWB) and as such quality was a better predictor of SWB.

Baumeister and Leary (1995) also propose that frequent interactions with the same network members and the need for stable and enduring sense of being cared for are associated with feelings of belongingness related to well-being. The complexity and the varied experience of relocation is a particular case whereby older adults may need to balance these needs for optimal well-being. For some older adults the transition to a

retirement village is made for the purpose of being closer to family and friends (Walters & Bartlett, 2009). However, for others, relocation may in part reduce feelings of social connectedness. Following relocation to a retirement village, frequent contact with other residents should be experienced. However, while network size and the formation of new relationships may be associated with PA, these relationships, at least during initial stages in the post-move period, may lack intimacy and the level of personal connectedness developed through long-term friendships. For other residents, existing social relationships may not dissolve; however, the frequency of contact may reduce. Therefore, while the support provided by friend networks across the relocation transition can act as a coping resource assisting adjustment (Armer, 1996; Furukawa, Sarason, & Sarason, 1998), the proximity of friends and relatives may create a barrier to the type and frequency of ongoing support they can offer. The combined loss of contact and emotional and instrumental support they provide may then make the stressful event more difficult (Heisler et al., 2003). Therefore, while the size of one's social network should buffer the negatives of a stressful event, it returns to the intricacies in the nature of one's social networks that may be most significant for longer-term SWB outcomes. Importantly, an assessment of the frequency of contact and the quality of exchanges experienced during relocation should provide further insight into the process of adaptation in this type of environment.

4.3.3 Personality as a moderator of change in subjective well-being

While it has been demonstrated that life events can predict SWB above and beyond the impact of personality, at least for short periods of time (Suh et al., 1996), the extent to which relocation is associated with SWB may vary as a function of personality (Diener et al., 2006). Empirical research has increasingly investigated personality characteristics in attempts to determine the association between "enduring dispositions and fleeting emotions" and the role they play in SWB and adaptation (Schmutte & Ryff,

1997); and has found them to be some of the strongest and most reliable factors predicting inter-individual differences (van Hoorn, 2007). The investigation of personality in association with the concept of adaptation, as emphasised in the dynamic equilibrium model (Headey & Wearing, 1992), is important as traits such as those characterised by the Five Factor Model (FFM; Costa & McCrea, 1992b; McCrea & John, 1992) have emerged to be primary factors influencing long-term levels of SWB (Diener, 2000).

In exploring the influence of personality in adaptation, the DET suggests individuals have an emotional set-point to which they return following the experience of positive or negative events, and suggest that this baseline level of happiness is determined by temperament. In particular, it is suggested that extraversion and neuroticism, represent enduring dispositions that directly lead to SWB. The other personality traits, namely agreeableness, and conscientiousness, have an indirect or instrumental influence on SWB (McCrae & Costa, 1991), which lead people to encounter specific life situations that in turn affect SWB. Along with the final personality construct, openness to experience, identified by the FFM (Costa & McCrea, 1992b; McCrea & John, 1992), the following discussion focuses on the influence of personality on SWB in general and the potential moderating effect of each trait on relocation adjustment.

4.3.3.1 Neuroticism

While few studies have examined the effect of personality on adjustment to a life transition, the available research has largely focused on neuroticism. Consistent with Costa and McCrea's (1980) original model outlining the influence of personality on the affective dimensions of SWB, neuroticism has been found to be the strongest predictor for life satisfaction and NA (Burns & Machin, 2010; DeNeve & Cooper, 1998). In fact, higher levels of neuroticism consistently predict lower life satisfaction and greater NA

across the life-span, and have found some association with lowered PA (Boland & Cappeliez, 1997; Burns & Machin, 2010; Charles, Reynolds, & Gatz, 2001; Hilleras, Jorm, Herlitz, & Winblad, 2001; Isaacowitz & Smith, 2003; Larsen & Ketelaar, 1991; Mroczek & Kolarz, 1998; Mroczek & Spiro, 2005), supporting that it is the best predictor of affect balance (Gutierrez, Jimenez, Hernandez, & Puente, 2005). Moreover, Headey (2008) asserted that it is only a minority of people for which sustained changes in SWB are observed, suggesting that long-term change may be the result of high levels of neuroticism.

Specifically, neuroticism has demonstrated to be predictive of maladaptive coping and negative stress responses to naturally occurring events (Bolger & Zuckerman, 1995; Moyle & Parkes, 1999), such that high neuroticism is associated with more daily conflicts, greater psychological distress and reactions of anger and depression than individuals low on neuroticism. Considering the potential for relocation in later life to represent a stressful transition, it is possible that those high in neuroticism might be most susceptible to reductions in life satisfaction and increases in NA during the adaptation process. Consistent with this hypothesis, Hemenover (2003) found that the effects of relocating induced NA remained for a longer period of time among individuals high on neuroticism than among those low on neuroticism.

4.3.3.2 Extraversion

Investigation into the association between extraversion and SWB has typically omitted an examination in the context of major life events. Primarily it has been found that higher levels of extraversion are associated with greater PA across the life-span (Burns & Machin, 2010; DeNeve & Cooper, 1998; Isaacowitz & Smith, 2003; Larsen & Ketelaar, 1991; Mroczek & Kolarz, 1998). One study conducted by Isaacowitz and Smith (2003) examining the impact of demographic, personality, health and cognitive functioning on positive and negative affect found that extraversion was the only

significant predictor of PA amongst the oldest-old (85+ years). Furthermore, extraversion was also indicated as a significant predictor of life satisfaction. However, comprehensive investigation of the separate facets of extraversion demonstrated not all are consistent correlates. Rather, the positive emotions/cheerfulness facet may be the only one to hold associations across comparisons of various measurement techniques (Schimmack, Oishi, Furr, & Funder, 2004). Explaining the relationship between extraversion and SWB, some theorists (e.g., Pavot, Diener, & Fujita, 1990) have suggested that a greater level of PA and life satisfaction is a consequence of extraversion helping to enhance social relationships. However, others (e.g., Schimmack et al., 2004) suggest that it is simply an enduring disposition which leads directly to greater SWB.

Extraversion has also found to be predictive of variability in changes associated with life satisfaction during adulthood. Mroczek and Spiro (2005) investigating the individual variability in life satisfaction, found that individuals characterised by high extraversion exhibited higher more consistent levels of life satisfaction. Furthermore, high extraversion has been demonstrated to be catalyst for long-term change in SWB (Headey, 2008). It appears that extraverts experience a greater amount of sustained enjoyment from activities they perceive as enjoyable in comparison to those low in extraversion. Therefore, although little investigation has been conducted into the moderating effect of personality in the impact of significant life events on affect, extraversion may play a role in moderating adaptation to residential relocation through temperament characteristics that promote the facilitation of social relationships, as such promoting increases in PA and life satisfaction following the move. Furthermore, it is possible that residents high in extraversion may also experience sustained increases in life satisfaction following relocation in light of the move being a positive choice which

involves an increase in opportunities to pursue activities from which they derive pleasure.

4.3.3.3 Agreeableness

It has been suggested that there is an indirect association between agreeableness and SWB such that agreeableness serves to create favourable life conditions that promote well-being (McCrae & Costa, 1991). As PA follows largely from one's inter-personal connections, both in terms of the quantity and quality of relationships; agreeableness, being characterised by friendliness, is likely to be associated with greater PA. Individuals high on agreeableness should report greater close relationships that in turn contribute to their positive well-being and reduced levels of distress (DeNeve & Cooper, 1998). Specifically, DeNeve and Cooper found that consistent with a temperamental view, agreeableness was equally predictive of PA, compared to extraversion, and associated with higher correlations than conscientiousness, neuroticism or openness ($r = .17$). This finding was also largely supported by Burns and Machin (2010), whereby agreeableness was positively associated with psychological well-being constructs (including autonomy and positive relations with others), in addition to reporting a negative association with NA.

Moreover, both extraversion and agreeableness are important in serving to not only foster larger and better social networks, but good relationships in turn foster increased PA (DeNeve & Cooper, 1998). Therefore, while past research has not provided indications of the role agreeableness may play in adapting to residential relocation, it is anticipated that individuals high in agreeableness should report greater PA (reflecting successful adaptation), as a result of their ability to effectively integrate into the new social environment.

4.3.3.4 Conscientiousness

Traditionally, conscientiousness has shown comparatively modest (positive) associations with well-being measures compared to neuroticism and extraversion (e.g., Burns & Machin, 2010; Diener & Lucas, 1999). Similar to agreeableness, it is suggested that conscientiousness has an instrumental association with SWB such that possessing attributes of efficiency, competence, and being hard working facilitates positive life conditions that promote well-being (McCrae & Costa, 1991). Although relationships and relationship-like traits make people feel happy and impact PA and NA, it is the engagement in goal directed activity and the exertion of control over oneself and one's environment which has a positive impact on quality of life. Consistent with this, Hayes and Joseph (2003) have also reported that conscientiousness is a better predictor of life satisfaction than extraversion; further suggesting that its significance lies in the likelihood that people high on conscientiousness function more effectively in society to achieve their goals which consequently leads to greater perceived satisfaction with life.

In relation to late life residential relocation, it may be that higher conscientiousness is most associated with adaptation to a retirement village as a function of the decision made to relocate and the perception that one is taking control of their future needs. As those residents high in conscientiousness are most likely to possess attributes that lead them to actively engage in their environment, they are likely to experience greater post-move satisfaction with life in comparison to those low in conscientiousness.

4.3.3.5 Openness to experience

Perhaps the least understood of the Big Five factors is openness to experience. While McCrea and Costa (1991) initially suggested that individuals high in openness are likely to experience both positive and negative experiences with greater intensity and as such

report higher PA and NA, a finding supported by Gutiérrez, et al., (2005); other studies have found conflicting evidence. Results obtained by DeNeve and Cooper (1998) have indicated that openness is largely irrelevant for SWB, at least when compared with the other factors. While it was previously predicted that openness should correlate equally with both PA and NA, DeNeve and Cooper found that openness showed only weak associations with PA and life satisfaction (.14) and even more modest associations with NA (.05). Moreover, other research has also demonstrated only weak correlations between openness and all three dimensions of SWB (Headey & Wearing, 1989). Burns and Machin (2010) found that although modest bivariate associations were indicated between openness and both PA and NA, openness was only found to be predictive of NA in further regression analyses.

However, it has been suggested that while those high in conscientiousness may have a desire to plan for life transitions, individuals high in openness are more likely to readily adapt to the event (Prenda & Lachman, 2001). Therefore, openness may actually be of greatest importance in the context of the impact of residential relocation on well-being as it may interact with other characteristics to impact adaptation. For example, characteristic attitudes associated with openness such as the willingness to try new things (e.g., community activities) may serve to make adjustment easier. However, as openness is suggested to be associated with a greater intensity in respect to both positive and negative experiences, the ease with which relocation occurs, and additional stressors or hassles that define the experience, may influence perceptions.

4.3.3.6 The impact of personality on relocation

Further addressing the hypothesis that personality traits either facilitate or inhibit adjustment (in this case psychological well-being) to relocation, Bardi and Ryff (2007) have provided evidence that openness serves to amplify the basic emotional tendencies of neuroticism and extraversion in post-move adjustment. In their study, high

neuroticism and openness were associated with an increase in distress 15 months following relocation. However, high openness and extraversion also amplified positive emotional tendencies 15 months post-move. In addition, the presence of low neuroticism and openness predicted positive psychological well-being constraints of mastery and self-acceptance early in post-move adaptation (1 month). Finally, high conscientiousness and agreeableness coupled with low extraversion was associated with significantly lower post-move distress. This study emphasised the importance of considering the impact of relocation in the context of short-term (delimited in time), long-term (persistent over time) or delayed in time effects. As highlighted above, Bardi and Ryff found that distress effects were either delayed in time or long-term and persisting across time, whereas well-being (environmental mastery and self-acceptance) exhibited short-term effects (predicted by the interaction of neuroticism and openness). This suggests that the initial evaluations of one's new life situation may lack complexity and depict enhanced positive self-regard and mastery. However, over time more realistic perceptions of one's situation become evident as adaptation occurs.

In discussing the relationship between personality and well-being, questions of trait consistency also arise. As the mechanics of underlying or associated change are beyond the scope of investigation within the present study, focus has been maintained on congruence models that assert people experience high SWB when their personalities fit with their surrounding environment (Diener & Lucas, 1999).

Furthermore, it must be acknowledged that behind the focus often placed on the role of extraversion and neuroticism in associations with SWB, is the argument that personality and positive and negative affect essentially tap the same underlying construct (Diener, 2000; Headey & Wearing, 1992). However, preceding formation of the FFM, Costa and McCrea (1980) presented a model of personality influences on the positive and negative affect domains of SWB. They found that extraversion and

neuroticism not only influenced the experience PA and NA, but also showed consistent associations with measures of happiness not dependant on direct reports of affective experience. According to the model, the direct outcomes of extraversion and neuroticism are PA and NA respectively. As such, Costa and McCrea (1980) establish that these components are "subjectively balanced" by an individual to arrive at a net sense of subjective well-being. As an example, introverts low in neuroticism and extraverts high in neuroticism may have similar levels of well-being, but achieve the result in different ways. Furthermore, the argument which suggests that personality and positive and negative affect essentially tap the same underlying construct overlooks the fact that measures of these constructs focus on different time frames. While personality measures typically focus on one's overall life, measures of PA and NA often focus on experiences within the last day, week or month.

From this research the complex nature of personality characteristic involvement in subjective well-being and its potential in the adaptation process associated with residential relocation becomes evident. While there appears consensus that individuals who are higher in extraversion, agreeableness and conscientiousness adapt relatively well to different life events and new environments, whereas those high in neuroticism may take longer to adjust, the influence of trait interactions does make it difficult to anticipate changes in SWB in a largely unknown area such as relocation. The examination of SWB in the context of personality therefore provides an interesting layer to considerations for whom this style of living is most suited.

4.4 Chapter Summary

Subjective well-being, the combined evaluation of affect and life satisfaction, has significant implications for health and longevity and as such is an important indicator of successful ageing. Importantly, an evaluation of SWB throughout life promotes the

individual as the best judge of their own well-being. Early models of well-being proposed a stable predisposition which fluctuated only temporarily in response to significant life events. More recent evidence indicates that environmental factors and major life events can result in permanent changes over time. Specifically, it may be that following some events permanent changes occur, while not for others. In addition, the different components of SWB (PA, NA, and life satisfaction) may be impacted differently by different events. Moreover, individual differences may direct why some individuals adapt and others do not. Although residents report improved satisfaction with life following relocation to a retirement village; to date, the precise impact of relocation in late life on SWB has not been assessed.

Literature surrounding control beliefs, social networks and personality suggest these psychosocial characteristics may greatly influence SWB and adjustment to the retirement village lifestyle. As motives for relocation often center on age-related loss, the capacity for the new environment to assist in recovering control and independence is particularly important. Therefore, it is essential to investigate change in control beliefs over the transition period, and the subsequent impact on SWB. An increase in perceived control as a function of relocation should then promote increased well-being. However, if control is perceived to decrease, as a possible function of the rules and regulations defining the retirement village or the relinquishment of owns own home, SWB may decrease. In addition, perceptions of control related to decisions to move may also have significant implications for post-move adjustment. SWB outcomes should be more positive if the decision to move is voluntary. If relocation is the result of significant pressure to move, providing the individual with little control cover the transition, adjustment may be unlikely.

The establishment of new social networks alongside the continued support of existing friends and family may be the most significant mechanism by which relocation

is associated with well-being. By buffering negative outcomes and increasing one's capacity to cope with stressors associated with the transition, the quality of social supports and emotional support is considered to have a significant impact on SWB. However, following relocation any number of changes may occur to one's network. Neighbours change, new friendships may develop, and existing friendships may be strained or strengthened. Therefore an assessment of change in social networks over the transition process, and the subsequent impact on SWB outcomes should provide substantial insight into the adaptation process.

Finally, SWB following a major life event may vary as a function of personality. Research evidence suggests that extraversion and neuroticism represent enduring dispositions leading directly to SWB. While extraversion is positively associated with PA and life satisfaction, high neuroticism consistently predicts low life satisfaction and high NA, and is associated with more daily conflicts and greater distress. In contrast, agreeableness, conscientiousness and openness are considered traits of instrumental influence serving to increase the likelihood of engagement in areas of life that promote well-being. Importantly, it is proposed that individuals high in extraversion, agreeableness and conscientiousness will adapt relatively well to different life events and new environments, whereas those high in neuroticism will take longer to adjust. However, little research has been conducted on changes in response to late life relocation. The present study sought to extend existing knowledge in the area to investigate changes in SWB (positive and negative affect, life satisfaction) following relocation to a retirement village. In considering that not all older adults will be suited to this style of living, an investigation of both the personal (e.g., global control, social networks, personality) and contextual (e.g., pressure to move) characteristics surrounding the move was conducted.

Chapter 5. Engagement in life and the impact of major life transitions

Engagement (or purpose) in life refers to the extent to which an individual engages in personally meaningful activities from which they derive a sense of purpose. Maintaining purpose and engagement in meaningful activities contributes to an individual's positive physical health, cognition and well-being (Bosma et al., 2002; Boyle et al., 2010; McKnight & Kashdan, 2009; Wrosch, Miller, Scheier, & Brun de Pontet, 2007; Wrosch, Scheier, Carver, & Schulz, 2003a; Wrosch, Scheier, Miller, Schulz, & Carver, 2003b). Although closely aligned with subjective well-being outcomes and social engagement, the ability to maintain purpose in life is often overlooked as an important indicator of successful adjustment following a significant life event. Many life transitions involve a disengagement from meaningful activities (e.g., retirement from work), with successful adjustment based on the development of a satisfactory post-transition lifestyle and an alternative activity filling the void (e.g., volunteering, part-time employment; e.g., van Solinge & Henkens, 2008). However, where perceived loss is significant, maintaining a sense of purpose in life may be a challenge. In the context of relocation to a retirement village, a disruption or cessation to activities which reinforce independence, such as gardening and maintaining one's own home, may be difficult to replace and function to reduce one's sense of worth and purpose.

Research has provided support for both increased and decreased purpose in life with age. On one hand, advancing age can coincide with the loss of clearly defined roles, such as those derived from labour force participation, that create a sense of purpose (e.g., van Solinge & Henkens, 2008; Van Willigen, 2000). Negative age-related stereotypes may prompt declines in one's sense of purpose (Levy & Myers, 2004). Declines in social network size and connectedness with age may strongly impact one's

sense of purpose (e.g., Fiori et al., 2006). On the other hand, the foundation for purpose in life can change, and while work-defined roles and social networks may decline, opportunities for engagement in other activities, such as religious participation, volunteering behaviour and neighbour interactions have shown an increase post-retirement (Cornwell, Laumann, & Schumm, 2008; Pinquart, 2002).

The following chapter examines the impact of purpose in life on the health and well-being of older adults and explores the potential impact of relocation on perceived purpose in life. A review of the literature supports the need for longitudinal research into late life transitions that investigate the impact of major life changes on engagement and purpose in life. Good physical health, high socio-economic status, close supportive relationships and personality characteristics may all influence the stability of engagement in the face of a significant life change.

5.1 The benefits of engagement in life

Participation in an activity deemed personally meaningful can have important implications for an individual's physical health and functioning. While physical activity is associated with reduced risk of mortality and maintaining functional ability (e.g., Bath & Morgan, 1998; Seeman et al., 1995), activities which involve little physical fitness, but rather promote purpose in life, also offer benefits to health (e.g., Maier & Klumb, 2005; Van Willigen, 2000). Research also supports a protective effect of maintained purpose in life on mortality risk within older adult populations (e.g., Boyle, Barnes, Buchman, & Bennett, 2009; Glass, Mendes de Leon, Marottoli, & Berkman, 1999) even after controlling for disability and disease. Investigating associations between physical biomarkers and components of psychological well-being (including purpose in life), Ryff, Singer and Dienberg Love (2004) have provided evidence that possessing a high level of purpose in life is associated with lower levels of

cortisol, lower inflammation responses, better sleep patterns and reduced risk associated with cardiovascular disease markers such as cholesterol.

Maintaining purpose in life may also have benefits for cognitive functioning. While research has supported the conclusion that performing physical or complex leisure activities can result in improved cognitive functioning (Parslow, Jorm, Christensen, & Mackinnon, 2006; Schooler & Mulatu, 2001; Wang, Karp, Winblad, & Fratiglioni, 2002; Weuve et al., 2004), purpose in life may be a particularly important protective factor against cognitive decline. To date, only one study is known to have investigated this connection. A study of community-dwelling older adults by Boyle et al. (2010) found that even after controlling for social networks, depressive symptoms, and chronic medical conditions, greater purpose in life was associated with a substantially reduced risk of Alzheimer's Disease and Mild Cognitive Impairment, and a slower rate of cognitive decline.

Finally, the benefit of maintaining engagement may also extend to assessments of SWB. Indeed, judgments made in respect to life satisfaction may often encompass meaning and purpose in life. Exploring the association between these constructs, research has indicated purpose in life as one of the strongest predictors of life satisfaction (e.g., Bronk, Hill, Lapsley, Talib, & Finch, 2009; Diener, Fujita, Tay, & Biswas-Diener, 2011). Investigating the impact of volunteering on personal well-being, Windsor, Anstey and Rodgers (2008) found that throughout mid-late life, volunteering at moderate levels was associated with greater PA and life satisfaction; a result recently replicated with a sub-sample of the present study (Pilkington, Windsor, & Crisp, 2012). Moreover, research supports that the benefits gained by older adults (improved life satisfaction) is even greater than those of younger adult volunteers (Van Willigen, 2000), and may be protective against reductions in role identity (Greenfield & Marks, 2004). However, purpose derived from such participation is inferred as much of this

research has not explicitly assessed the extent to which volunteering may be personally valued by the individual.

Importantly it is the time spent engaged in personally meaningful activities that appears most strongly associated with positive well-being outcomes. Examining the benefits associated with maintaining active engagement in life, across a wide age range of activities, Baker, Cahalin, Gerst, and Burr (2005) found that after controlling for social support, health, demographic characteristics and other domains of activity (e.g., paid work, volunteering and care giving activities), the amount of activities engaged in was not related to SWB. Rather, the time spent committed to such activities was significant. Greater time spent in productive activities was associated with a greater happiness, a higher level of life satisfaction and greater change in life satisfaction over time. This is an important distinction to be made between the impact of activity involvement and time spent in engaged in activities that are personally valued which create purpose and meaning in life.

Continued participation in activities which are personally rewarding or meaningful can have a significant impact on health and well-being. Particularly in later life, continued engagement may aid in maintaining functionality and independence, and contribute to instilling structure, meaning and purpose in day-to-day life. It is therefore important to investigate factors influencing engagement in late life and the impact that relocation to a retirement village has on one's sense of purpose.

5.2 Factors influencing purpose in life (in late life).

Maintaining purpose in later life may be a significant challenge in the face of stressful life events or normative declines in health and functioning which impact independence. Physical health, social relationships and personality characteristics may all influence one's ability to maintain engagement. Moreover, socio-demographic characteristics may

direct feelings of purpose, with higher income indicative of success in life and educational attainment providing greater opportunities for pursuing personally meaningful goals (Pinquart, 2002).

5.2.1 Physical health and engagement in life

Clearly engagement in life has significant positive implications for physical health (e.g., Boyle et al., 2009; Ryff et al., 2004). However, some research has suggested that the relationship between physical health and engagement in life is bi-directional. Purpose in life may be a function of good physical health (Pinquart, 2002), whereby good health enables people to engage in activities they find personally meaningful and rewarding (Ebersole, 1998). While engagement predicts subjective health, objective health can predict engagement (Bennett, 2005b). This may have important implications for maintaining well-being following relocation to a retirement village. As the environment helps to facilitate participation in activities and compensate for functional declines, relocation may result in improvements in engagement for older adults in poor physical health. In contrast, older adults in good physical health may find relocation involves a greater emphasis on maintaining engagement in a new environment. The present study provided an opportunity to explore the impact of pre-move health status on engagement following relocation.

5.5.2 The role of social networks in engagement

Social relationships are a significant source of engagement and perhaps the most significant predictor of purpose in life for older adults (Pinquart, 2002). While engagement in life refers to any activity from which an individual may derive purpose, social activities can be a particularly important source of engagement as they provide structure and meaning to daily life. This is particularly important following retirement when social interactions and well-being are no longer derived from work-related

activities (Cantor & Sanderson, 1999; Reitzes & Mutran, 2004; van Solinge & Henkens, 2008). Despite declines observed in the quantity of social network members with advancing age (Fung et al., 2001; Litwin, 1996), the social convoy model and socio-emotional selectivity theory illustrate that the networks that remain may be those most important in maintaining purpose in life (e.g., Carstensen et al., 2003; Lang & Carstensen, 1994). While a wide social network may offer increased opportunities for participation in numerous activities, the greatest purpose in life may be derived from close bonds. Investigating purpose in mid-life and old-age, a meta-analysis of 70 studies has found contact with family members demonstrates a stronger association with engagement than contact with friends, and married persons report higher purpose in life than their unmarried peers (Pinquart, 2002).

Addressing the reality that widowhood may be a motive for late life relocation, both formal (e.g., meeting attendance, religious participation, volunteer obligations) and informal (e.g., social interactions with friends) social engagement play an important (although different) function in promoting continued engagement in life following the loss of a partner. Utz et al. (2002) found that following the loss of a partner, widowed persons reported increased levels of informal social participation; an active coping strategy to deal with the loss of their partner. In contrast, formal social participation levels did not change. Rather, widowed persons indicated that they preferred to maintain the relationships and activities found to have been most meaningful and rewarding throughout the life course as an important strategy for coping with the loss.

Following from the work of Cornwell et al. (2008) where social network size and connectedness decreased alongside increases in engagement in other activities, it is also suggested that engagement may be tied to the experience of declining social networks with age. Commitment to other personally meaningful activities that provide social interaction serve as an effort to regain control over one's social environment. As

network change, particularly amongst the oldest-old, may be a result of experiences beyond the control of the individual, social engagement can fulfill the feelings of connectedness lost. An idea also previously introduced by Baltes and Carstensen (1996) and reflected in the SOC model (Baltes, 1987) of adaptation.

In light of these findings it appears important that not only should longitudinal studies of adaptation be conducted to examine impacts on engagement around transition experiences, but further investigation should incorporate the role of social networks in explaining changes in perceived purpose in life, to gain a more complete understanding of the process. Therefore, the present study not only explored changes in social networks as an outcome, but also the role of networks in mediating levels of engagement throughout the transition process. Specifically, we were interested in the extent to which changes in one's sense of purpose coinciding with relocation were associated with changes in social networks characteristics.

5.2.3 Personality as a moderator of the relationship between relocation and engagement in life

Personality may also function as a moderator of the extent to which engagement in life changes following significant life events. Possessing personality characteristics that reflect openness, flexibility, creativity and responsibility may by their nature facilitate participation in personally meaningful activities and the consequent benefit of such participation. However, research into personality and engagement is limited. Cross-sectional research (e.g., Parslow et al., 2006) has indicated that across young, midlife and older age groups, the number of activities engaged in (including social activities, manual labor tasks and artistic endeavors) is negatively associated with neuroticism and positively associated with extraversion. Although this study recorded the activities performed by participants in the 6 months prior but omitted investigation of the frequency activities performed, which would provide a more accurate indication of

levels of engagement, the results provide an important insight into the potential influence of personality. The present study provided an opportunity to extend our knowledge of the role personality plays in characterizing individuals who best maintain engagement following late life residential relocation.

5.3 Engagement and purpose following a major life transition

Maintaining engagement in life is likely to be most difficult when faced with significant life challenges and changes to one's environment. While little research has examined the impact of residential relocation on engagement and purpose in life, a recent study conducted by Cutchin, Marshall and Aldrich (2010) of older adults (75+ years) residing in a continuing care retirement community found that compared to participation in a range activities prior to moving, overall levels of activity were maintained at 1-year post-move. However, change was observed in the types of activities the residents participated in. Largely due to the nature of retirement village living, the frequency of household-related chores decreased and social engagement and participation in "entertainment-based activities" increased. Greater participation in activities was associated with greater satisfaction with the new living environment. However, as with much of the research purporting correlates between activity engagement and improved well-being it is not known the extent to which these "activities" were personally valued by residents and changes which consequently occurred in purpose in life.

Research focused on the benefits of retirement villages as housing options for older adults also indirectly highlights the importance of engagement for the successful adaptation of residents (e.g., Grant, 2006). Largely it is acknowledged that adjustment depends on the effort an individual makes to "fit into the village" and pursue village-based activities. However, the proposed impact of a shift from participation in everyday practical tasks (e.g., household chores) to leisure, recreational or volunteer activities of

one's choosing is conflicted. Both meaningful leisure based activities and the control and independence obtained through maintaining one's own home may promote purpose in life. Therefore, a perceived loss of independence resulting from relocation has the potential to reduce engagement. However, in the face of potential threats to independence and autonomy, as a function of relocation to a retirement village, or declines in physical health and functioning which may reason relocation, deriving purpose from social interactions and other meaningful activities may be particularly valuable.

5.4 Chapter Summary

Engagement in life refers to engagement in personally meaningful activities which promote a sense of purpose. Remaining productive or purposeful in late life is reported to have a significant impact on physical health, cognition and well-being. While physical health, social networks and personality characteristics may play a role in changes in engagement over time, further investigation is required to understand individual difference in levels of engagement. Relocation to a retirement village provides a unique opportunity to investigate the impact of a major life event (or transition) on levels of engagement and purpose in life, an area often overlooked in studies of health and well-being in later life.

The present study aimed to advance our understanding of the impact of relocation on engagement in meaningful activities and purpose in life by examining individuals' overall assessment of their purpose in life rather than engagement in any specific activity (Scheier et al., 2006). Regardless of the activity type, or frequency, it is the sense of purpose achieved through engaging in meaningful activities that has implications for health and well-being.

Chapter 6. The present study

A 2002 review of the housing and aged care policies in Australia noted the importance of considering housing options for the health and well-being of older people, but that little research in the area had been undertaken (Faulkner & Bennett, 2002). Drawing from the theoretical and empirical evidence provided in previous chapters, the following chapter reviews the contribution of the present study to our understanding of the transition from living in the community to a retirement village and outlines the research aims. Importantly, this study contributed to the existing literature by providing a prospective examination of both the immediate and medium-term outcomes following relocation to a retirement village. Acknowledging the complexity of this type of transition, the preset study provided a comprehensive examination of factors potentially associated with adaptation to retirement village living.

6.1 The present study: Filling the gaps in past research

Several empirical studies (e.g., Gardner et al., 2005) have retrospectively investigated consequences concerned with relocation from community residences to retirement villages. However, much of the previous research conducted on Australian retirement villages has been methodologically limited. Specifically, there is a noted absence of a control or comparison group of older people living in the community, which is needed to comprehensively assess adaptation and change over time. In addition, little research has investigated SWB as an important indicator of adjustment. One exception, Gardner et al. (2005), examined the impact of relocation on health and well-being; however, this study used a retrospective cross-sectional design. Examining the broader international research, Kling et al., (2003) longitudinally investigated the influence of personality characteristics on both negative and positive adjustment outcomes (depressive

symptoms and self-esteem). Moreover, they examined potential mediators including perceptions of the new environment, affective responses to the move, and social support. However, this study was limited in its use of an all female sample.

6.1.1 Study aims and hypotheses

The present study aimed to extend existing knowledge and examine change in social networks, subjective well-being and engagement in life over the transition from living in the community to a retirement village. The present study enabled the examination of both immediate and medium-term outcomes associated with this transition using a prospective longitudinal design. To identify change as it relates to relocation, comparisons were made with a sample of community-dwelling older adults. To establish a greater understanding of the experience of late life relocation and adaptation to retirement village living the extent to which adaptation is related to pressure to move, perceived control, physical health, perceptions of the environment, personality, social support, and satisfaction with the environment was investigated. The present study addressed the following research questions in line with the research framework depicted in Figure 1.2:

Research Question 1:

Do those older adults relocating to the retirement village differ from their peers residing in the community in socio-demographic, health and well-being, or environmental characteristics? While motives for relocation have been identified in past research, it was an important to the basis of the present study to identify any characteristics that distinguished those older adults who make the transition to the retirement village from those who remain in the community. Therefore, the present study examined the characteristics of older adults relocating to the designated retirement village; and identified any differences between these two groups.

Based on research highlighting limitations in health and functionality as the most frequently cited motive for relocation (Bekhet et al., 2009; Gardner, 1996; Piggot & Sane, 2007; Stimson & McCrea, 2004), it was anticipated that i) participants in the relocation sample would be characterised by poorer health in comparison the community sample. Dissatisfaction with some aspect of one's current environment was also anticipated to accompany decisions to relocate (Bekhet et al., 2009; Lawton, 1991). Therefore, it was predicted that ii) the current home environment would be perceived as less desirable amongst participants planning relocation. Finally, group differences in age, physical activity levels, and social networks were also explored as potential characteristics of relocating older adults.

Research Question 2:

a) What expectations regarding relocation do prospective retirement village residents hold prior to relocation, and b) what benefits and difficulties do they report in the initial stage of transitions? To comprehensively investigate the benefits of relocation to a retirement village and how these align to the expectations of residents prior to moving, an analysis of the open-ended responses provided by new residents was explored.

Research Question 3:

a) Do perceptions of the home environment change over time? b) Are perceptions of the new home environment more positive than those of the old residence? The home environment can be central in facilitating feelings of identity, control and independence in late life (e.g., Butler et al., 1998; Chaudhury & Rowles, 2005). Relocation may be a confronting process and time may be needed to acclimatise to the new environment. However, the appropriateness of the pre-move home environment might also prompt relocation (e.g., Graham & Tuffin, 2004). Therefore, while initial declines may be observed, in light of the provision of services and facilities provided by retirement

villages aimed at maintaining independence it is anticipated that perceptions of the home environment post-move should show an improvement in comparison to one's original residence.

Research Question 4:

Are changes in social networks and exchanges experienced following relocation to the retirement village? With motives for relocation often associated with a desire to improve social connection or reduce loneliness, an investigation of the impact of relocation on social network characteristics has important implications. Past research does support the proposed benefit of this style of living in fostering the formation of new friendships, while maintaining existing relationships (McDonald, 1996). Therefore, it was anticipated that i) while the adjustment period required following relocation and the nature of settling into a new environment may result in initial decreases to social networks; investigation of outcomes over time will reflect positive change in social network size and the quality of friend and neighbour networks, following relocation. ii) Despite the potential for the instrumental support provided within retirement villages to subserve the role of family, positive adaptation would be reflected in stability in family networks. iii) Importantly, in comparison to community residents, residents of the retirement village were expected to report more positive social exchanges and less loneliness 12-months post-move as a reflection of increased connectedness and the greater incidental contact they receive (Davidson et al., 2001; Percival, 2001).

Finally, the association between changes in social networks and exchanges, and contextual factors (i.e., village development), perceptions of the home environment, physical health and personality characteristics was examined. Being a new village it was anticipated that iv) early movers would have less interaction with other residents in the early stages of their transition in comparison to those moving once the village life is established. Based on the research presented it was hypothesized that v) high

extraversion and agreeableness should be associated with larger social networks and increased experience of social support as a reflection of their propensity for better social skills (Bardi & Ryff, 2007; Digman, 1990; Russell et al., 1997), whereas high neuroticism would be associated with less positive exchanges and smaller social networks (Kalish & Robins, 2006; Russell et al., 1997).

Research Question 5:

Are changes in SWB (positive and negative affect, and life satisfaction) experienced following relocation to a retirement village? As the nature of change in SWB following relocation, or time frame associated with adaptation, has previously not been established several hypotheses were proposed. Based on retrospective reports from residents indicating improvements in life satisfaction as a result of moving to a retirement village (e.g., Gardner et al., 2005), it was first suggested that in order to establish the relocation transition as a positive life change, positive increases in SWB and particularly satisfaction with life would be observed. However, the immediate impact of relocation, reported as a stressful and confronting experience for many older adults (e.g., Antonucci et al., 2002; Grant, 2006; Liddle, Carlson, et al., 2004; Sergeant & Ekerdt, 2008), may compromise short-term affect. Therefore it was also anticipated that initial challenges and stressors may reflect a decrease in PA, and an increase in NA immediately following relocation.

With motives for relocation often associated with combating age-related loss and maintaining independence, changes in control beliefs and social supports were anticipated to have important implications for post-move well-being outcomes. In addition, it was anticipated that changes in SWB would be associated with demographic and personality characteristics and the perceived pressure to move.

It was hypothesised that: i) in light of research supporting the significant role of the home in facilitating well-being and the successful adjustment to challenges

occurring in later life (Butler et al., 1998; Chaudhury & Rowles, 2005; Gilleard et al., 2007), change (improvement) in the home environment would be associated with increased SWB. ii) As the pressure felt to move is a significant contributor to adjustment (Schulz & Brenner, 1977; Smider et al., 1996) changes in SWB following relocation were proposed to be moderated by reported pressure, such that those perceiving a high degree of external pressure associated with their relocation would be less likely to experience positive SWB outcomes in the transition. iii) Changes in SWB following relocation were proposed to be moderated by personality characteristics such that persons reporting high extraversion, agreeableness and conscientiousness would be more likely to display positive SWB outcomes due to characteristically being able to engage with and integrate into new environments; whereas high neuroticism would be associated with greater distress. iv) Level of perceived control was proposed to demonstrate an association with change in SWB following relocation such that greater perceived control would prove an indicator of positive well-being. v) Social network characteristics including size and quality of social relationships were proposed to be associated with change in SWB following relocation such that larger social networks and the report of greater frequency of contact and more positive exchanges would be associated with greater SWB.

Research Question 6:

Does engagement in life change following relocation to a retirement village?

Examining change from pre-move status to 12-months post-move status in engagement with life, it was hypothesised that i) consistent with Cutchin, et al. (2010), and the nature of the transition as a compensatory strategy, engagement in life would be maintained, if not increased, as a function of relocation.

The subsequent examination of factors influencing transition outcomes then explored the role of perceptions of the environment, contextual factors (e.g., pressure to

move), physical health, personality and social networks in facilitating engagement in life. Poor health may present a barrier to participation in personally meaningful activities which promote engagement (Ebersole, 1998), as such it was hypothesised that ii) more positive physical health would be associated with higher engagement being maintained throughout the transition process. iii) Based on the limited research available on the relationship between personality and engagement, and characteristics defining personality traits, it was anticipated that change in engagement would be moderated by neuroticism and extraversion. Therefore, it was hypothesised that higher extraversion and lower neuroticism would be indicated as promoting life engagement (Parslow et al., 2006). iv) Consistent with past research (e.g., Carstensen et al., 2003), it was anticipated that social network characteristics would prove to be those most important in maintaining engagement over the transition process. In particular, friends and family play a significant role in reinforcing identify and feelings of worth. However, relationships with neighbours can also support feelings of usefulness. Change in social networks over time may therefore play a substantial role in the longer-term impact of relocation on engagement.

Table 6.1 provides a summary of the research questions and principal hypotheses addressed within this dissertation. While these hypotheses largely reflect positive changes for older adults (in social networks, engagement with life, and subjective well-being), following relocation, it is recognised that adaptation theories would suggest that by 12-months post-move, adaptation should have occurred with levels of subjective well-being returning to baseline.

Table 6.1
Summary of the research questions and principal hypotheses.

Research questions	**Hypotheses**
1. Do those older adults relocating to the retirement village differ from their peers residing in the community in socio-demographic, health and well-being, or environmental characteristics?	Participants in the relocation sample will report poorer health and perceptions of the home environment, in comparison the community sample
2. a) What expectations regarding relocation do prospective retirement village residents hold prior to relocation, and b) what benefits and difficulties do they report in the initial stage of transitions?	§
3. a) Do perceptions of the home environment change over time? b) Are perceptions of the new home environment more positive than those of the old residence?	Initial declines will be observed in perceptions of home; however, over time positive perceptions of the home environment should exceed those of the original residence.
4. Are changes in social networks and exchanges experienced as a function of relocating to the retirement village?	i) Initial declines in social networks will be observed in social networks and exchanges following relocation; however, over time positive increases in friend and neighbour social networks and positive social exchanges, and reductions in perceived loneliness will be observed. ii) Family networks will remain unchanged following relocation. iii) In comparison to community residents, residents of the retirement village will report more positive social exchanges and less loneliness 12-months post-move
Is change in social networks and exchanges: i) Associated with change in perceptions of the home environment?	§
ii) Associated with contextual factors (e.g., pressure to move)?	iv) Early movers will have less interaction with other residents in the early stages of their transition in comparison to those moving once the village life is established.
iii) Moderated by physical health?	§
iv) Moderated by personality characteristics?	v) Individuals high in extraversion and agreeableness will report larger social networks greater social exchanges. Those high in neuroticism will report less positive exchanges and smaller social networks.
v) Associated with change in friend or neighbour networks?	

5. Are changes in SWB (positive and negative affect, and life satisfaction) experienced as a function of relocating to a retirement village?	
Is change in SWB:	i) Change (improvement) in the home environment will be associated with increased SWB.
i) Associated with change in perceptions of the home environment?	
ii) A function of contextual factors (e.g., pressure) associated with the move?	ii) SWB following relocation will be moderated by reported pressure to move such that those perceiving a high degree of external pressure associated with their relocation will be less likely to experience positive SWB outcomes in the transition.
iii) Moderated by physical health?	§
iv) Moderated by personality characteristics?	iii) Change in SWB will be moderated by personality characteristics such high extraversion, agreeableness and conscientiousness will be associated with more positive SWB. High neuroticism will be associated with greater distress (low PA and life satisfaction, high NA).
v) Associated with change in perceived control?	iv) Positive change in perceived control will be associated with positive well-being
vi) Associated with changes in social networks and exchanges?	v) Larger social networks and the report of greater frequency of contact and more positive exchanges will be associated with greater SWB
6. Does engagement in life change as a function of relocating to a retirement village?	i) Engagement in life will be maintained following relocation
Is change in engagement:	§
i) Associated with change in perceptions of the home environment?	
ii) A function of contextual factors (e.g., pressure) associated with the move?	§
iii) Moderated by physical health?	ii) Greater positive physical health will be associated with higher engagement being maintained throughout the transition process.
iv) Moderated by personality characteristics?	iii) Change will be moderated by personality characteristics neuroticism and extraversion such that higher extraversion and lower neuroticism promote life engagement
vi) Associated with changes in social networks and exchanges?	iv) Positive change in social networks will facilitate a positive change in engagement in life.

Note. § denotes the exploration of a research question relating to a gap in the literature that has not been adequately explored recently to allow for the formation of a specific hypothesis

Chapter 7. Method

7.0 Chapter Overview

The current study employed a prospective longitudinal design to examine change in social networks, engagement in life and subjective well-being over a 12-month transition period. Determinants of the transition outcome are explored in the context of psychosocial and environmental factors; including pressure to move, perceived control, physical health, personality and social support networks, recognized as predictive of personal well-being. The following chapter outlines characteristics of the participants and the retirement complex being studied and the methodology employed in addressing the research questions.

7.1 Participants

The study comprised two samples of respondents. The first sample, referred to as the 'Relocation sample', comprised 83 "residents" (males = 32, females = 51) in the process of relocating to a newly developed retirement complex within the Australian Capital Territory (ACT). Prior to entering into the contract for residence in the village, prospective residents placed a monetary deposit to reserve a villa or apartment within the complex. All 258 prospective residents of the village placing a deposit in the 12 month period between June 2009 and June 2010 were invited to participate in the study. A total of 87 were initially recruited to the study (response rate of 33.7%); however, four participants did not relocate for personal reasons and were consequently removed from the sample. Participants ranged in age from 57 to 90 years ($M = 74.9$; $SD = 7.2$) at the commencement of the study.

The second group of respondents, a comparison sample, referred to as the "Community sample", comprised 549 older adults (males = 267, females = 282) living

in private/non-institutional housing within the ACT during the same time period. A sample of 1973 people aged 55 years and over, randomly selected for the Australian Electoral Roll (AER), were mailed invitations to participate. Initially, 2 000 individuals were selected (from the AER); however, 27 were excluded because their address details indicated that they lived in a retirement village. A total of 561 people returned the survey and were consequently recruited to the study (response rate of 28.4%); however, 12 participants were subsequently excluded as a result of either notification that they were already residing in a retirement community or relocating shortly after completing the baseline assessment to a different retirement complex, reducing the sample to 549. Survey participants in the community sample ranged in age from 55 to 94 years (M = 66.5; SD = 8.8) at the commencement of the study.

Comparisons between the community sample and the Australian Bureau of Statistics (ABS) 2006 census data on older adults 55-94 years indicated the sample was representative of the population on age and gender demographic characteristics (ABS, 2007). Z tests comparing demographic characteristics of the sample to those of the ACT population indicated no significant differences in age (assessed in 5-year bands) by gender, see Table 7.1.

Table 7.1
Comparison of community sample to 2006 census data, by age and gender.

	Males			Females		
Age	Community sample	Population statistics	p-value[a]	Community sample	Population statistics	p-value[a]
55-59 years	29.6	32.1	.485	31.9	29.7	.530
60-64 years	25.8	22.4	.347	22.7	20.3	.491
65-69 years	16.1	15.3	.832	18.1	14.7	.360
70-74 years	13.5	11.4	.550	15.2	11.4	.278
75-79 years	7.5	9.1	.725	6.7	9.5	.546
80-84 years	4.9	6.2	.787	3.2	8.3	.355
85-89 years	2.2	2.7	.919	1.4	4.3	.635
90-94 years	.4	0.9	.916	.7	1.8	.869

Note. [a] Two-tailed significance calculated for z-score pertaining to the difference in the proportion of people in each sample

Across both the Relocation and Community samples, participants were predominantly of Caucasian/European decent, married or in a de-facto relationship, home owners in contrast to residing in rental properties, identified themselves as having enough money to meet their needs, and possessed on average a secondary level of education (13 years of schooling). Table 7.2 presents a summary of participant demographic characteristics.

Table 7.2
Respondent characteristics

	Total sample	Relocation sample	Community sample
N	632	83	549
Age, *M (SD)*	66.51 (8.76)	75.39 (7.78)	65.17 (8.10)
Gender			
Male (%)	47.3	38.6	48.6
Female (%)	52.7	61.4	51.4
Years of education, *M (SD)*	13.88 (2.89)	13.20 (2.90)	13.99 (2.87)
Marital status			
Married/de-facto (%)	72.5	62.7	74.0
Separated/divorced (%)	12.8	4.8	14.0
Widowed (%)	10.6	25.3	8.4
Never married (%)	4.1	7.2	3.6
Ethnicity			
Caucasian/European decent (%)	72.5	75.9	71.9
Aboriginal/Torres Strait Islander (%)	0.2	2.4	0.2
Asian (%)	2.1		2.0
Hispanic (%)	0.5		0.5
African American (%)	0.9		1.1
Other (%)	0.2		0.2
Undisclosed [a] (%)	23.6	21.7	24.1
Employed full- or part-time (%)	36.4	2.4	41.5
Fully retired (%)	57.9	96.4	52.1
Financially secure [b] (%)	95.6	100.0	94.9
Home owner (%)	90.7	91.6	90.5
Years resided in current residence, *M (SD)*	19.69 (18.35)	29.39 (13.29)	19.58 (18.99)
Spouse in study (%)	7.9	48.2	1.8

Note. Ethnicity proportions are based on data obtained from 12 month follow-up assessment. [a] undisclosed reflects the proportion on non-responses at the 12-month time point where this data was collected. [b] Financial security reflects "enough money to meet needs".

Both samples also comprised a proportion of people whom had a partner or spouse also participating in the study. This adds a level of complexity to the design methodology in that adjustment for the non-independence of observations was required

for the analyses (see section 7.6). The number of participants with a spouse in the study equates to n = 40 (48.2%) within the relocation sample and n = 10 (1.8%) within the community sample.

7.2 The village

The present study examines the relocation experience of residents to a newly constructed retirement complex completed by Illawarra Retirement Trust (IRT) in 2009. IRT is a 'not for profit' aged care and accommodation service provider which has been operating since 1967. Their mission is to "create communities where seniors achieve their optimum quality of life". At 30 June 2010, IRT operated 36 retirement communities across 17 locations throughout Australia with operations in Sydney, the Illawarra, the South Coast of NSW, and the ACT.

7.2.1 Facilities

The village under examination contained 150 independent living units, comprising 42 single storey villas, 14 two story duplexes and 94 apartments. In addition, although not examined in the present study, the village also operates a 100 place residential care facility containing 40 high care places (nursing home level care - 20 dementia specific), and 60 low care places (hostel level care). While the transition of care within the village is not guaranteed, or a condition of residence, requests can be made to move within the complex including transitioning from a self care unit into the residential care facility which provides for continuing care needs and allows people to 'age-in-place'.

The village provides a variety of services and facilities for the benefit of residents including; a chapel/reflection room, community centre, croquet lawn, gym, hairdresser, outdoor barbecue area, indoor and outdoor swimming pools, a village bus, and a café. Landscaping, general maintenance and village security services are all provided to

residents as required. In addition, self care residents also have the option (for an extra charge), of receiving domestic and cleaning services, personal care support, physiotherapy and transport services.

7.2.2 Rules and regulations

The retirement village seeks to ensure that the lives of village residents are not restricted within the village environment; however, a set of rules are enforced in endeavouring to maintain a peaceful, comfortable and enjoyable environment for all residents, along with policies for dealing with conflicts and dispute resolution.

Village rules exist pertaining to restricting noise levels to considerate levels, compliance with parking restrictions and fire safety. In relation to adjustments to the aesthetics of the individual living environments, it is the condition of contract that the resident must obtain written consent prior to attaching any fixture, renovating, altering or adding to the unit. This includes hanging pictures on the walls, painting, and personalising in other similar ways. In addition, while residents are encouraged to "develop gardens of their own liking" this also has to be agreed upon in conjunction with village staff. Residents are requested to notify village staff if they will be away for extended periods of time (e.g., holidays). With the exception of Guide Dogs, pets are only allowed with approval from both staff and all residents of the village. Village rules are outlined for all residents in the 'Residence and Service contract' (IRT, 2009).

7.2.3 Cost

Affordability of retirement villages is often of major consideration in respect to relocation options. The contract supplied for the current village in question maintains a variable structure with residents purchasing independent living units with an ingoing contribution fee dependent on premises and price option (being either percentage retention or fully refundable on departure from IRT) chosen. The prices at July 2010

ranged from $375,000 for a two-bedroom apartment or $430,000 for a two-bedroom villa to $618,000 for a three-bedroom apartment or $597,000 for a three-bedroom villa. In addition, ongoing fortnightly charges for residents reflect 25.5% of the couple aged pension, or 30% of the single aged pension which go towards operating and maintaining the retirement village and provision of services including general maintenance, landscaping and village security. Residents are also required to maintain a current insurance policy.

7.3 Measures

Demographic details including age, gender, marital status, education and employment background were collected at baseline. Across time-points various measures were utilized to assess physical health, well-being and changes in social relationships as impacted on by the transition. These included data pertaining to the physical living environment, pressure to move, perceived control, personality, social networks and exchanges, health and subjective well-being (comprising positive and negative affect, and life satisfaction). Participants' personal experience of the move was also documented allowing for a comprehensive investigation of characteristics potentially associated with such a transition.

Measures of psychological distress and engagement with life were reserved for inclusion at baseline and 12-month time points only, to operate as indicators of well-being and adjustment that would not be influenced by repeated exposure. For the relocation group, the baseline survey included items to assess specific expectations about moving and the relocation experience, whereas the community comparison group received general questions enquiring as to future relocation plans and opinions toward retirement village living. Screening for memory impairment was conducted following completion of the baseline questionnaire. Table 7.3 provides a summary of the measures

collected at each testing interval relevant to this dissertation (see Appendix A for Questionnaires).

In addition, data was collected on volunteering behaviour, coping styles, chronic stressors, optimism, self-esteem, future time perspective, dialectical thinking, and reciprocity beliefs; however, these are outside the scope of the present study.

7.3.1 Sociodemographics

Sociodemographic information was obtained at baseline relating to gender, date of birth, marital status, primary and secondary education, employment and retirement status, and residential status (as residing in either a rental property or as a home owner) prior to moving. Ethnic background (coded as 0 = Caucasian/European decent, 1 = Aboriginal/Torres Strait Islander, 2 = Asian, 3 = Hispanic, 4 = African American, 5 = other) was obtained at the 12 month assessment. A single item ('Over the past 12 months have you had enough money to meet your needs?'), taken from Wrosch, Heckhausen, and Lachman's (2000) two-item measure of financial hardship was used to assess financial status.

7.3.2 Perceptions of the home environment

Respondents' perceptions of their residence (both old and new) were assessed using a scale developed by Kling and colleagues (2003). The scale comprised 10 items responded to on a 4 point scale from 1 (*not at all*) to 4 (*extremely*). Items included, 'How much does your current home feel like part of a neighborhood?' A total score was obtained by calculating the mean, scores range 1 to 4, higher scores reflect more positive perceptions. The scale had previously obtained good reliability in a sample of older adults reporting a Cronbach alpha of 0.72 (Kling et al. 2003)

Table 7.3
Measures by Condition and Interval

Measures	Baseline	1-month Post move	6-months Post move	12-months Post move
		Relocation Group		
Sociodemographics	✓			
Perceptions of home	✓	✓	✓	✓
Pressure to move	✓			
Control beliefs	✓	✓	✓	✓
Personality - Big 5 Traits	✓	✓	✓	✓
Social networks				
Network size	✓	✓	✓	✓
Social exchanges	✓	✓	✓	✓
Loneliness	✓	✓	✓	✓
Engagement in Life	✓			✓
Physical & Mental Health				
Physical health	✓	✓	✓	✓
Mental health	✓	✓	✓	✓
Physical activity	✓	✓	✓	✓
Psychological distress	✓			✓
Well-being				
Life satisfaction	✓	✓	✓	✓
Affect	✓	✓	✓	✓
Memory impairment				
MIS-T	✓			
Relocation experience				
Expectations and experiences	✓	✓		
Difficulty of move		✓		
		Community Group		
Sociodemographics	✓			
Perceptions of home	✓			✓
Control beliefs	✓			✓
Personality - Big 5 Traits	✓			✓
Social networks				
Network size	✓			✓
Social exchanges	✓			✓
Loneliness	✓			✓
Engagement in Life	✓			✓
Physical & Mental Health				
Physical health	✓			✓
Mental health	✓			✓
Physical activity	✓			✓
Psychological distress	✓			✓
Well-being				
Life satisfaction	✓			✓
Affect	✓			✓
Memory impairment				
MIS-T	✓			

7.3.3 Pressure to move

The level of perceived pressure respondents felt to move into the retirement complex was assessed using nine items developed by Smider and colleagues (1996). The items reflect the extent to which the individual feels pressure to move, responded to on a 6-point scale from 1 (*not at all*) to 6 (*very much*). Items included, 'To what extent would you say the *original* idea about moving was yours, rather than someone else's?' A total score was obtained by calculating the mean of items after reverse coding so as a higher score indicates greater pressure to move, scores range 1 to 6. The scale has reported adequate reliability with older adult populations obtaining Cronbach alpha reliability of 0.70 (Smider, et al., 1996).

7.3.4 Perceived control

Control beliefs were assessed using 10 items designed to measure perceptions of constraints (5 items) and mastery (5 items) (Lachman & Weaver, 1998a). The measure of perceived constraints refers to the extent the individual feels there are obstacles beyond their control that interfere with the attainment of goals. The mastery scale reflects the efficacy or effectiveness one perceives to have in achieving goals. Scale items are responded to on a 6-point scale from 1 (*strongly disagree*) to 6 (*strongly agree*). Items include, 'I have little control over the things that happen to me'. A score for each subscale is obtained calculating the mean score, items 1-5 mark the constraints subscale, items 6-10 mark the mastery subscale. Scores range 1 to 6 for each subscale, a higher score indicating a greater degree of perceived constraints or mastery. The scale has achieved acceptable internal consistency in community populations obtaining Cronbach alphas ranging 0.60 to 0.86 (constraints subscale) and 0.53 to 0.70 (mastery subscale) (Lachman & Weaver, 1998a).

7.3.5 Personality

Personality traits based on the Big-Five personality dimensions were assessed using the Ten-Item Personality Inventory (TIPI) (Gosling, Rentfrow, & Swann Jr, 2003). The scale comprises 10 items each reflecting one pole of the FFM, respondents rate extent to which the pair of traits applies to them indicated on a 7-point scale from 1 (*disagree strongly*) to 7 (*agree strongly*). Items include, 'extraverted, enthusiastic' and 'reserved, quiet'. A total score for each subscale is obtained by summing the following items and calculating the mean, after reverse scoring for negatively worded items (Extraversion: 1, 6; Agreeableness: 2, 7; Conscientiousness; 3, 8; Emotional Stability: 4, 9; Openness to Experiences: 5, 10). Total scores range from 1 to 7, a higher score indicating greater endorsement of that characteristic/trait. The scale has obtained good test-retest reliability (mean = 0.72) and convergent validity with other multi-item inventories (0.77) in use with young adult samples (Gosling et al., 2003).

7.3.6 Social networks and exchanges

Social network composition: The size and quality of participants' social network was assessed using the Lubben Social Network Scale (LSNS-18) (Lubben & Gironda, 2003). The LSNS-18 is a brief instrument designed to measure social isolation in older adults through perceived social support received by family, friends and neighbours. The scale comprises 18 equally weighted items used to measure size, closeness and frequency of contacts of a respondent's social network. Items are responded to on a 6-point scale from 0 (*none/never*) to 5 (*nine or more/always*). Items include, 'Considering the people to whom you are related either by birth or marriage (including your spouse, but excluding dependant children under 16 years.): How many relatives do you see or hear from at least once a month?' and 'Considering your friends who do not live in your neighbourhood: How often is one of your friends available for you to talk to when you have an important decision to make?' A total score for each subscale (friend, family,

neighbour domains) is obtained by calculating the mean score within each domain, scores range from 0 to 5, a higher score indicating a greater number of contacts within the respondent's social network, or stronger social network.

Social exchanges: The quality of participants' social exchanges was examined using the Positive and Negative Social Exchanges (PANSE; (Newsom, 2005). The PANSE assesses four domains of positive and negative social exchanges. Positive exchanges represent informational support, instrumental support, emotional support, companionship; while negative exchanges represent unwanted advice or intrusion, failure to provide help, unsympathetic or insensitive behaviour, rejection or neglect. The scale comprises 24 items (3 covering each of the 8 domains) asking respondents to think about the people in their life (partner or spouse, family members, friends, neighbours, in-laws, or others) and report on their exchanges over the past month. Items are responded to on a 5-point scale from 0 (*never*) to 4 (*very often*). Items include, 'In the past month, how often did the people you know offer helpful advice when you needed to make important decisions? Total scores for each scale are obtained for positive and negative subscales by summing and calculating the mean responses, total scores range 0 to 4, higher scores indicate a greater level of positive or negative social exchanges. The PANSE has obtained very good internal consistency in use with older adults obtaining Cronbach alpha reliabilities of 0.90 for both positive and negative interaction scales (Newsom, 2005; Newsom et al., 2008; Sorkin & Rook, 2006).

Loneliness: The Three Item Loneliness Scale developed by Hughes and colleagues (2004) to assess loneliness in large scale surveys was also included in the present study. The 3 items assess how the respondent feels about different aspects of their life. It is responded to on a 3-point scale from 1 (*often*) to 3 (*hardly ever or never*). Items include, 'How often do you feel you lack companionship?' An index of loneliness is created by reverse scoring the 3 items and calculating the average score across the items. Total

scores range 1-3, a higher score indicating a greater degree of loneliness. The scale has demonstrated good validity and reliability with older adult populations, obtaining Cronbach alpha reliabilities of 0.72 (Hughes, Waite, Hawkley, & Cacioppo, 2004).

7.3.7 Engagement with Life

Shown to be strongly related to indicators of subjective well-being, engagement with life was measured using the Life Engagement Test (LET) (Scheier et al., 2006). The LET is a measure of purpose in life in terms of the extent to which a person has engaged in activities that are personally valued over the past month. The scale comprises 6 items responded to on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Items include, 'To me, the things I do are all worthwhile'. A total score is obtained by summing items after reverse scoring items 1, 3, 5; scores range 5 to 30, a higher score indicates greater level of engagement with life. The LET has obtained good reliability across age groups having obtained Cronbach alpha reliabilities ranging 0.72-0.87, test-retest reliabilities over a period of 4 months ranging 0.61-0.76, along with adequate convergent and discriminant validity (Scheier et al., 2006).

7.3.8 Physical & Mental Health

Physical & mental health: Self-rated physical and mental health was assessed using the physical health component score (PHC) and the mental health component score (MHC) of the RAND-12 (Hays, 1998). Each component score comprises 6 items, which assess health and daily activities over the past 4 weeks. Items included, 'During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?' and 'In general, would you say your health is...' Factor loadings derived to produce scores with a mean of 50 and standard deviation of 10 based on US population data, were applied to calculate total scores of physical and mental health.

Physical Activity: Self-reported physical activity over past 7 days is measured using the 8 item Active Australia Survey (Australian Institute of Health & Welfare, 2003). The scale comprises a set of 4-items (8 items in total) assessing 'how many times' and 'total time spent' during the past week spent on physical activities (walking, vigorous activities, vigorous activities excluding housework and gardening, moderate activities). The total amount of time spent engaging in physical activity per week was derived by calculating reported time spent in minutes walking and engaging in moderate activity summed with twice the time spent in vigorous activity (not including gardening or yardwork). Vigorous activities are doubled in this instance as they are more intense and carry greater health benefits than moderate activity. Furthermore, to avoid errors due to over reporting, total times in all activities exceeding 1680 minutes (28 hours) per week were recoded to 1680 minutes as the maximum 'allowable' hours (see Armstrong, Bauman, & Davies, 2000). Individuals were then identified as spending 'sufficient' time participating in physical activity for physical health (calculated as at least 150mins per week) using the calculation of time spent in physical activity. Classifications (for descriptive purposes) were created to identify individuals as sedentary, spending no time in physical activity; insufficiently active, spending less than 150 minutes per week; or sufficient, spending 150 minutes per week or more in physical activity. The Active Australia Survey was developed for use with persons aged 18-75 years and has obtained good reliability amongst use with Australian adults associated with the classification status of respondents, with Kappa inter-class reliability coefficients ranging 0.52-0.64 (Brown, Trost, Bauman, Mummery, & Owen, 2003; Brown, Trost, Bauman, Mummery, & Owen, 2004).

Psychological Distress: The Depression Anxiety Stress Scale (DASS-21; Short-form version) (Lovibond & Lovibond, 1995) was used to assess psychological distress along the domains of depression anxiety and stress over the preceding week. The scale

consists of 21 items responded to on a 4-point scale from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*). Items include, 'I felt I had nothing to look forward to' and 'I felt I was close to panic'. Scores for each domain were obtained by summing items for each subscale (Depression scale items: 3, 5, 10, 13, 16, 17, 21; Anxiety scale items: 2, 4, 7, 9, 15, 19, 20; Stress scale items: 1, 6, 8, 11, 12, 14, 18) and multiplying by 2. Scores range 0-42 for each subscale, a higher score indicating a greater degree of distress (see Table 7.4 for Severity Ratings). A total score for overall psychological distress was obtained by summing all items and multiplying by 2. The DASS-21 is not a measure of clinical diagnoses; however, each scale has reported high internal consistency within general adult populations aged 18-91 years obtaining Cronbach alpha's of 0.88 (Depression), 0.82 (Anxiety), 0.90 (Stress), 0.93 (total score), and displays good convergent and discriminant validity (Gloster et al., 2008; Henry & Crawford, 2005).

Table 7.4
Severity ratings for total scores obtained using DASS-21.

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

7.3.9 Well-being

Life Satisfaction: Life satisfaction (as a component of subjective well-being) was assessed using the Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larson, & Griffin, 1985). The SWLS is a measure of global life satisfaction (distinct from positive affect and loneliness components of subjective well-being). The scale comprises 5 items/statements to which respondents indicate their level of agreement on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Items include, 'In most ways my life is close to my ideal'. Total scores are obtained by obtaining the mean of the items.

Scores range from 1 to 7, a higher score indicating a higher level of satisfaction. The SWLS has demonstrated good internal consistency obtaining Coefficient alphas ranging 0.79 to 0.89 (Pavot & Diener, 1993; Windsor, Anstey, & Walker, 2008).

Affect: Affect was assessed using the Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988). The PANAS is a 20 item scale which incorporates two subscales consisting of a list of adjectives designed to assess the respondent's feelings and emotions over the past 30 days. Positive Affect (PA) is represented by 10 items, which include "interested", "excited" and "inspired". Negative Affect (NA) is represented by 10 items, which include "distressed", "scared" and "hostile". Items are responded to on a 5-point scale from 1 (*very slightly or not at all*) to 5 (*extremely*). Total scores for each subscale were obtained by calculating the mean score of items for the respective scales, and could range from 1 to 5, a higher score indicating a higher level of PA or NA. The PANAS has demonstrated sound reliability and validity. Internal consistency of the PA and NA scales has been found to range from .86 to .90 and .84 to .89 respectively with both young and older adult populations (Crawford & Henry, 2004; Fletcher & Hansson, 1991; Watson et al., 1988).

7.3.10 Memory Impairment

Participants completed a brief screen for memory impairment with the use of the Memory Impairment Screen – Telephone Administration (MIS-T) (Buschke, Kuslansky, Katz, Sliwinski, & Lipton, 1998; Buschke et al., 1999; Lipton et al., 2003). The MIS-T is a four item delayed free and cued recall screening tool (not a diagnostic test) intended for identifying individuals who may require further evaluation for possible Alzheimer's disease or other dementias. The assessment was administered whereby the interviewer presented two (of four) target words and asks the subject to repeat the words to ensure they were heard correctly. The interviewer then presented a category cue associated with one of the target words. The subject was asked to choose

the word that matches the category cue. The category cue was then presented for the other target word. This procedure was repeated for the other two target words. An interference period of 2-3 minutes was then implemented to prevent rehearsal. The subject was then asked to recall as many target words as possible (free recall). For each target word not freely recalled the interviewer presented the appropriate category cue to elicit cued recall. To obtain a score on the MIS-T the number of free recall words were summed and multiplied by 2 and added to the number of cued recall words [(2xFree recall) + Cued Recall]. Total MIS-T scores range from 0 to 8, a lower score indicates a greater level of cognitive/memory impairment. MIS cut-score for impairment depends on the base rate or prevalence of dementia in the setting where the MIS is to be used. As Australian estimates of the prevalence of dementia indicate less that 10% of the population are affected (Australian Institute of Health & Welfare, 2007), a cut score of 3 was used as an indicator of screening positive for memory impairment (cut score of 3 = 67% sensitivity, 98% specificity, PPV 79% and NVP of 0.97 indicating that only 3% of people screening negative would prove to have dementia following comprehensive assessment (Buschke et al., 1999). Under these criteria no participants were excluded due to possible memory impairment.

7.3.11 Relocation experience

Expectations and experiences: Expectations regarding the transition into the retirement village were investigated with the use of five open-ended items developed for the purpose of the study. Items targeted expectations concerning general difficulties experienced, changes to social life and relationships, impact on health, general concerns and perceived benefits about the move. In addition, 1-month post relocation two open-ended items enquired as to the difficulties and benefits experienced as a result of moving into the new residence.

Difficulty of move: The stress associated with relocation was also assessed through two items, 'how stressful was the move' and 'how smoothly do you think the move went', rated on a 4-point scale from 1 (*not at all*) to 4 (*extremely*).

7.4 Scale reliability

Internal consistency for each of the scale measures was assessed via Cronbach alpha reliability coefficients, with the exception of the TIPI subscales where it is inappropriate due to each subscale comprising of only two items (Gosling et al., 2003; Woods & Hampson, 2005). However, previous studies have established the convergence of the TIPI with other well established scales such as the Big Five Inventory (BFI) (Gosling et al., 2003). Adequate internal consistency was obtained in the present study, across samples and testing intervals, with most of the other scales demonstrating coefficients ranging .65 to .95. Although the measure of pressure to move (.56), and anxiety within the relocation group at 12 months (.54), reported a comparatively weak coefficient in contrast to the often accepted 0.70 level; scales with relatively low alpha levels can still prove useful measures (Schmitt, 1996). Furthermore, while it is acknowledged that the interpretation given to alpha coefficients as a measure of reliability can be problematic for a number of reasons (e.g., independent of alpha coefficient, average inter item correlations can differ substantially with number of items) and that assessment of the scales in the context of analyses and the examination and adjustment for issues such as multicollinearity may be more important (Schmitt, 1996; Shevlin, Miles, Davies, & Walker, 2000); analyses including these measures will be interpreted with caution. Cronbach alpha reliability coefficients are presented in Table 7.5.

Table 7.5
Cronbach alpha reliabilities for Measures, by Group and Time

	Relocation				Community		Total	
Measure	Base	1M	6M	12M	Base	12M	Base	12M
Neighborhood perception	.79	.79	.79	.86	.86	.86	.85	.86
Pressure to move	.56	-					.56	
Perceived control								
Constraint	.81	.79	.65	.66	.80	.81	.80	.80
Mastery	.90	.89	.91	.88	.89	.86	.90	.87
Social networks								
Family network	.88	.73	.86	.81	.83	.85	.83	.85
Friend network	.84	.86	.94	.88	.90	.90	.89	.90
Neighbour network	.85	.87	.90	.87	.89	.87	.89	.88
Positive social exchanges	.94	.95	.93	.95	.94	.92	.94	.92
Negative social exchanges	.92	.90	.89	.90	.90	.88	.90	.88
Loneliness	.90	.85	.76	.87	.84	.84	.85	.85
Engagement in Life	.72	-	-	.82	.84	.86	.82	.86
Physical & Mental Health								
Physical health	.83	.86	.86	.89	.84	.85	.84	.86
Mental health	.66	.80	.80	.84	.80	.78	.79	.79
DASS – depression	.77	-	-	.93	.88	.89	.87	.89
DASS – anxiety	.80	-	-	.54	.73	.71	.73	.69
DASS – stress	.83	-	-	.91	.85	.87	.85	.88
Well-being								
Life satisfaction	.73	.78	.74	.84	.90	.89	.89	.89
Positive affect	.91	.90	.88	.92	.90	.92	.90	.91
Negative affect	.85	.83	.80	.88	.88	.86	.87	.86

7.5 Procedure

Ethics approval was obtained for the study from the Australian National University Committee for Ethics in Human Research Protocol 2009/041. The study followed a longitudinal design with data collected via self-report questionnaires administered across 4 time points: Baseline (prior to relocation), 1-, 6- and 12-months post relocation. The recruitment of participants was conducted in two stages.

Stage 1: Relocation sample. All prospective residents of the new retirement village established in the ACT in 2009 were contacted via mail and invited to participate in the study investigating the changes in physical health, social relationships and personal well-being that people might experience around the time of moving from their

existing place of residence in to the retirement village. Recruitment occurred over a 12 month period between June 2009 and June 2010. Future residents of the complex received a letter of invitation (Appendix B), an information sheet describing the project (Appendix C), a consent form (Appendix D), a copy of the survey (Appendix A.1), and a reply-paid envelope in which to return the survey and consent form should they choose to participate. By sending the questionnaire with the initial invitation, participants were able to provide informed consent. Participants were further asked to provide their contact details to allow for follow-up. Respondents in this group completed the baseline assessment, on average, 11 weeks prior to their date of relocation.

Stage 2: Community comparison sample. The comparison sample was obtained from residents in the Canberra community without current plans to relocate. A random sample of 1973 residents aged 55 and over, from the AER within the division of Fraser, were sent baseline questionnaires to complete. Initially, a random sample of 2000 was obtained; however, 27 individuals were excluded as a result of address details indicating they currently resided in a retirement community. Recruitment occurred between 1st October 2009 and 28th February 2010. A response rate of 28.4% was obtained. Prospective community participants also received a letter of invitation to participate in the study, the study information sheet, a survey containing a consent form, and a reply-paid envelope in which to return the survey.

Following the return of the survey a brief telephone interview was conducted with each participant. This comprised the memory impairment assessment and confirmation of relocation information (for the relocation sample) for the purpose of scheduling the 1-month post move survey. A cut score of 3 was used as an indicator of screening positive for memory impairment (see measures section 7.3.10). Under these criteria no participants were excluded due to memory impairment. In addition, 82 participants did

not complete the MIS-T; however, analysis to determine if there were any distinguishable characteristics of those not completing the cognitive assessment did not reveal any significant predictors of non-completion at the $p < .001$ level (see Table 7.6), indicating there were no significant differences between MIS-T completers and non-completers, across the groups. Reasons provided for refusal to complete memory impairment assessment included hearing impairment and difficulty with English language comprehension; however, for the majority of people not assessed (n = 75), this was the result of an inability to contact them via phone. The conservative p-value of 0.001 was taken in light of the large number of predictors within the model (see statistical analysis section for overview of analyses employed). As there were no significant differences between completers and non-completers these participants were also retained in the final dataset.

Follow-up surveys were completed by participants in the relocation sample at 1, 6 and 12 months post relocation. Non-relocating community residents completed a follow-up survey 12 months from the date of baseline.

Table 7.6
Logistic regression analysis comparing completers and non-completers of memory impairment assessment.

Variable	Completers[a]	Non-completers[b]	*OR*	*p*	95% CI
Age, *M(SD)*	66.29 (8.48)	67.97 (10.37)	1.00	.959	[0.97, 1.03]
Female (%)	53.1	50.0	1.41	.190	[0.84, 2.37]
Education, *M(SD)*	13.99 (2.78)	13.20 (3.46)	1.09	.089	[0.99, 1.19]
Marital status [c] (%)	73.6	64.6			
Separated/divorced (%)	12.9	12.2	0.78	.557	[0.34, 2.97]
Widowed (%)	9.3	19.5	0.38	.014	[0.18, 1.78]
Never married (%)	4.2	3.7	0.75	.676	[0.19, 0.82]
Employed full- or part-time (%)	36.2	37.8	0.44	.135	[0.15, 1.29]
Fully retired (%)	57.6	59.8	0.69	.498	[0.24, 2.00]
Financially secure [d] (%)	95.5	96.3	0.69	.506	[0.22, 2.10]
Home owner (%)	91.8	82.9	0.48	.039	[0.24, 0.96]
SF-12 Physical Health, *M(SD)*	47.69 (10.21)	45.48 (11.84)	1.00	.998	[0.97, 1.03]
SF-12 Mental Health, *M(SD)*	51.25 (9.04)	50.69 (9.19)	1.02	.379	[0.98, 1.07]
DASS-Depression, *M(SD)*	4.13 (5.66)	4.00 (5.81)	1.03	.476	[0.94, 1.14]
DASS-Anxiety, *M(SD)*	2.56 (3.98)	3.22 (4.28)	0.91	.053	[0.83, 1.00]
DASS-Stress, *M(SD)*	6.18 (6.17)	5.48 (5.58)	1.03	.354	[0.97, 1.10]
Positive affect, *M(SD)*	3.21 (0.76)	3.18 (0.83)	0.81	.319	[0.54, 1.23]
Negative affect, *M(SD)*	1.41 (0.50)	1.33 (0.36)	2.47	.034	[1.07, 5.68]
Life satisfaction, *M(SD)*	5.15 (1.33)	5.04 (1.38)	1.06	.647	[0.83, 1.35]
Relative network, *M(SD)*	3.27 (0.92)	3.24 (0.91)	1.06	.704	[0.80, 1.40]
Neighbour network, *M(SD)*	1.71 (1.00)	1.68 (1.09)	0.93	.584	[0.72, 1.21]
Friend network, *M(SD)*	2.68 (1.05)	2.45 (0.93)	1.26	.073	[0.98, 1.62]
Positive exchanges, *M(SD)*	2.52 (0.87)	2.53 (0.99)	0.84	.315	[0.61, 1.18]
Negative exchanges, *M(SD)*	.56 (0.61)	.53 (0.57)	1.05	.849	[0.66, 1.67]
Loneliness, *M(SD)*	4.33 (1.60)	4.41 (1.66)	1.03	.799	[0.83, 1.28]
Engagement in life, *M(SD)*	4.09 (0.72)	4.07 (0.74)	0.92	.719	[0.57, 1.47]
Constraint, *M(SD)*	2.29 (1.06)	2.42 (1.15)	0.92	.515	[0.71, 1.19]
Mastery, *M(SD)*	4.19 (1.19)	3.93 (1.25)	1.15	.165	[0.94, 1.41]
Perceptions of home, *M(SD)*	3.32 (0.47)	3.30 (0.52)	0.94	.842	[0.50, 1.77]
Extraversion, *M(SD)*	4.14 (1.51)	3.80 (1.44)	1.21	.035	[1.01, 1.45]
Agreeableness, *M(SD)*	5.55 (1.16)	5.65 (1.18)	0.97	.903	[0.76, 1.24]
Conscientiousness, *M(SD)*	5.89 (1.22)	5.81 (1.07)	1.03	.802	[0.82, 1.29]
Neuroticism, *M(SD)*	2.69 (1.42)	2.74 (1.48)	0.92	.459	[0.73, 1.52]
Openness to experience, *M(SD)*	4.97 (1.28)	4.93 (1.15)	0.90	.361	[0.71, 1.31]

Note. [a] n = 550. [b] n = 82.. [c] Reference category for marital status = married/de-facto. [d] Financial security reflects 'enough money to meet needs'; however, coefficients were not produced.

7.6 Statistical analyses

Data analysis was conducted using PASW 19 (IBM SPSS Statistics, Version 19, 2010) and STATA Version 10. The statistical analyses employed for examining cross-sectional comparisons between groups and longitudinal change over time are outlined

below. The treatment of missing data and a rationale for the use of random coefficient models are discussed. Data were initially screened for data entry errors evidenced by out-of-range values prior to proceeding with analyses.

7.6.1 Missing data

The proportion of missing data was examined separately for the community and relocation groups at each wave. For the community group, the amount of missing data, across both Baseline and 12-month time points, was less than 7% for variables to be included in the analyses. For the relocation sample, the amount of missing data was also less than 10% for variables to be included in analyses, with the exception of one item of the PANAS (Item 6 – Ashamed; 12% missing at baseline), and items reflecting neighbour social networks included in the 1-month assessment. In this case a substantial proportion of participants noted that they found it difficult to answer the neighbour items (and deemed them not applicable) as they had only just moved and were still settling into the new environment (13.9-16.7% missing). For this reason, the neighbour social network variable was dropped from analysis in recognition that it was not appropriate to assess these networks at this time as the village was not adequately established at the time of relocation for a number of participants. In order to retain a consistent sample across the analyses, and to reduce the potential for bias resulting from listwise deletion, missing data for the other variables within each wave were imputed using maximum likelihood estimation via the SPSS EM algorithm (Schafer & Graham, 2002). The decision was made to impute missing data for the measures at the item or scale level dependent on the type of likert scale utilized by the measure, and in consideration of the coefficient alpha of the scale variable, and the distribution of responses. Missing data were imputed at the scale level if the measure employed a 4-point or less likert scale, as a result of variables having relatively high alphas and where data were available for at least 85% of scale items (Graham, 2009). This approach was

taken for the measures of physical and mental health; depression, anxiety and stress as assessed by the DASS-21; chronic stressors; and loneliness. Missing data for the other variables were imputed at the item level in order to gain the greatest accuracy in imputed values where possible. Note that this applies only to missing data where the questionnaire was returned incomplete. Where participants failed to complete an entire assessment, data was not imputed but accounted for by the statistical approach employed (see section 7.6.3).

7.6.2 Cross-sectional analyses

Cross-sectional analyses investigating baseline differences between the relocation and community groups, and completers and non-completers of the cognitive impairment screen were conducted by logistic regression using a random-effects model procedure. While the procedure guiding random-effects modeling will be discussed in greater detail in the context of the longitudinal analyses (below), the primary advantage of this approach was that it adjusts for the unequal variances, allowed for the correlated responses of spouses and enabled the nesting of individuals with couples.

7.6.3 Longitudinal analyses

All longitudinal modeling to investigate the relocation experience over time was conducted within the multilevel framework described by Singer and Willett (2003) (see also Hedeker & Gibbons, 2006; Hox, 2010; Twisk, 2003). Random coefficients models account for the dependent or inter-correlated nature of data obtained from repeated measures designs, they enable the nesting of individuals within groups, are less sensitive to unbalanced designs, and they offer the advantage that they do not assume that participants are measured at the same number of time-points. Rather than missing data from whole assessment points being imputed, random coefficients models estimate model parameters using all available data (Hedeker & Gibbons, 2006). Therefore,

incomplete data resulting from participants failing to complete one of the follow-up surveys did not reason their exclusion, thus increasing statistical power and ensuring the data are as representative of the population as possible. In addition, this approach allowed for the inclusion of both time-varying and time-invariant predictors of adjustment, and the investigation of change over time in the outcome variables as influenced by both stable characteristics (e.g., personality) and those likely to change across the transition (e.g., social networks). Finally, the random intercept model approach accounted for the variability in baseline scores observed in plots of the raw data (see Appendix E), while estimating average change in the sample (Hedeker & Gibbons, 2006).

The specific choice of model for each outcome variable (i.e., number of levels) was determined by evaluating the improvement in model fit achieved by nesting the data for individuals within couples. This was tested for each outcome measure by comparing unadjusted models containing a random intercept of individual (i.e., 2-level model with measurement occasions nested within individuals) with a model also including a random intercept for couple (i.e., 3-level model with measurement occasions nested within individuals, nested within couples) using the post estimation likelihood-ratio test. If significant, a random-intercept for couple was included in the models. All models were fitted using an unstructured correlation matrix and using maximum likelihood estimation. Note: While REML may be argued as a superior estimation procedure, maximum likelihood estimation is more suited to the estimation of the contribution of the fixed effects to the model which are the primary interest in interpreting the study findings (Singer & Willett, 2003; Twisk, 2003). An unstructured correlation matrix was employed as most appropriate as, although not equally, the observations are correlated. The unstructured matrix is the least restrictive approach

available and is estimated from the data without assumptions relating to any two pairs of observations (Twisk, 2003).

For each set of research questions, blocks of predictors were entered sequentially to build to a final model. Each model was compared to the previous (using model fit indicies – Likelihood ratio and AIC criteria) to determine if the new parameter/s improved the model fit. The series of models were fitted using the information-theoretic approach with the idea to compare alternative models according to how well they capture information in the data as determined by the amount of unexplained variation (Burnham & Anderson, 2002). Predictors were retained if the addition of the new parameter/s improved model fit (using a $p < .05$ significance threshold for Likelihood ratio test, and if the model produced a lower AIC). Although this approach is considered most appropriate due to the number of independent variables and small sample size, it is acknowledged that the large number of statistical analyses undertaken has implications for statistical power and the potential of Type I errors. Therefore, a significant level of .01 is considered in the final model with effects reported at $p < .05$ interpreted with caution. These issues will also be addressed as limitations in the discussion of results. The series of models tested was chosen in line with the research questions relating to each dependent variable. The construction of time within the longitudinal analyses was defined by fixed time-points representing the intervals of testing (0 = baseline, 1 = 1-month post relocation, 2 = 6-months post relocation, 3 = 12-months post-relocation) and as such modeled as a categorical variable. This approach was taken as the nature of the investigation is comparative to evaluating an intervention whereby it was important to make comparisons between baseline and discrete points in time following relocation. Time-varying predictors were examined through the construction of within-person change variables representing change from baseline at each time interval and change between subsequent intervals. Categorical predictors representing sociodemographic

information were coded as follows: gender (male = 0, female = 1); marital status (married/de-facto = 0, separated/divorced = 1, widowed = 2, never married = 3); and retirement status (0 = not at all/only partially retired, 1 = retired). For analyses using relocation group only, age and years of education were group-mean centered and scale level predictors in each analysis were converted to standardized Z-scores (within-group), to allow for comparisons to be made in the magnitude of effects found. Where the complete sample is used, standardization was conducted across the sample. Cross-product terms with time were used to test interactions indicating moderation effects.

To investigate overall change across the 12-month follow-up period and determine any differences between the relocation and community groups over time comparisons were first made between change reported in the relocation and community samples over the 12-month period. For each outcome an unadjusted model identified overall change. The model was then re-run controlling for age, marital status, retirement status, baseline physical activity and perceived control (constraints), as a result of the differences identified between the groups at baseline. The relocation group was then examined in greater detail utilising the pre-move, 1-, 6- and 12-month data obtained. This included an investigation of the association between change in perceptions of home, social network indicators and perceived control and the outcome of interest; the impact pressure to move, time in previous residence and stage of village completion at time of move; and the moderating effect of physical health and personality characteristics.

First, an initial model examined the unadjusted effect of time (Model 0). Contextual factors associated with the move were then examined. Model 1 (a-d) adjusted for the number of years the participant had resided in their home prior to relocation; the timing of relocation in respect to the progressive development of the village over the 12 month recruitment period for new residents; between and within-

person change in perceptions of the home environment, and the impact of perceived pressure to move. Model 2 introduced demographic characteristics (age, gender, marital status, years of education). Model 3 (a, b) adjusted for baseline physical health, and examined the interaction between time and physical health to investigate the moderating effect of health status prior to relocation on change over time. Model 4 (a, b) examined the association between indicators of adjustment and personality characteristics (extraversion, agreeableness, conscientiousness, neuroticism, openness) at baseline, and examined interactions between time and personality characteristics to identify any moderating effects on change. Model 5 (a, b) adjusted for perceived control (constraints and mastery) at baseline, and examine the impact of within-person change in control on adjustment over time. Model 6 (a, b, c) examined the impact of family, friend and neighbour social networks prior to relocation, and investigates their moderating effect and the impact of within-person change in network domains over time. Finally, Model 7 (a, b) examined the impact of positive and negative social exchanges at baseline and the impact of within-person change in social exchanges over time. For each model, analyses were repeated changing the reference category of time from baseline to 1- and 6-months to investigate change occurring between the 1, 6 and 12 month time points.

The results tables report the unstandardized beta weights which provide an estimate of the effect of each predictor in terms of the unit of the dependent variable. For example, if a fixed effect for age is .30, this means that for every year over 74.9 years (relocation group mean), positive social exchanges are .30 of a standard deviation higher. The standard error for each beta weigh is reported. Intraclass Correlation Coefficient (ICC) values are reported for each of the final models at both the individual and couple level. The ICC – Couple indicates the amount of variance in the outcome that is between couples, while the ICC – Individual indicates the amount of variance in the outcome between individuals.

Normality and homoscedasticity: Random coefficient models operate under assumptions of a normal distribution of residuals and homogeneity of variance of residuals. Residual normality was tested by producing probability plots for each dependent variable (see Appendix F). While for the majority of outcome variables the assumption of residual normality is met; within both the relocation sample and total sample, departures from normality are indicated for loneliness, negative social exchanges, negative affect and satisfaction with life. Therefore, final models for these outcome variables will be tested with robust standard errors and significant effects interpreted with caution. Tests for homogeneity of variance indicated residual variance to be comparative across groups (see Appendix G).

Sample size and power: In order to obtain an estimate of the sample size that would be required to detect a moderate (.3) effect at $p<.05$, based on a moderate correlation between repeated measures (r = .50), and high level of power (.8); G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) was used to produce a-priori estimates for a repeated measures analysis of variance. Based on the aforementioned criteria a total sample size of 68 was indicated for the repeated measures between-groups analysis and a sample of 17 was indicated for the repeated measures analysis within the relocation sample as adequate. This estimate is deemed conservative in light of the increase in statistical power obtained by employing a multi-level analysis approach rather than traditional methods of analysis. Therefore, the sample size for the present study is considered adequate.

7.6.4 Qualitative data analysis

Qualitative data obtained from open-ended survey items investigating participants' expectations and post-move experiences were examined through the use of conventional content analysis. Qualitative content analysis, as one of many methods used in the analysis of open-ended survey data, provides an understanding of the topic under

investigation, as constructed by the participant (Hsieh & Shannon, 2005). The conventional approach to content analysis, similar to an inductive (or data driven) thematic approach, involved the identification of themes from the data during the data coding process. The advantage of this approach was that it allowed direct information to be extracted from participant responses without having imposed pre-conceived categories of theoretical perspectives guiding the results (Hsieh & Shannon, 2005). Also similar to an inductive thematic approach this provided flexibility in the coding process, provided the potential for unanticipated reports, and allowed for greater interpretation of the data (Braun & Clarke, 2006). For each open-ended question all responses to were read carefully and the main themes within each identified. Upon reading the first 4-5 responses preliminary codes were formed. The remaining responses were then coded using these themes and adding new codes when data was encountered that did not fit the existing categories. Once all responses had been coded, the data within each code were examined to check for consistency. Descriptive data extracted from the coding of open-ended responses to questions relating to expectations and experiences following relocation are presented in Chapter 9.

7.7 Chapter Summary

Chapter 7 outlined the methodology employed in the present study. The study comprised two samples of respondents aged 55-94 years: 1) a sample of older adults (N = 83) relocating to a retirement village located in the ACT; and 2) a comparison sample of older adults residing in private/non-institutional housing (N = 549). Participants in the relocation sample were prospective residents of a newly constructed retirement village (completed 2009) which provides a variety of services (e.g., community center, café) and facilities for the benefit of residents. The study employed a longitudinal design with data collected via self-report questionnaires administered across 4 time

points for the relocation sample: Baseline (prior to relocation), 1-, 6- and 12-months post relocation. The comparison sample completed questionnaires at baseline and 12-month follow-up. Demographic characteristics for the sample were obtained at baseline. Across time points various measures were used to assess perceptions of the home environment, pressure to move, perceived control, personality characteristics, social networks and exchanges, loneliness, engagement in life, physical and mental health, subjective well-being, and the overall relocation experience. The approach taken to the statistical analysis of cross-sectional, longitudinal, and qualitative data is outlined.

Chapter 8. Relocating to a retirement village or staying put: Characteristics of relocating older adults.

8.0 Chapter overview.

While past research has identified various motives for relocation (e.g., health concerns, social isolation (Stimson & McCrea, 2004), and characteristics of individuals considering relocation in the future (Crisp, Windsor, Anstey, & Butterworth, 2012a); it is important to understand, in the context of the present study, any characteristics which distinguish those older adults who chose to relocate from those who remain residing in the community. Chapter 8 examines the characteristics of those individuals relocating to the retirement village and reports the investigation of research question 1: *Do those older adults relocating to the retirement village differ from their peers residing in the community in sociodemographic, health and well-being or environmental characteristics?* To investigate baseline differences between the relocation and community groups, a logistic regression was performed using a random-effects model procedure. The results indicate few characteristics which differentiate the groups. The relocation sample was on average 10 years older, engaging in less physical activity per week, were more likely to be retired and widowed, more likely to report having enough money to meet their needs and were experiencing a greater level of constraints (lower control) at baseline, than those remaining in their current residence. No significant differences between the groups were indicated in the measures of health, subjective well-being, social resources, environment or personality characteristics. A summary of demographic characteristics and bivariate correlations between predictor and outcome variables are presented for the total sample.

8.1 Characteristics of the sample

Presented in Table 8.1, descriptive statistics for the total sample indicated that on average the physical health of respondents was slightly poorer than the US population data on which the factor was derived (see methodology chapter 7). DASS indicators of depression, anxiety and stress indicated all participants to be within the normal range. Community group members indicated slightly higher levels of depressive symptoms than those relocating, whereas participants in the relocation sample reported slightly higher levels of stress, possibly a consequence of the impending relocation. Measures of subjective well-being indicate moderate-high levels of PA and life satisfaction, and relatively low NA across both groups, although life satisfaction was slightly higher for those in the relocation group. Engagement with life (or purpose) was also indicated to be high. Social network resources reported by participants indicated that the respondents' social networks on average comprised approximately three network members with whom they engage with on a regular basis. Stronger family networks were reported in comparison to networks comprised of friends and neighbours. Respondents reported a moderate degree of positive exchanges during the previous month, while negative exchanges were rarely experienced. Low levels of loneliness were reported across both groups. Reports of the home environment were also indicative of a moderate-high level of satisfaction with the current living environment.

Bivariate correlations (Table 8.2) reflect moderate associations at most between predictor and outcome variables. The strongest associations observed with indicators of well-being reflect the inter-related nature of the outcome variables. PA demonstrates a positive association with engagement (.52). NA exhibits moderate positive associations with indicators of depression (.61), anxiety (.63) and stress (.66), and a similar inverse relationship with the overall positive mental health component score (-.63). Although a weaker relationship, life satisfaction is positively associated with greater family

networks (.35), lower perceived loneliness (-.48), greater engagement in life (.49) and perceptions of one's home environment (.44).

Table 8.1
Baseline Descriptive Statistics, by Group

	Total sample [a]	Relocation group [b]	Community group [c]
Demographics			
Age, *M (SD)*	66.25 (8.61)	74.90 (7.66)	64.94 (7.96)
Gender			
Male (%)	47.3	38.6	48.6
Female (%)	52.7	61.4	51.4
Years of education, *M (SD)*	13.88 (2.89)	13.20 (2.90)	13.99 (2.87)
Marital status			
Married/defacto (%)	72.5	62.7	74.0
Separated/divorced (%)	12.8	4.8	14.0
Widowed (%)	10.6	25.3	8.4
Never married (%)	4.1	7.2	3.6
Employed full- or part-time (%)	36.4	2.4	41.5
Fully retired (%)	57.9	96.4	52.1
Financially secure [d] (%)	95.6	100.0	94.9
Home owner (%)	90.7	91.6	90.5

Table 8.1
Baseline Descriptive Statistics, by Group (continued)

	Total sample [a]	Relocation group [b]	Community group [c]
Health & Well-being			
SF-12 Physical Health, *M (SD)*	47.40 (10.45)	44.62 (11.05)	47.82 (10.30)
SF-12 Mental Health, *M (SD)*	51.18 (9.06)	51.49 (7.42)	51.13 (9.29)
DASS-Depression, *M(SD)*	4.11 (5.68)	3.22 (4.12)	4.24 (5.87)
DASS-Anxiety, *M (SD)*	2.65 (4.02)	2.65 (3.20)	2.65 (4.13)
DASS-Stress, *M(SD)*	6.09 (6.10)	6.41 (5.77)	6.04 (6.15)
Subjective well-being			
Positive affect, *M(SD)*	3.21 (0.77)	3.12 (0.82)	3.22 (0.76)
Negative affect, *M(SD)*	1.40 (0.49)	1.37 (0.42)	1.40 (0.50)
Life satisfaction, *M(SD)*	5.14 (1.33)	5.45 (0.90)	5.09 (1.38)
Engagement in Life, *M(SD)*	4.09 (0.72)	4.03 (0.70)	4.09 (0.72)
Social resources			
Relative network [e], *M (SD)*	3.27 (0.92)	3.12 (0.95)	3.29 (0.91)
Neighbour network [e], *M (SD)*	1.71 (1.01)	1.87 (0.93)	1.68 (1.02)
Friend network [e], *M (SD)*	2.65 (1.04)	2.75 (0.88)	2.64 (1.06)
Positive exchanges, *M (SD)*	2.52 (0.89)	2.61 (0.89)	2.51 (0.89)
Negative exchanges, *M (SD)*	0.56 (0.60)	.52 (0.65)	0.56 (0.59)
Loneliness, *M(SD)*	4.34 (1.60)	4.35 (1.61)	4.34 (1.60)
Control beliefs			
Constraint, *M(SD)*	2.31 (1.07)	2.74 (1.36)	2.25 (1.00)
Mastery, *M(SD)*	4.16 (1.20)	3.89 (1.20)	4.20 (1.20)
Perceptions of home, *M(SD)*	3.32 (0.47)	3.28 (0.48)	3.32 (0.47)
Pressure to move, *M(SD)*		1.75 (0.59)	
Personality characteristics			
Extraversion, *M(SD)*	4.09 (1.50)	3.95 (1.34)	4.11 (1.53)
Agreeableness, *M(SD)*	5.57 (1.16)	5.50 (1.11)	5.58 (1.17)
Conscientiousness, *M(SD)*	5.88 (1.20)	5.79 (1.21)	5.89 (1.20)
Neuroticism, *M(SD)*	2.70 (1.42)	2.87 (1.30)	2.67 (1.44)
Openness to experience, *M(SD)*	4.96 (1.26)	4.73 (1.17)	5.00 (1.27)

Note. [a] n = 623. [b] n = 83. [c] = 549. [d] Financial security reflects "enough money to meet needs". [e] Measure reflects the strength of respondents' social network comprising the number of network members and the strength of support obtained (network quality).

Table 8.2
Bivariate correlations across the total sample (N=632)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Relocation group	1	.068	-.085*	-.275***	.303***	.084*	.012	.395***	-.092*	-.103**	.013	-.061	.001	.020	-.143***	-.047	-.025
2. Females		1	-.201***	-.028	.046	-.035	-.032	.003	-.176***	-.118**	-.080*	-.011	.039	.008	-.141***	.093*	.087*
3. Partnered			1	.128***	-.073	.057	.216***	-.202***	.046	.124**	.126**	-.165***	-.083*	-.066	.056	.052	-.094*
4. Employed				1	-.854***	.019	.005	-.552***	.212***	.267***	.018	-.027	-.060	.100*	.064	.139***	.056
5. Retired					1	.035	.013	.577***	-.243***	-.246***	.013	-.019	.028	-.132***	-.089*	-.130***	-.086*
6. Enough money						1	.195***	.035	.025	.041	.152***	-.175***	-.168***	-.173***	-.033	-.019	-.172***
7. Homeowner							1	-.015	.109**	.171***	.165***	-.157***	-.124**	-.102**	-.032	.119**	-.111**
8. Age								1	-.211***	-.334***	.015	-.002	.106**	-.073*	-.184***	-.120**	-.094**
9. Education									1	.241***	.120**	-.102**	-.194***	-.026	.048	.157***	-.069
10. RAND-12 PH										1	.536***	-.325***	-.432***	-.224***	.191***	.374***	-.253***
11. RAND-12 MH											1	-.726***	-.581***	-.636***	.128***	.426***	-.632***
12. Depression												1	.574***	.608***	-.119**	-.459***	.614***
13. Anxiety													1	.538***	-.123**	-.273***	.626***
14. Stress														1	-.063	-.198***	.661***
15. Physical activity															1	.175***	-.076
16. PA																1	-.217***
17. NA																	1

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

Table 8.2
Bivariate correlations across the total sample (N=632) continued

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1. Relocation group	.091*	-.062	.063	.037	.037	-.024	.001	-.030	.157***	-.087*	-.028	-.037	-.024	-.028	.048	-.072
2. Females	-.030	.117**	.080*	.194***	.205***	-.010	.039	.040	.040	-.024	.026	.090*	.218***	.046	.064	.002
3. Partnered	.181***	.173***	-.081*	-.087*	.092*	-.025	-.222***	.061	-.049	-.005	.094*	.010	-.068	.093*	-.009	.007
4. Employed	-.029	.021	-.137***	.038	.034	.047	.061	.089*	-.134***	.027	-.046	.079*	-.039	.073	.004	.158***
5. Retired	.078	-.012	.127***	-.040	-.017	-.130***	-.105**	-.053	.101*	-.065	.064	-.052	.070	-.054	-.029	-.173***
6. Enough money	.165***	.174***	.047	.052	.009	-.143***	-.064	.071	-.128***	-.008	.071	.032	-.008	.025	-.099*	-.043
7. Homeowner	.165***	.091*	.109**	.071	.063	-.113**	-.121**	.114**	-.090*	.077	.234***	.059	-.024	.066	-.067	.042
8. Age	.044	.007	.143***	-.060	-.022	-.137***	-.016	-.047	.137***	-.077	.087*	-.045	.068	-.126*	-.031	-.143***
9. Education	.125***	-.009	.012	.051	.051	-.046	-.124**	.210***	-.125**	.115**	.077	.036	-.027	.081*	-.105**	.301***
10. RAND-12 PH	.272***	.058	.036	.121**	.030	-.076*	-.134***	.249***	-.231***	.219***	.142***	.101*	.068	.249***	-.286***	.179***
11. RAND-12 MH	.547***	.244***	.171***	.218***	.104**	-.270***	-.430***	.434***	-.311***	.235***	.358***	.161***	.234***	.315***	-.484***	.152***
12. Depression	-.563***	-.289***	-.195***	-.274***	-.180***	.290***	.466***	-.514***	.345***	-.218***	-.348***	-.210***	-.247***	-.303***	.435***	-.196***
13. Anxiety	-.377***	-.207***	-.088*	-.174***	-.122**	.248***	.309***	-.331***	.314***	-.191***	-.196***	-.020	-.184***	-.243***	.335***	-.145***
14. Stress	-.407***	-.247***	-.140***	-.179***	-.080*	.301***	.384***	-.309***	.254***	-.156***	-.303***	-.074	-.325***	-.217***	.548***	-.108**
15. Physical activity	.101*	.084*	.027	.177***	.078*	.073	-.057	.147***	-.155***	.084*	.024	.050	.086*	.007	-.112**	.143***
16. PA	.430***	.243***	.211***	.342***	.266***	-.109**	-.259***	.521***	-.240***	.284***	.307***	.310***	.293***	.318***	-.334***	.338***
17. NA	-.449***	-.219***	-.077	-.127***	-.041	.321***	.384***	-.344***	.332***	-.165***	-.300***	-.097*	-.262***	-.269***	.490***	-.115**
18. Life satisfaction	1	.348***	.229***	.313***	.283***	-.272***	-.478***	.493***	-.305***	.258***	.443***	.176***	.267***	.273***	-.421***	.144***
19. Family network		1	.270***	.347***	.334***	-.193***	-.373***	.285***	-.220***	.124**	.252***	.083*	.262***	.160***	-.277***	.085*
20. Neighbour network			1	.414***	.228***	-.113**	-.297***	.220***	-.067	.091*	.286***	.186***	.145***	.053	-.116**	.089*
21. Friend network				1	.373***	-.164***	-.336***	.352***	-.172***	.163***	.224***	.300***	.248***	.121***	-.215***	.193***

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

Table 8.2
Bivariate correlations across the total sample (N=632) continued

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
22. Positive exchange					1	-.029	-.312***	.256***	-.147***	.107**	.216***	.119**	.154***	.065	-.105**	.144***
23. Negative exchange						1	.335***	-.272***	.216***	-.049	-.248***	-.052	-.228***	-.178***	.264***	-.107**
24. Loneliness							1	-.421***	.278***	-.112**	-.267***	-.180***	-.229***	-.201***	.347***	-.133***
25. Engagement								1	-.294***	.249***	.354***	.316***	.302***	.311***	-.326***	.352***
26. Control - constraint									1	-.238***	-.212***	-.124***	-.159***	-.258***	.359***	-.182***
27. Control - mastery										1	.257***	.084*	.094*	.221***	-.258***	.168***
28. Perceptions of home											1	.181***	.232***	.222***	-.283***	.151***
29. Extraversion												1	.055	.103**	-.150***	.384***
30. Agreeableness													1	.260***	-.401***	.125***
31. Conscientiousness														1	-.295***	.158***
32. Neuroticism															1	-.226***
33. Openness																1

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

8.2 Group differences

A logistic regression analysis produced via the Generalised Linear Model function was conducted (with the community group as the reference category for the outcome) to identify characteristics representative of relocating individuals. Predictors were entered simultaneously to take into account the potential multicollinearity indicated by the associations seen in bivariate correlations (Table 8.2).

Taking a conservative p-value of 0.002 based on a Bonferroni correction (p = .05/31 predictors) in light of the large number of predictors within the model; age, marital status (widowed), retirement status, financial status (reporting enough money to meet one's needs) and perceived control (constraints) at baseline are identified as the significant factors differentiating the groups. Participants in the relocation group were on average approximately 10 years older than community participants at the commencement of the study; members of the relocation group were more likely to be fully retired (96.4% vs 52.1%); a greater proportion of the relocation group were widowed (25.3% vs. 8.4%); and the relocating sample perceived a greater degree of constraints (lower control) at baseline in comparison to the community sample. Table 8.3 presents the model estimates for the logistic regression predicting relocation group membership.

Table 8.3
Logistic Regression Analysis Predicting Characteristics of Relocating Older Adults

Variable	*OR*	*p*	95% CI
Age	0.91	<.001	[0.87, 0.96]
Female	1.15	.533	[0.74, 1.79]
Education	1.07	.192	[0.97, 1.18]
Marital status [a]			
Separated/divorced	0.73	.408	[0.34, 1.54]
Widowed	3.83	.002	[1.65, 8.90]
Never married	1.40	.551	[0.43, 4.24]
Employed full- or part-time	0.55	.157	[0.24, 1.26]
Fully retired	6.36	<.001	[2.89, 14.01]
Home owner	1.14	.738	[0.53, 2.45]
Financial status [b]	3.86	<.001	[1.90, 7.84]
SF-12 Physical Health	0.97	.069	[0.95, 1.00]
SF-12 Mental Health	1.02	.569	[0.96, 1.07]
DASS-Depression	0.91	.013	[0.84, 0.98]
DASS-Anxiety	1.03	.505	[0.95, 1.12]
DASS-Stress	1.08	.011	[1.02, 1.15]
Positive affect	0.87	.462	[0.59, 1.27]
Negative affect	0.68	.280	[0.34, 1.37]
Life satisfaction	1.38	.009	[1.09, 1.76]
Relative network	0.78	.088	[0.58, 1.04]
Neighbour network	1.12	.399	[0.86, 1.47]
Friend network	1.11	.446	[0.85, 1.44]
Positive exchanges	1.18	.303	[0.86, 1.63]
Negative exchanges	0.95	.829	[0.57, 1.58]
Loneliness	1.15	.167	[0.94, 1.40]
Engagement in life	0.89	.558	[0.59, 1.33]
Constraint	1.45	.002	[1.15, 1.84]
Mastery	0.85	.144	[0.69, 1.06]
Perceptions of home	0.80	.432	[0.45, 1.40]
Extraversion	0.94	.435	[0.79, 1.11]
Agreeableness	0.94	.590	[0.74, 1.19]
Conscientiousness	1.00	.986	[0.81, 1.23]
Neuroticism	0.93	.465	[0.76, 1.14]
Openness to experience	0.98	.875	[0.79, 1.22]

Note. [a] Reference category for marital status = married/de-facto. [b] reflects 'enough money to meet needs'.

In addition, data were obtained in respect to the level of physical activity engaged in per week, and the length of time (years) participants had lived in their current residence. Data from 628 respondents (relocation sample = 83, community sample = 545) indicated the mean time in the current residence was 19.7 years (*SD* = 18.35). There was no significant difference between the relocation (*M* = 20.68, *SD* = 13.38) and

community (M = 19.58, SD = 18.99) group in the length of time (years) in their current home $t(626) = -.505$, $p = .614$.

Participants indicated that they spent on average 8.1hrs (486 mins, SD = 10.3hrs) per week engaged in physical activity, with the community group significantly more physically active (M = 8.7 hrs, SD = 10.8) than those in the relocation group (M = 4.3 hrs, SD = 4.6), $t(249.2) = 3.622$, $p < .001$. Based on this information, 30% of participants (across both groups) were identified as either i) engaging in insufficient levels of physical activity (less than 2.5 hours / 150 minutes per week) or ii) sedentary.

8.3 Chapter Summary

The identification of baseline differences between respondents in the community and relocation samples provides an important foundation for investigating change over time as a function of relocation. The analyses indicate that those relocating to the retirement village were on average 10 years older, more likely to be retired and more likely to report having enough money to meet their needs than those remaining in their current residence. Members of the relocation group were also more likely to be widowed (25.3% vs. 8.4%) and were experiencing a greater level of constraints (lower control). Finally, the community group was significantly more physically active that the relocation sample. As such, subsequent analyses comparing changes in social networks, SWB and engagement between the groups over the 12-month study period will adjust for these differences at baseline. No significant differences between the groups were indicated in the measures of health, subjective well-being, social resources, environment or personality characteristics.

Chapter 9. The relocation-transition experience. What do prospective residents anticipate and does their experience match up? Examination of Qualitative data.

9.0 Chapter overview

Chapter 9 examines the resident reports of the relocation experience. While objective measures of health, SWB and social networks are obtained and analysed in subsequent chapters, qualitative data obtained from open-ended questions can add depth and highlight nuances present in the expectations and experiences of individuals (Todd, Nerlich, McKeown, & Clarke, 2004). The following chapter reports the investigation of research question 2: *a) What expectations regarding relocation do prospective retirement village residents hold prior to relocation and b) what benefits and difficulties do they report in the initial stage of transition?* Prior to relocation, respondents were asked a series of open-ended questions relating to the benefits and problems they could foresee in relation to their transition into the retirement village. In addition, questions included at the 1-month follow-up assessment asked respondents to report the difficulties they had experienced during the relocation and initial adjustment period as well as the benefits they had already received. A content analysis was conducted on responses to these open-ended questions which involved the coding of common themes (see Statistical analysis, chapter 7). Expectations prior to relocation were largely positive with all participants anticipating benefits (e.g., reduced home maintenance, increased social contact) associated with moving. However, a substantial proportion also held concerns in relation to the move. Specific expectations regarding changes to one's social life, relationships and health were also noted. Follow-up data obtained 1-month post relocation indentified expectations held prior to moving were largely met. The most commonly cited benefits were noted as reduced responsibilities and 'a new

start'. A small proportion of residents reported difficulties adjusting to the new environment and issues associated with the timely completion of their new residence. These insights into the expectations and experiences of residents (and prospective residents) help to provide a context to the adjustment process and interpretation of the subsequent study outcomes.

9.1 Expectations and experiences.

Prior to relocation, a total of 83 participants in the relocation sample reported that they anticipated benefits associated with moving into the village, 33 respondents (39.8%) expected to experience difficulties and 37 respondents (44.6%) indicated they had concerns in relation to the move. Specific expectations (positive and negative) regarding changes to their social life and relationships as a result of relocation were indicated by 65 (78.3%) respondents, 8 (9.6%) respondents indicated that they expected the move to affect their health (either positively or negatively). One month post relocation, 56 residents (67.5%) identified that they could already perceive benefits following their move, while 30 residents (36.1%) reported having experienced problems resulting from the move. Table 9.1 provides a summary of reported benefits and concerns. The following section then outlines the main themes identified in response to each question. Discussion first focuses on the benefits, both anticipated and experienced 1-month post relocation. Anticipated problems and concerns are then discussed, followed by the difficulties experienced. Finally, expectations regarding changes to health and social life are addressed.

Table 9.1

Summary of expectations, benefits and difficulties reported by residents at baseline and 1-month post move.

		Anticipated prior to move		Reported 1-month post-move	
Category	**Thematic category**	N	%[a]	N	%[a]
Q1. What do you perceive are the benefits of moving into your new residence / What have been the greatest benefits so far of moving into your new residence?					
Benefits of relocation	Reduced home maintenance responsibilities	37	44.6	21	25.3
	Increased social contact	37	44.6	15	18.1
	Healthcare and support for the future	35	42.2		
	Increased sense of security	26	31.3	16	19.3
	Close to family	9	10.8	6	7.2
	Close to shops and facilities	8	9.6	6	7.2
	New start, new home, new appliances	8	9.6	19	22.9
	Activities provided	8	9.6	4	4.8
	Surroundings/environment	6	7.2	12	14.5
	General benefits (unspecified)	5	6.0		
	Support of staff	1	1.2	4	4.8
Q2. Do you expect to experience any difficulties when you move into your new residence / Did you experience any difficulties as a result of the move?					
Difficulties associated with relocation	Delays in completion of residence (maintenance issues)			12	14.5
	Re-adjustment to new living environment, downsizing, reduced living space	33	27.8	12	14.4
	General difficulties (Unspecified)	12	14.5	6	7.2
	Hassles with practical services	2	2.4	9	10.8
	Reduced social contacts	2	2.4		
	Affordability	1	1.2	1	1.2
Q3. Do you have any concerns about the move?					
Concerns associated with relocation	General concerns (Unspecified)	8	9.6		
	Work involved in moving	8	9.6		
	Adaptation to new environment	6	7.2		
	Downsizing	6	7.2		
	Financial	5	6.0		

Concerns associated with relocation (cont.)	Selling old house	5	6.0
	Leaving current residence	3	3.6
	Proximity of new neighbours	1	1.2
	IRT/village management	1	1.2
Q4. Do you think moving will affect your health?			
Positive expectations regarding changes to health	Improvement	10	12.0
	Reduced stress	3	3.6
	Increase exercise	1	1.2
Negative expectations regarding changes to health	Increased stress	4	4.8
	Environment concerns	1	1.2
Q5. Do you expect changes in your social life or relationships as a result of moving into your new residence?			
Positive expectations regarding changes to social life	Increased friends/social contacts	15	18.1
	Increased participation in social activities	10	12.0
	General improvement (unspecified)	9	10.8
	Closer to family	2	2.4
Negative expectations regarding changes to social life	Loose contact with current neighbours	5	6.0
	current activities difficult to maintain	1	1.2
Expectations regarding changes to social life not specified as positive/negative	Unspecified change	33	39.8
	Denser neighbourhood	1	1.2

Note. [a] reflects percentage of relocation participants expressing each theme

9.1.1 Benefits anticipated prior to relocation: Ten themes emerged with respect to the anticipated benefits of relocating to the retirement village, expressed by participants prior to moving. The four most common themes (in order of frequency), were: i) reduced home maintenance responsibilities; ii) increased social contact; iii) healthcare and support for the future; iv) increased sense of security. Each of these themes is detailed below.

i) Reduced home maintenance responsibilities: One of the most frequently anticipated benefits of moving into the retirement village was the reduction in responsibilities associated with maintaining a large house and garden. For almost half of respondents (n=37), relocation to the retirement village was anticipated to reduce the worry and stress associated with looking after their current residence (pre-move residence) and allow more time for other activities. One resident [male, 68 years] commented "No more maintenance problems, freedom to come and go without hassles, where retirement truly begins".

ii) Increased social contact: Equally, almost half of prospective residents (n=37) anticipated benefits associated with expanding their social networks and gaining friendship and companionship. Some residents expressed looking forward to "being part of a community" [female, 77 years], being able to enjoy the company of people with similar abilities and interests, and feeling less isolated and alone. One participant [female, 75 years] anticipated having "close contact with people who will be around all the time, unlike now where most people go to work and we are the only ones around".

iii) Healthcare and support for the future: A further anticipated benefit of relocation noted by prospective residents (n=35) was the availability of long-term professional support and care (e.g., medical care) when needed and the prospect of being established in a community environment which provides these services as they age. The inclusion of an assisted living accommodation facility within the village

appeared to be viewed as an optional future transition and a benefit of relocating that enabled continuity of care without further major relocation should deteriorating health necessitate it. Responses such as "professional care in times of sickness" [female, 77 years] and "continuity of care if I should need it" [male, 66 years] reflected such thinking. One future resident [female, 69 years] commented "as [illness] becomes more debilitating [sic] can receive greater care as required".

iv) Increased sense of security: Finally, a general increased sense of security and safety obtained through living in the retirement community was noted as a perceived benefit by over 30% of prospective residents (n=26). This extended to the ability to travel without worrying about their residence being left unattended.

9.1.2 Benefits noted at 1-month: In line with many of the benefits anticipated prior to relocation, nine themes emerged as benefits reported by resident's 1-month post-relocation. The most common themes, in order of frequency, were: i) reduced home maintenance responsibilities; ii) a new start; iii) increased sense of security; iv) increased social contact.

i) Reduced home maintenance responsibilities: One month following relocation a reduction in the amount of time and effort spent on home and garden maintenance was cited as a major benefit associated with the move to the village, already being experience by approximately one quarter of residents (n=21). Respondents expressed that the reduction in workload was beneficial for numerous reasons resulting from the previous residence having been too physically demanding. It was also noted that the reduction in home responsibilities had not compromised their lifestyle but rather increased opportunities to spend more time on other activities. One resident [female, 78 years] cited the benefit of moving as being "released from the gardening, even though I loved my gardens so much… [sic] physically it became too much and also partly because of the lack of water." Another [female, 89 years] expressed that the "units at

[the village] are so spacious and comfortable, such a relief and a load removed [sic]." Another [male, 79 years] explained that they "got rid of [sic] large backyard which required continual attention. Now have more time to do other things, not so labor intensive."

ii) A new start: Relocation to the retirement village was also seen to be beneficial in the sense that it was "a new start" for many residents (n=19). One resident [female, 69 years] noted that the benefit of moving was "feeling home after 3 yrs temporary accommodation as this is the last move" another [male, 83 years] expressed being "[sic] jolted out the rut". Benefits relating to the provision of a new, open-plan home fitted with modern appliances were also coded under this theme. A number of participants expressed their satisfaction with "clean and efficient household equipment" as a noteworthy benefit of relocating from their former residence.

iii) Increased sense of security: Post move reflections on relocation to the village by a number of participants (n=16) also highlighted the benefit of the added security of the building and village surroundings with several residents expressing that they "feel [sic] safe" in the new environment.

iv) Increased social contact: Finally, 18% of respondents (n=15) cited the formation of new friendships, noting friendliness of residents and the contact with neighbours, to be a benefit evident at 1 month following relocation to the retirement village.

With approximately two thirds (67%) of participants reporting to already see benefits associated with their relocation 1-month post-move, early indications are provided for the successful and positive adaptation to this later life transition. These insights into those characteristics and experiences that residents themselves perceive as benefits will hopefully provide greater context to the quantitative analysis of the experience of this transition over time.

9.1.3 Problems and concerns anticipated prior to relocation: As shown in Table 9.1, five themes emerged with respect to the difficulties anticipated by those entering the retirement village prior to relocation, with a further eight types of concerns. The most commonly anticipated difficulties and concerns associated with relocation were: i) the re-adjustment to new living environment, the process of downsizing and the reduced living space; and ii) the work involved in relocation. In addition, 14.5% and 9.6% of participants respectively, reported problems or concerns with the move that were not specified. The two major themes are discussed below.

i) Re-adjustment to new living environment, downsizing and reduced living space: The most commonly anticipated difficulty prior to relocation, noted by almost 30% (n=33) of participants, surrounded the issue of being able to easily adjust to living in the village environment. While for some, problems were anticipated in relation to adjustment to living in multi-storey apartment blocks, for others it was living within the restrictions and rules guiding the village, or the prospect of living in close proximity to others. Specifically, participants cited having concerns relating to "[sic] restrictions on music enjoyment compared with own home" [male, 68 years] reflecting on the rules associated with the village, and "getting used to using a lift to move outside" [female, 70 years].

ii) The work involved in relocation was also reported as a concern held by residence prior to moving. Comments such as "having to sell the house, organising the move itself, and getting rid of some surplus furniture/items" [female, 72 years] reflected the concerns held by a number (n=8) of residents.

9.1.4 Problems noted at 1-month: Again consistent with many of the problems and concerns anticipated prior to relocation, five main themes emerged from the problems reported by residents 1-month post-relocation. The most common theme was i) delays in completion of the residence and maintenance issues; followed by ii) the

process of downsizing to a reduced living space; and iii) hassles with practical services. In addition, approximately 7% of participants reported unspecified difficulties.

i) Delays in completion of the residence and maintenance issues: Problems relating to incomplete new residences, maintenance issues, and issues with the design and features of the dwellings were expressed by approximately 15% (n=12) of participants, likely adding a level of stress to the relocation process. One resident [female, 75 years] expressed that the difficulty associated with the move was "trying to receive any maintenance requirements when needed." Another [female, 75 years] reported "minor unfinished work or unacceptable finish; not enough info on [sic] instillation of appliances and fittings i.e. missing manuals; heating supplied not adequate; bathroom design unsuitable for Canberra winters" all as problems associated with having moved. Another [male, 58 years] also claimed that the "design of the villas are not suited to Canberra climate, heating is poor, storage area in the kitchen is very poor, ongoing problems with construction and finish of villas, second rate white goods and fittings". Although not expressed by the majority of residents these are important experiences to note as they largely reflect the experiences of those who relocated to the village early in its establishment (all participants relocating within the first 12 months of completion of the first stage of accommodation) which may differ from the experiences of people relocating to a more established retirement community.

ii) The process of downsizing to a reduced living space: Reported by the same proportion of people (15%, n=12), the process of downsizing was also expressed as a problem associated with the transition of relocating to the retirement village. This response was largely characterised by the difficulty of having had to dispose of surplus furniture and not having the storage and living space to accommodate those belongings they did wish to keep. One participant [male, 66 years] reported the problem of "fitting all belongings into a smaller space", others reported the lack of storage, cupboard and

shelf space as a downside of relocating. A couple of people also commented on the reduced living space as a problem, particularly in respect to having personal outdoor areas such as "workshop space" that would have allowed them to maintain leisure activities.

iii) Hassles with practical services: Likely to also add a level of stress to the adjustment period following relocation, hassles with practical services such as connecting the phone line were also reported by a small proportion of people (n=9).

These issues and stressors, reported by 36% of participating residents, are important to note in characterising the experience of relocation and providing context to the study outcomes and the progress of adjustment of residents to their new living environment. Although a number of the issues reported are isolated to the initial relocation experience and would be common to any type of relocation experience (e.g., connecting phone services and delays in the completion of the residence), rather than specific to the experience of retirement village living; other issues (e.g., problems with having a reduced living space) may have more lasting implications for people being able to adjust to this new style of accommodation. Moreover, issues associated with maintenance requests are problems that are important for village management to be aware of as they should be possible to address.

Following the general questions to establish overall benefits and difficulties associated with relocation, specific items assessed perceptions regarding changes to health and social networks.

9.1.5 Expectations regarding health: Related to the benefits and problems anticipated by residents of the village prior to moving, thematic analysis of the anticipated nature of the impact of relocation for one's health indicated that an overall general improvement was expected (n=10), with specific references to reducing stress (n=3) and increasing exercise levels (n=1). However, a couple of people noted a

concern for the impact of stress (n=4) caused either by the task of downsizing and organising the move or should they be unable to adjust to the new environment.

9.1.6 Social expectations: Seven themes emerged from analysis of the specific expectations of prospective residents regarding changes to one's social life which may occur as a result of relocating to the retirement village. The two most common themes were: i) an increase in friends and social contacts; ii) greater participation in social activities. In addition, approximately one third of participants reported anticipating a change in their social life and relationships, but did not specify the nature of the change they expected. Nineteen percent of participants did not anticipate their social life or relationships to change at all following relocation.

i) Increase friends and social contacts: An anticipated increase in friends was reported by 18% (n=15) of future residents as a change that would result from moving to their new residence. While some individuals did express doubts regarding living as part of a homogenous community, and the negative consequence of moving away from current friends, neighbours and family, an increase in friends and social contacts was viewed as a great advantage to relocation by the majority of those responding. One participant [female, 66 years] highlighting this trade-off expressed, "I shall miss some of my present neighbours but there will be an increased number of acquaintances".

ii) Increased participation in social activities: An increase in opportunities for participation in social activities was expected by 12.1% (n=10) of respondents when asked how they believed their social life would change as a result of moving. It was anticipated that living in the village would provide opportunities and easier access to social activities as an avenue to make acquaintances and develop friendships. One prospective resident [female, 78 years] responded, "there will be lots of changes in my social life, I would like to see lots of activities introduced to residents".

9.2 Maintaining social contacts

To examine if individuals perceived their social contacts to have been altered through the early process of relocation, participants were asked at the 1-month assessment if they had maintained their social ties with friends and neighbours they had prior to moving into the village. The majority of residents (67.5%) indicated they had maintained these ties, a further 7.2% of participants indicating that they had not as yet but expected to.

9.3 Stress associated with the move.

Finally, participants were asked at the 1-month assessment to rate how stressful and how smoothly they perceived the move to have been. While the majority of respondents indicated that the move had gone very or extremely smoothly (70.6%), a large proportion reported the experience of moving as very or extremely stressful (42%). Figure 9.1 illustrates the distribution of responses to each question.

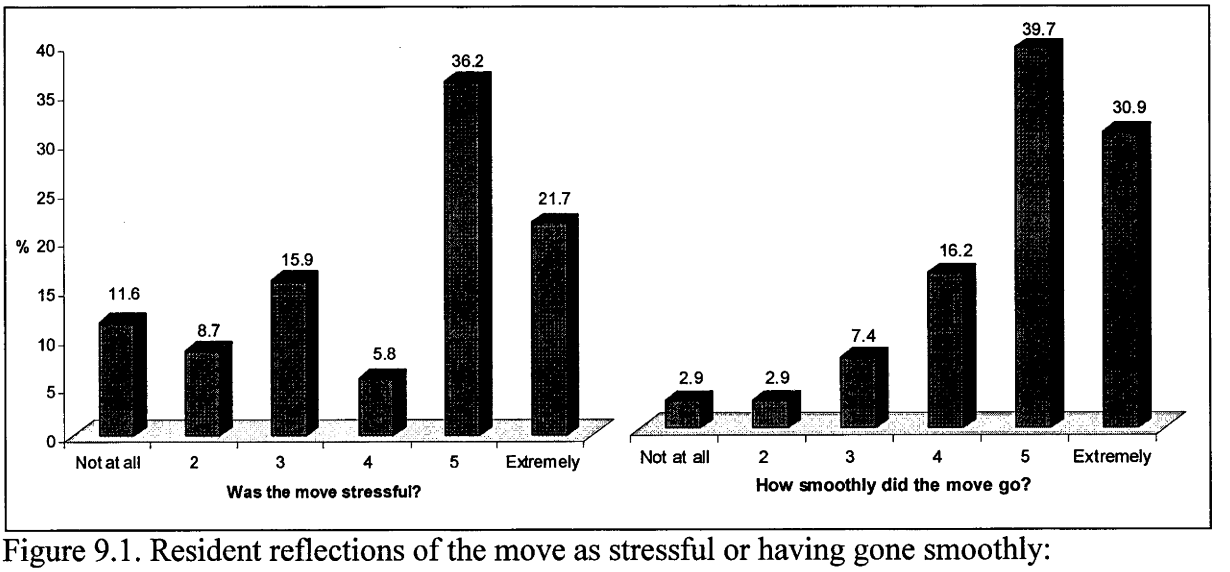

Figure 9.1. Resident reflections of the move as stressful or having gone smoothly: Distribution of responses.

9.4 Chapter Summary

The use of open-ended questions to assess expectations and short-term benefits (1-month) following relocation has provided valuable insight into the expectations and experiences of relocating to a newly constructed retirement village. Prior to moving into the retirement village, all respondents anticipated benefits associated with moving into their new residence. Most commonly these reflected an anticipated reduction in stress associated with maintaining a large household and garden, an increase in social contacts, the provision of healthcare and support in the case of future need, and security. Such anticipated benefits map closely to known motives for relocation. In particular, a decline in physical health or mobility of one's self or one's partner (e.g., Stimson & McCrea, 2004), or social isolation and perceived loneliness (e.g., Silverstein & Zablotsky, 1996) are often noted as necessitating or motivating relocation. Equally, the provision of health-based services identified as beneficial for continued independence (e.g., Bekhet et al., 2009), and the reputation for establishing a community environment and encouraging the formation of new friendships (e.g., Buys, 2001), are reported as encouraging a move to a retirement village. While explicit reasons for relocation were not recorded in the present study, the anticipated benefits reported by prospective residents are likely issues relating to their decision to move and provide continued support to these factors as major influences and motivators for engaging in this transition.

Over a third of the respondents expected to experience some difficulties as a consequence of their move, primarily relating to the task of downsizing. Concerns were also held in relation to the work involved in relocating and adapting to the new environment. These concerns are also consistent with reports suggesting that late life relocation is a significant event that can be both confronting and stressful. In particular, the process of downsizing the home and consolidating belongings is a considerable task

which can produce feelings of grief and insecurity (Morgan et al., 1997). As people begin this process, upon making the decision to relocate, it is then natural that anxieties are created regarding the work involved in downsizing and one's ability to adapt to the new environment.

Following the initial relocation period (1-month post-move), two thirds of respondents were able to identify benefits already resulting from their move. These were primarily reflected in the reduced maintenance and gardening hassles, the new home furnishings and appliances (which may be unique to a newly established complex), feeling secure in the new environment and an increase in social contacts. Importantly, the majority of participants indicated that they had maintained (or expected to maintain) their social ties with friends and neighbour contacts formed prior to relocation. These early reports from residents provide promising evidence to support relocation to a retirement village as having a positive impact on social networks and reducing perceived social isolation. Importantly, they also provide evidence that the expectations of residents are being fulfilled.

Although the majority of participants indicated that the move had gone smoothly, it was also described as a stressful experience by many, supporting the notion that relocation in later life is a major transition. Difficulties, which had been experienced by approximately a third of residents, were characterised as the re-adjustment which needed to be made to living in a new environment, and the hassles resulting from maintenance issues and delays in the completion of their new home. Although difficulties are expected following any relocation as residents adjust to living in a new environment, and the experience is physically and emotionally demanding in itself (Fisher, 1990; Morgan et al., 1997; Sergeant & Ekerdt, 2008), the nature of the present study investigating relocation to a newly completed village does present unique issues and stressors that would not otherwise be experienced by new residents to a retirement

village. For example, delays in the completion of one's residence are important to note as additional stressors that may be influencing adjustment, that are not experienced by older adults relocating to an established community.

Table 9.2 presents a summary of the benefits and difficulties most commonly anticipated and experienced. While the following chapters will proceed to investigate changes in perceptions of the home environment, social networks, SWB, and engagement in life as a function of relocation in greater depth (using validated measures); the information obtained here will aid in forming a comprehensive understanding of the relocation experience.

Table 9.2
Summary of benefits and difficulties most commonly anticipated or experienced by residents.

	Anticipated	Experienced
Benefits	Reduced home maintenance responsibilities	Reduced home maintenance responsibilities
	Increased social contact	New start, new home, new appliances
	Healthcare and support for the future	Increased sense of security
	Increased sense of security	Increased social contact
Difficulties	Re-adjustment to new environment, downsizing, reduced living space	Delays in completion of residence (maintenance issues)
	General difficulties (Unspecified)	Re-adjustment to new environment, downsizing, reduced living space
		Hassles with practical services

Chapter 10. Change over time

10.0 Chapter overview

This chapter provides a descriptive account of the change in predictor and outcome variables over the study period. Examination of the relocation sample indicates small overall reductions in loneliness, positive and negative social exchanges and negative affect over the study period. Small increases are indicated in life satisfaction, neighbour networks and control, with an initial, although temporary, increase evident in positive affect. Engagement in life remained relatively stable from baseline to 12-month follow-up. In comparison, the community group remains stable across all variables. The stability of the personality characteristics and physical health over time supports their use in later analyses as time-invariant moderators of change. The correlations between subsequent measurements are also examined for each outcome variable to justify the use of a multi-level modeling approach to analyses.

10.1 Participant characteristics over time.

An initial inspection of changes in the relocation sample over the study period, indicates substantial variability in within-person change in the measures of social networks, SWB and engagement (see Appendix E distribution plots). Comparisons were made between individuals within the relocation sample who failed to complete any post-move assessments (n=10) and completers (n=73) on social, health, well-being, environmental and personality characteristics at baseline. No significant differences were evident at the $p<.05$ level and as such these participants were retained in the final sample.

Table 10.1 presents descriptive statistics pertaining to the outcome and predictor variables measured across time and the results support the conclusions drawn from the

distribution plots that suggest overall increases in neighbour networks and perceptions of home. Reductions in loneliness, positive and negative social exchanges, and negative affect were also indicated; while neighbour networks, life satisfaction, and control show increases over time. The statistical significance of these changes will be investigated in the context of the multi-level models. Evidence of the (relative) stability of the personality characteristics and physical health supports their use as time-invariant moderators of the change in the primary outcomes.

As within-person change in perceptions of home, friend and neighbour social networks, social exchanges, and perceived control (constraints and mastery) are to be examined as predictors of change over time in engagement and SWB; Table 10.2 examines these characteristics in more detail and presents mean (and standard deviation) change from baseline to each wave and between waves. Only a small degree of change is observed between waves for friend networks and social exchanges (positive and negative). The largest change is observed between baseline and both the 6- and 12-months assessment for neighbour networks; and between baseline and 1-month, and 1- and 6-months for perceived constraints.

Table 10.1

Descriptives for Relocation and Community groups over time.

	Relocation				Community	
	Baseline	1-month	6-month	12-month	Baseline	12-month
N	83	72	70	65	549	424
Health						
SF-12 Physical Health, *M (SD)*	45.15 (10.07)	44.92 (10.80)	44.98(10.72)	45.67 (11.34)	47.82 (10.30)	47.81 (10.39)
SF-12 Mental Health, *M (SD)*	51.32 (7.33)	50.26 (8.90)	51.36(9.08)	51.75 (9.77)	51.13 (9.29)	51.04 (8.86)
DASS-Depression, M(SD)	3.19 (4.13)	--	--	3.85 (6.92)	4.24 (5.87)	4.42 (6.02)
DASS-Anxiety, M (SD)	2.70 (3.26)	--	--	2.92 (3.47)	2.65 (4.13)	2.81 (4.13)
DASS-Stress, M(SD)	6.41 (5.77)	--	--	5.00 (6.67)	6.04 (6.15)	6.54 (6.56)
Subjective well-being						
Positive affect, *M(SD)*	3.14 (0.79)	3.38 (0.75)	3.23(0.60)	3.16 (0.75)	3.22 (0.76)	3.21 (0.78)
Negative affect, *M(SD)*	1.37 (0.42)	1.31 (0.40)	1.30(0.34)	1.33 (0.47)	1.40 (0.50)	1.41 (0.45)
Life satisfaction, *M(SD)*	5.44 (0.90)	5.54 (0.91)	5.62(0.75)	5.56 (0.95)	5.09 (1.38)	5.09 (1.35)
Social resources						
Relative network, *M (SD)*	3.13 (0.95)	3.18 (0.70)	3.20(0.92)	3.10 (0.81)	3.29 (0.91)	3.27 (0.93)
Neighbour network, *M (SD)*	1.87 (0.93)	1.71 (0.95)	2.44(0.98)	2.67 (0.89)	1.68 (1.02)	1.69 (0.96)
Friend network, *M (SD)*	2.75 (0.88)	2.60 (0.89)	2.51(1.02)	2.47 (0.89)	2.64 (1.06)	2.56 (1.05)
Positive exchanges, *M (SD)*	2.59 (0.93)	2.49 (0.87)	2.44(0.81)	2.28 (0.90)	2.51 (0.89)	2.43 (0.81)
Negative exchanges, *M (SD)*	.51 (0.65)	.35 (0.45)	.40(0.53)	.37 (0.52)	.56 (0.59)	.51 (0.55)
Loneliness, *M(SD)*	4.35 (1.65)	4.26 (1.60)	3.91(1.21)	3.76 (1.25)	4.34 (1.60)	4.06 (1.52)
Engagement, *M(SD)*	4.04 (0.69)	--	--	4.02 (0.60)	4.09 (0.72)	4.19 (0.67)
Psychological resources						
Control - constraint, *M(SD)*	2.60 (0.98)	3.16 (1.88)	2.33(0.81)	2.24 (0.86)	2.25 (1.00)	2.12 (0.97)
Control - mastery, *M(SD)*	3.90 (1.20)	4.24 (1.03)	4.08(1.09)	4.27 (1.17)	4.20 (1.20)	4.41 (1.20)
Environmental characteristics						
Perceptions of home, *M(SD)*	3.31 (0.42)	3.11 (0.43)	3.21(0.43)	3.44 (0.38)	3.32 (0.47)	3.33 (0.46)
Personality characteristics						
Extraversion, *M(SD)*	3.94 (1.29)	4.06 (1.46)	3.96(1.35)	4.03 (1.34)	4.11 (1.53)	4.20 (1.54)
Agreeableness, *M(SD)*	5.48 (1.11)	5.52 (1.21)	5.70(1.00)	5.65 (1.09)	5.58 (1.17)	5.53 (1.17)
Conscientiousness, *M(SD)*	5.84 (1.08)	5.78 (1.06)	5.82(0.95)	5.90 (1.05)	5.89 (1.20)	5.93 (1.12)
Neuroticism, *M(SD)*	2.86 (1.19)	2.77 (1.21)	2.56(1.04)	2.50 (1.09)	2.67 (1.44)	2.66 (1.45)
Openness to experience, *M(SD)*	4.71 (1.14)	4.68 (1.13)	4.73(1.19)	4.65 (1.11)	5.00 (1.27)	5.01 (1.23)

Table 10.2
Within-person change in time-varying predictors.

	Relocation		Relocation						Community
	% variance		Within-person change from previous wave			Within-person change from baseline			
	Within-person	Between-person	1-month	6-month	12-month	1-month	6-month	12-month	12-month
Social resources									
Neighbour network, *M(SD)*	66.0	33.0		0.60 (1.13)	0.22(0.63)		0.60 (1.13)	0.80 (1.10)	-0.01 (0.63)
Friend network, *M(SD)*	36.5	63.5	-0.13 (0.73)	-0.06 (0.85)	-0.08 (0.79)	-0.13 (0.73)	-0.20 (0.72)	-0.28 (0.79)	-0.10 (0.64)
Positive exchanges, *M(SD)*	55.8	44.2	-0.09 (0.86)	-0.03 (0.86)	-0.15 (0.98)	-0.09 (0.86)	-0.12 (0.91)	-0.32 (0.90)	-0.08 (0.84)
Negative exchanges, *M(SD)*	40.6	59.4	-0.12 (0.49)	0.05 (0.47)	-0.04 (0.44)	-0.12 (0.49)	-0.07 (0.59)	-0.10 (0.47)	-0.03 (0.50)
Psychological resources									
Control – constraint, *M(SD)*	83.4	16.6	0.50 (2.17)	-0.83 (1.77)	-0.10 (0.96)	0.50 (2.17)	-0.30 (1.36)	-0.36 (1.48)	-0.06 (0.94)
Control – mastery, *M(SD)*	83.6	16.4	0.33 (1.45)	-0.15 (1.38)	0.19 (1.31)	0.33 (1.45)	0.17 (1.52)	0.40 (1.63)	0.21 (1.32)
Perceptions of home, *M(SD)*	66.6	33.3	-0.20 (0.53)	0.12 (0.43)	0.23 (0.37)	-0.20 (0.53)	-0.10 (0.56)	0.15 (0.50)	-0.02 (0.33)

10.2 Correlations between subsequent measurements.

Correlations between subsequent measurements for the primary outcome and time-varying predictor variables were computed to establish the non-independent nature of observations in the longitudinal design. Presented in Table 10.3, correlations indicate moderate to high associations between consecutive measurements for the vast majority of the primary outcome measures. In addition, moderate to high associations are also demonstrated between the baseline and follow-up assessments. The time-varying predictor variables of mastery and constraint indicate weak to moderate correlations between the 6- and 12-month measurements for the relocation sample and baseline and 12-month measurements for the community sample. This suggests there has been real change in perceived control over the study period, and supports their use as time-varying predictors to examine the impact of within-person change in control on indicators of adjustment.

Table 10.3

Correlations between subsequent measurements of time-varying predictors and outcome measures.

	Relocation sample						Community sample
	Consecutive measurements						
	Base - 1mth	1 -6mths	6 -12mths	Base - 6mths	Base - 12mths	1 -12mths	Base-12mths
Outcome variables							
Family network	.644***	.594***	.740***	.784***	.776***	.593***	.719***
Friend network	.660***	.616***	.659***	.725***	.593***	.622***	.817***
Neighbour network			.766***	.311**	.257*		.797***
Positive exchanges	.521***	.491***	.321**	.433***	.487***	.337**	.505***
Negative exchanges	.598***	.541***	.674***	.460***	.659***	.502***	.617***
Loneliness	.484***	.617***	.669***	.415***	.548***	.502***	.703***
Engagement					.519***		.695***
PA	.562***	.601***	.641***	.466***	.531***	.643***	.683***
NA	.495***	.488***	.621***	.603***	.357**	.353**	.676***
SWL	.680***	.590***	.613***	.561***	.547***	.510***	.750***
Home	.273*	.503***	.593***	.196	.258*	.370**	.743***
Predictor variables							
Constraint	.074	.162	.358**	.233	.114	.122	.525***
Mastery	.194	.163	.351**	.117	.067	.127	.382***

Note. Empty cells represent points at which correlations between subsequent measurements are not available due to the study design.

10.3 Chapter Summary

An initial examination of the longitudinal data indicated that change has occurred within the relocation group over the study period in respect to loneliness, positive and negative social exchanges, and negative affect (reductions); and neighbour networks, life satisfaction, and control (increases). This contrasted with the apparent stability of the community group, and provided an early indication that the experience of relocation may have impacted on the social networks and well-being of this sample. Support was also obtained for the use of personality and physical health in future analyses as time-invariant factors as little change was observed in these measures over time. Moderate to high correlations were observed between subsequent measurements on outcome variables and confirmed the non-independent nature of observations in the longitudinal design, and support the use of a multi-level model to account for this.

Having undertaken this preliminary data analysis, the next chapters will report more detailed investigation of the primary outcomes relating to social networks, subjective well-being, and engagement in life. Using a multi-level framework, comparisons between the relocation and community groups following the 12-month period of adjustment to living in the retirement village will be examined and an in-depth investigation conducted into the adjustment of those individuals who relocate to the retirement village.

Chapter 11. Perceptions of the home environment: The experience of relocation to the retirement village.

11.0 Chapter overview

This chapter reports the investigation of change in perceptions of the home environment across the 12-month period following relocation to the retirement village. The home environment can hold important meaning in later life, provide a sense of identity, security, autonomy and control, and facilitate well-being and the successful adjustment to any number of changes which occur in later life (e.g., Butler et al., 1998; Chaudhury & Rowles, 2005; Gilleard et al., 2007). For this reason relocation in later life can be a confronting process (Grant, 2006). However, the appropriateness of one's living environment may indeed drive relocation. Concerns regarding neighborhood safety (Sergeant & Ekerdt, 2008), and the desire to downsize (Bekhet et al., 2009; Groger & Kinney, 2006; Krout et al., 2002) do prompt relocation and highlight the benefits to be gained from retirement village living (Fonad et al., 2006; Graham & Tuffin, 2004). If relocation is driven by a desire to improve one's living situation, and finding person-environment fit is important in facilitating well-being, it is important to establish the nature of any change in perceptions of home experienced in the present sample prior to investigating other indicators of adjustment. The following chapter reports the investigation of research question 3: a) *Do perceptions of the home environment change over time? Importantly,* b) *are perceptions of the new home environment more positive than those of the old residence?* Random coefficient analyses were used to examine changes in perceptions of the environment over time. Change within the relocation sample was investigated across four time points (pre-move, 1-, 6- and 12-months); in addition, comparisons were made between change reported in the relocation and community samples over the 12-month period. A series of models were fitted using an

information-theoretic approach and criteria outlined in section 7.6.3. Predictors were retained if the addition of the new parameter/s improved model fit (using a $p < .05$ significance threshold for Likelihood ratio test, model reported a lower AIC). Although this approach is considered most appropriate due to the number of independent variables and small sample size, it is acknowledged that the large number of statistical analyses undertaken increases the likelihood of Type I errors. Therefore, a significance level of .01 is considered in the final model with effects reported at $p < .05$ interpreted with caution. Unless stated otherwise, these criteria were applied in all subsequent analyses. These issues will also be addressed as limitations in the discussion of results.

Despite an initial decline, perceptions of the home environment amongst the relocation sample showed significant improvement over the 12-month period, and were reported to be significantly more positive than the community group at 12-months. Investigation of factors associated with change in perceptions of home found pressure to move was associated with a greater decline (less positive) in perceptions of the home environment from baseline to 1-month, and subsequently poorer perceptions of the home across the follow-up period. The research strategy supporting the stepwise modeling of covariates in the investigation of the impact of relocation on perceptions of the home environment is outlined below.

11.0.1 Analysis strategy

The series of models tested in the analysis are summarized in Table 11.1. When drawing comparisons between the community and relocation samples over time an unadjusted model (Model 1a) was tested first. A second model (Model 1b) then adjusted for those variables upon which the groups were found to differ at baseline (i.e., age, marital status, retirement status, financial status, baseline physical activity and baseline constraints; see section 13.1.1).

Table 11.1.
Summary of Variables Included at each Step of the Analysis: Perceptions of the home environment

	Variable/s added for analysis:
Comparisons with the community sample	
Model 1a	Unadjusted
Model 1b	age, marital status, retirement status, financial status, physical activity (baseline), perceived constraints (baseline)
Investigating change in positive affect as a function of relocation	
Model 0	Unadjusted
Model 1	a) time in residence; b) village development; c) pressure to move, pressure to move x Time
Model 2	Demographics
Model 3	a) physical health (baseline); b) physical health x Time
Model 4	a) personality characteristics; b) personality x Time

The following strategy was employed to investigate change in perceptions of the home environment as a function of relocation (using the relocation sample only). As contextual factors may be important in perceptions of one's home environment, the first set of analyses addressed characteristics of the home and relocation experience. The amount of time an individual has lived in a residence may have implications for one's embeddedness in the neighbourhood, attachment to their home, the likely impact of relocation, and ease of adjustment to a new residence. Model 1a examined the effect of time (in years) an individual had resided in their home prior to relocation, and included an interaction of this measure with time in study to identify any moderating effects on changes in perceptions of home. Moreover, as the retirement village was not completed at the time the first residents moved in, initial residents to the village may have had very different experiences to those relocating into an established village environment. Model 1b explored perceptions of home over time adjusting for time (in weeks) of relocation in respect to the opening of the village to the first group of residents, and investigated the

moderating effect of time of move on change in perceptions over time. Finally, Model 1c examined the impact of perceived pressure to move as an important contextual factor potential moderating the impact of relocation on the evaluation of the home environment.

Investigation then turned to the examination of individual characteristics influencing perceptions of home. Model 2 examined the effect of demographic characteristics (age, gender, marital status, years of education). Physical health, as an important motive for relocation closely associated with perceptions of the home environment, was introduced in step 3. Model 3 introduced baseline physical health, and examined the interaction between time and physical health to investigate the moderating effect of health status prior to relocation on change over time. Finally, as personality characteristics have been implicated in adaption to life events including adjustment to relocation (e.g., Bardi & Ryff, 2007; Koenig & Cunningham, 2001a), step 4 (Models 4a and 4b) incorporated an assessment of personality characteristics (extraversion, agreeableness, conscientiousness, neuroticism, openness) at baseline, and examined interactions between time and personality characteristics to identify any moderating effects on change.

The analysis of the change in perceptions of the home environment is organised such that comparisons are first made between the relocation and community sample over the 12 months, followed by a more detailed examination of change over time within the relocation group (including each of the four assessments). Statistical methods employed and construction of models are described in chapter 7. Tables reporting the models at each step (Models 1-4) are presented in Appendix H.1.

11.1 The impact of relocation on perceptions of the home environment

11.1.1 Comparisons with the community sample

The unadjusted model (nesting individuals within couples) indicated a significant interaction of group by time such that the relocation group reported a greater increase in positive perceptions of the home environment over the 12-month period relative to the control group (see Table 11.2, Model 1a). Controlling for age, marital status, retirement status, financial status, and baseline physical activity and constraints, due to differences between the groups identified at baseline (Model 1b), improved model fit (LR ratio test statistic = 64.63, df = 8, p <.001), and indicated a significant effect for age, marital status and perceived control. Older adults were slightly more satisfied with their home environment, whereas persons reporting as separated/divorced (compared to partnered individuals), and those reporting greater constraints at baseline, reported less positive perceptions of the home environment. This model maintained the significant interaction of group by time such that the relocation group reported more positive perceptions of the home environment at the 12-month assessment, see Figure 11.1.

Table 11.2

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Perceptions of the Home Environment over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	0.01(0.04)	-0.09 (0.18)
Time	-0.08 (0.04) *	-0.08 (0.04) *
Relocation group	-0.11 (0.13)	-0.16 (0.13)
Relocation group*Time	0.35 (0.10) ***	0.35 (0.10) ***
Age		0.01 (0.01) *
Marital status[a]		
Separated/divorced		-0.45 (0.11) ***
Widowed		-0.16 (0.13)
Never Married		0.07 (0.18)
Retired		0.09 (0.09)
Enough money to meet needs		0.14 (0.18)
Physical activity		0.02 (0.04)
Control – constraints (baseline)		-0.21 (0.03) ***
	Random parameters	
Residual variance	0.30 (0.02)	0.30 (0.02)
Between couple variance	0.62 (0.10)	0.53 (0.10)
Between Individual variance	0.09 (0.08)	0.08 (0.09)
ICC – Couple	0.61	0.58
ICC – Individual	0.09	0.09
	Information criteria	
-2*log likelihood	2847.73	2783.10
AIC	2861.73	2813.10
BIC	2896.88	2888.43

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

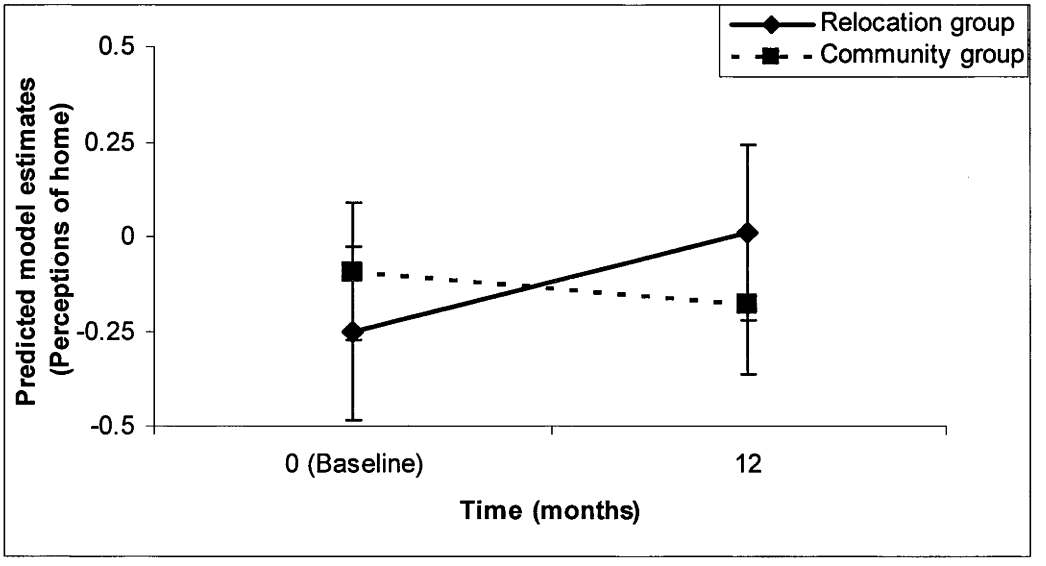

Figure 11.1. Change in perceptions of the home environment by group.

Note. Figure depicts predicted perceptions of the home environment for the relocation and community groups, holding covariates constant at married, partially/not retired, not enough money to meet needs, and at mean age, levels of physical activity and constraints.

11.1.2 Investigating change in perceptions of the home environment as a function of relocation

Tables detailing each step of the modeling procedure investigating change in perceptions of the home environment within the relocation group (nesting individuals within couples) are included in Appendix H.1.

11.1.2.0 Model 0. The unadjusted effect of time.

Positive perceptions of the home environment significantly declined immediately following relocation (1-month post-relocation). However, this effect then appeared to reverse at the 6-month assessment, and indicated a significant improvement at 12-months, where perceptions of the home environment were reported as significantly better than pre-move perceptions (see Figure 11.2). Table 11.3 presents the results of the random coefficient model testing the unadjusted effect of time. Calculation of the ICC indicates that approximately 30% of the variance in perceptions of the home environment is at the couple level, while 10% of the variance is at the individual level.

Table 11.3.
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Perceptions of the Home Environment

	Model 0		
Parameter	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	-0.02 (0.11)	-0.40 (0.11) ***	-0.19 (0.11)
Time 1mth	-0.38 (0.12) ***		
Time 6mth	-0.17 (0.12)	0.22 (0.12)	
Time 12mth	0.31 (0.12) **	0.69 (0.12) ***	0.48 (0.12) ***
		Random parameters	
Between couple variance	0.25 (0.10)		
Between Individual variance	0.08 (.07)		
Residual variance	0.50 (0.05)		
ICC - Couple	0.30		
ICC - Individual	0.10		
		Information criteria	
-2*log likelihood	712.88		
AIC	726.87		
BIC	752.56		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

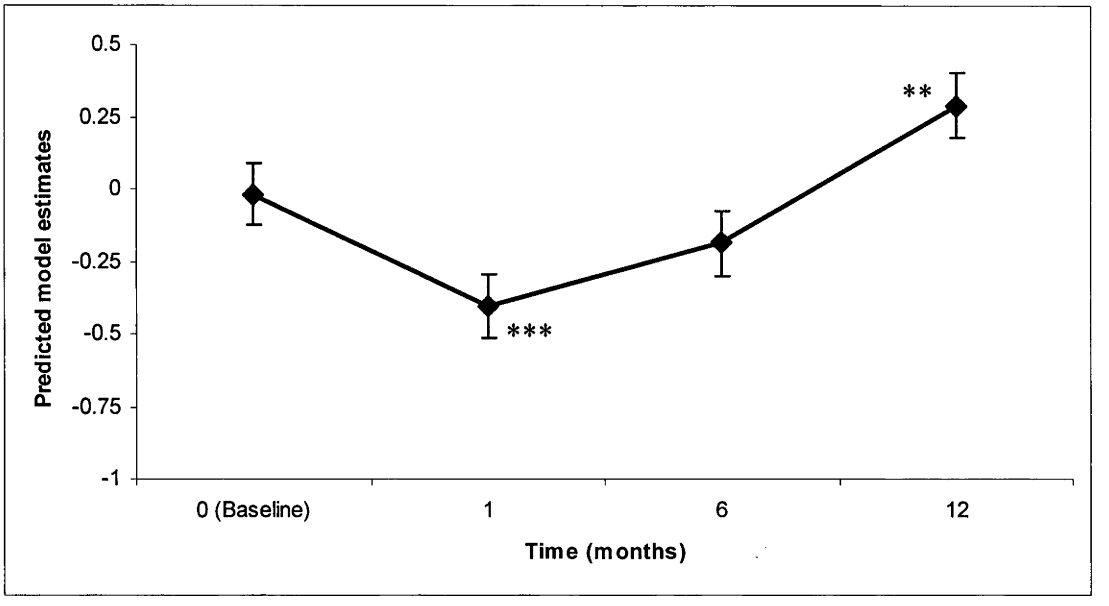

Figure 11.2. Unadjusted change in perceptions of the home environment relative to baseline.

Note. ** p<.01, ***, p<.001 denote significant change from baseline

11.1.2.1 Model 1. Adjusting for village development.

The inclusion of time in residence (Model 1a), did not improve model fit (LR ratio test statistic = 7.64, df = 4, p = .106) and was not included in subsequent models. In addition, no association was found with village development (Model 1b; LR ratio test statistic = 7.31, df = 4, p = .120). However, pressure to move was found to have a moderating effect on perceptions of home (Model 1c). Persons who reported the greatest pressure to move (represented in Figure 11.3 as those scoring 1 standard deviation (SD) above the mean) reported a greater decline in perceptions of the home environment from baseline to 1-month post-move (Baseline – 1-month: b = -0.28, p = .013), and subsequently indicated poorer perceptions of the home across the follow-up period. The inclusion of perceived pressure improved model fit (LR ratio test statistic = 15.13, df = 4, p = .004), and as such was retained in subsequent models.

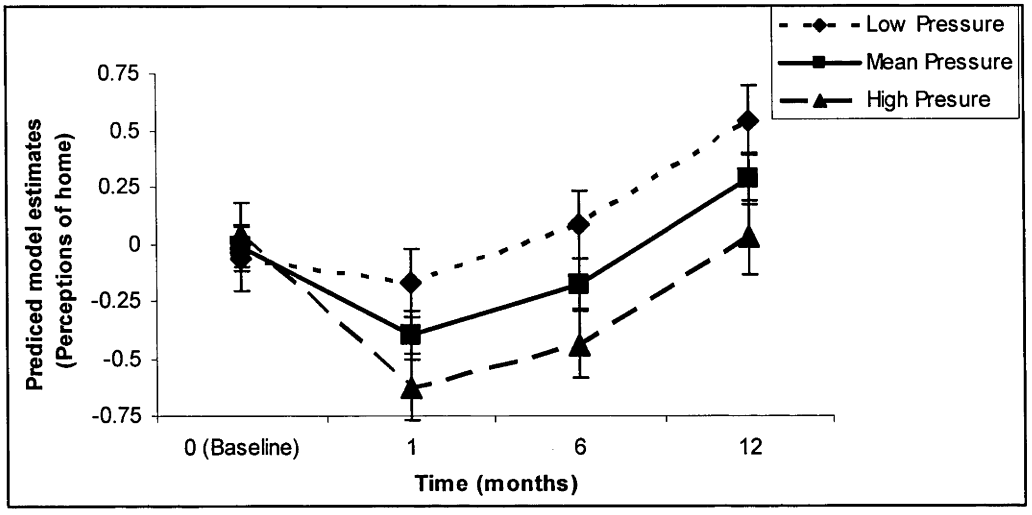

Figure 11.3. Interaction of perceived pressure to move by time on perceptions of the home environment.

11.1.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated a significant effect for marital status such that widowed persons reported less positive perceptions of the home environment compared to those who were married or in a de-facto relationship (b = -0.47, p = .014). No effects were indicated for age, gender or level of education. The inclusion of demographic information did improve the model fit (LR ratio test statistic = 13.08, df = 6, p = .042) and were retained in subsequent models.

11.1.2.3 Model 3. Adjusting for physical health.

The inclusion of baseline physical health (Model 3a) improved the model fit (LR ratio test statistic = 6.34, df = 1, p = .012). An association was indicated with pre-move physical health status (b = 0.17, p = .006), such that better physical health was associated with more positive perceptions. However, physical health was not found to moderate change in the perception of the home environment over time (Model 3b; LR ratio test statistic = 1.53, df = 3, p = .676).

11.1.2.4 Model 4. Adjusting for personality characteristics.

Personality characteristics assessed at baseline (Model 4a) indicated no association with perceptions of the home environment and did not improvement model fit (LR ratio test

statistic = 9.19, df = 5, p = .102). A model investigating personality by time interactions (Model 4b) revealed both a baseline association (b = -0.33, p = .001) and moderating effect (Baseline – 1-month: b = 0.37, p = .002) for Neuroticism, and a moderating effect of both Agreeableness (Baseline – 1-month: b = 0.24, p = .036) and Conscientiousness (Baseline – 1-month: b = 0.24, p = .038). However, the model failed to converge to produce standard errors for random parameters and as such these estimates are considered unreliable.

11.1.2.5 The model of best fit.

Examination of the model fit statistics indicated Model 3a (Table 11.4) as the best fitting model for the data. This model indicated that perceptions of home significantly changed over time such that a decline in positive perceptions occurred between baseline and the 1-month assessment, whereby an average decrease of .38 of a SD was reported. A significant increase was then noted to occur between the 1- and 12-month time-points resulting in an average increase of .68 of a SD in perceptions of the home. As such, at 12-months a significant improvement of .29 of a SD had occurred on average in comparison to baseline levels.

Persons who reported greater pressure to move were also more likely to report a greater decline in perceptions of the home environment from baseline to 1-month post-move, and subsequently indicated poorer perceptions of the home across the follow-up period. In addition, although interpreted with caution (effects significant at $p < .05$), an association was indicated with marital status such that widowed persons reported less positive perceptions of the home environment compared to those married or in a de-facto relationship at baseline. Moreover, an effect was indicated for baseline physical health. For every 1 SD greater physical health reported at baseline, positive perceptions of the home environment were .17 of a SD higher. Figure 11.4 depicts the change over

the transition in perceptions of the home environment for the initial unadjusted model and model of best fit.

Calculation of the ICC indicates that approximately 29% of the variance in positive affect is now indicated at the couple level while there is negligible variance is at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between couples has decreased by 24%, the variance between individuals has dropped by almost 100%, and the within-person (residual) variance has dropped by 4% as a result of including the final set of predictors.

Table 11.4
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Perceptions of the Home Environment

		Model 4a	
Parameter	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	0.04 (0.13)		
Time 1mth	-0.38 (0.11) ***		
Time 6mth	-0.16 (0.11)	0.22 (0.12)	
Time 12mth	0.30 (0.12) *	0.68 (0.12) ***	0.46 (0.12) ***
Pressure to move	0.15 (0.09)		
Pressure to move * Time	-0.29 (0.11) **	-0.04 (0.11)	-3.92^{e-04} (0.12)
Marital status[a]			
Separated/divorced	0.31 (0.31)		
Widowed	-0.46 (0.19) *		
Never Married	0.109 (0.29)		
Physical health	0.17 (0.06) **		
		Random parameters	
Between couple variance	0.20 (0.08)		
Between Individual variance	0.003 (0.05)		
Residual variance	0.49 (0.05)		
ICC – Couple	0.29		
ICC - Individual	0.004		
		Information criteria	
-2*log likelihood	678.32		
AIC	714.33		
BIC	780.39		

Note. Standard errors are in parentheses. Model is adjusted for gender, age, and education.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

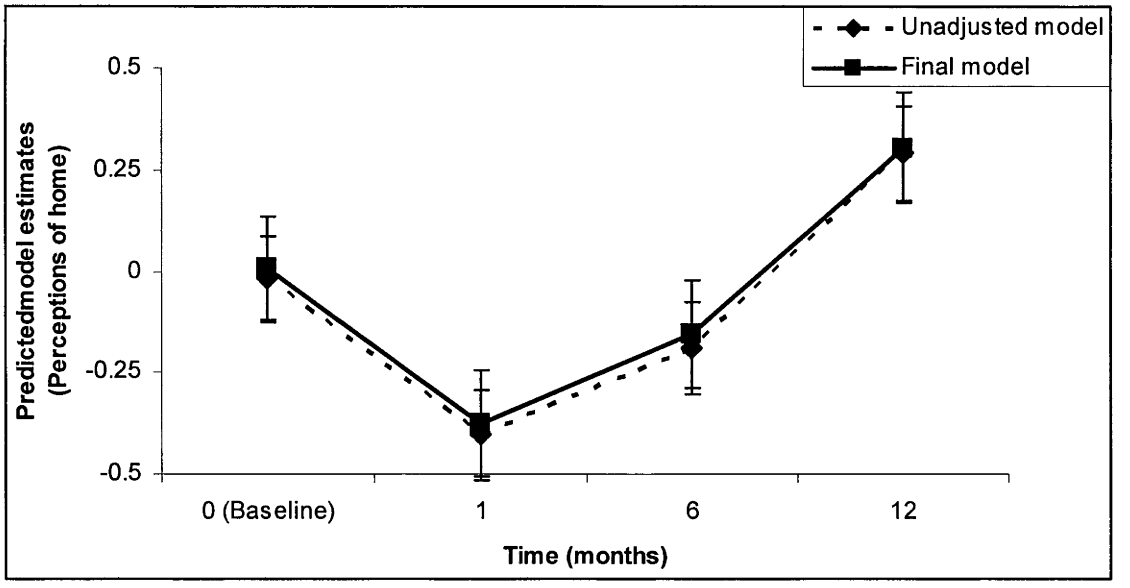

Figure 11.4. Change in perceptions of the home environment over the relocation transition

Note. The Final model in figure 11.4 depicts predicted perceptions of home for a married male at mean physical activity and pressure to move.

11.2 Chapter Summary

In investigating changes in perceptions of the home environment surrounding relocation to the retirement village initial declines were observed from the baseline to 1-month assessment. However, positive perceptions then significantly increased across the remainder of the follow-up period. While no significant difference was noted in perceptions of the home between the groups at baseline, the relocation group reported significantly more positive evaluations than the community group at the 12-month follow-up.

In contrast to expectations, time in pre-move residence and level of village development at the time of relocation had seemingly little impact on one's perception of the home environment. However, greater pressure to move was associated with a greater decline in perceptions of the home environment from baseline to 1-month, and subsequently poorer perceptions of the home across the follow-up period, indicating that motives surrounding relocation may be particularly important for adjustment.

Although there was some evidence to suggest personality characteristics agreeableness, neuroticism and conscientiousness moderated perceptions over time in initial steps this model was not considered reliable. The final model did not support physical health or personality characteristics as moderators of perceptions of home. Table 11.5 provides a summary of the main findings relating to the impact of relocation on perceptions of home.

Table 11.5
Summary of Results for the Investigation of the Impact of Relocation on Perceptions of Home

Evidence of:	Perceptions of home
Change over time for the relocation group	✓
Group difference at 12-months	✓
Change associated with:	
Time in previous residence	
Stage of village development at time of move	
Change moderated by:	
Pressure to move	✓
Physical health	
Personality	

Chapter 12. The impact of relocation on social network indicators

12.0 Chapter overview

Social influences such as the desire to increase social networks and reduce feelings of isolation, loneliness and loss, or be closer to family and friends, have been shown to be one of the primary factors motivating relocation to a retirement community (e.g., Bekhet et al., 2009; Sergeant & Ekerdt, 2008; Silverstein & Zablotsky, 1996). Indeed, past research investigating the impact of the residential location of older adults on contact with friend networks, has found evidence that retirement village living increases social networks and reduces social isolation (Buys, 2001; Davidson et al., 2001; McDonald, 1996). However, few studies have comprehensively investigated the array of components of one's social network experience (i.e., the differentiation of positive and negative social exchanges) in the context of relocation to a retirement village. Moreover, if social networks play a fundamental role in SWB (Cohen & Wills, 1985; Pinquart, 2002; Pinquart & Sorensen, 2000), the impact of relocation on social networks within the present sample requires investigation.

This chapter reports the investigation of research question 4: *Are changes in social networks and exchanges (friend, family and neighbour networks; positive and negative social exchanges; or loneliness) experienced as a function of relocating to the retirement village?* Random coefficient analyses were used to examine changes in social network indicators over time. Change within the relocation sample was investigated across four time points (pre-move, 1-, 6- and 12-months); in addition, comparisons were made between change reported in the relocation and community samples over the 12-month period.

In obtaining the final model, analyses investigated if change in social networks (comprising network size and frequency of contact), positive and negative social exchanges, or loneliness were:

i) associated with changes in perceptions of the home environment;

ii) a function of the pressure felt to relocate, the amount of time one had resided in the current home, or the stage of village completion at the time of move;

iii) moderated by physical health;

iv) moderated by personality characteristics;

and, if change in social exchanges (positive or negative) or loneliness were:

vi) associated with change in social networks.

The results indicate that following relocation individuals experienced a significant increase in neighbour networks and reduction in perceived loneliness. In addition, analyses of change over time indicated declines in positive and negative exchanges over the 12-month period, although the interpretation of this finding requires caution (effect significant at $p < .05$ only). Change observed over time was largely confined to the relocation group. While a significant decline in loneliness was observed for both groups, the relocation participants reported greater neighbour networks, poorer friend networks and fewer positive exchanges 12-months post relocation compared to the community sample. No significant differences were observed between the relocating and community dwelling older adults in family networks or negative social exchanges 12-months post relocation.

Perceptions of the home environment, perceived pressure to move, and adjustment for the stage of village development at which residents relocated revealed little effect on changes to social networks. Change in perceptions of the home environment, indicated an association with change in neighbour networks. Greater positive exchanges were initially experienced by those residents who relocated later in the development and

occupancy of the village. In addition, persons who perceived a high degree of pressure to move reported a significant decline in positive exchanges between their 6- and 12-month assessments, compared to those reporting little pressure to move. The final models did not support physical health as a moderator of changes to social networks, exchanges or perceived loneliness. Personality characteristics did not moderate changes in friend, family and neighbour social networks over time. However, personality characteristics agreeableness and conscientiousness were found to moderate perceived loneliness over time. Persons high in agreeableness or low in conscientiousness reported increases in loneliness from the baseline to 1-month post relocation; whereas persons low in agreeableness or high in conscientiousness reported decreases in loneliness during this initial transition period. The observed change in friend and neighbour social networks were not associated with the change in positive and negative social exchanges. However, an increase in friend networks between the baseline and 1-month assessment was associated with a decrease in loneliness during this period. The research strategy supporting the stepwise modeling of covariates in the investigation of the impact of relocation on social networks is outlined below.

12.0.1 Overall analysis strategy

The series of models tested in the analysis are summarized in Table 12.1. In comparing changes in the social network characteristics of the community and relocation samples over time an unadjusted model (Model 1a) was tested first. A second model (Model 1b) then adjusted for those variables upon which the groups were identified to differ at baseline (i.e., age, marital status, retirement status, financial status, baseline physical activity and baseline constraints).

Table 12.1.
Summary of Variables Included at each Step of the Analysis: Social networks

	Variable/s added for analysis:
Comparisons with the community sample	
Model 1a	Unadjusted
Model 1b	age, marital status, retirement status, financial status, physical activity (baseline), constraints (baseline)
Investigating change in social networks across the relocation transition	
Model 0	Unadjusted
Model 1	a) time in residence; b) village development; c) perceptions of home (baseline), perceptions of home (within-person change); d) pressure to move, pressure to move x Time
Model 2	Demographics
Model 3	a) physical health (baseline); b) physical health x Time
Model 4	a) personality characteristics; b) personality x Time
Model 5[a]	a) social networks (baseline); b) social networks (within-person change)

Note. [a] Model 5 was only applied to analyses of change in social exchanges and loneliness.

The following strategy was employed to investigate change in social networks as a function of relocation (using the relocation sample only). The first set of analyses investigated the impact of contextual factors surrounding the move on the relocation experience in respect to social networks indicators. The investigation of change within the relocation group first examined the effect of time (in years) an individual resided in their home prior to relocation, and an interaction of this measurement with time to determine if changes in social network characteristics that occurred across the relocation transition varied as a function of time spent in previous residence (Model 1a). Due to the ongoing construction of the retirement village at the time the first residents moved, reasoning that initial resident to the village may have very different experiences and opportunities to meet new people than those relocating to an established village environment, Model 1b explored change over time adjusting for time (in weeks) of relocation in respect to the opening of the village to the first group of residents, and investigated the moderating effect of time of move, in relation to village development,

on change over time. As perceptions of home were found to change over the course of relocation, and the home environment is noted as having an important connections with social networks (e.g., Butler et al., 1998), Model 1c examined social indicators adjusting for baseline and within-person change in perceptions of the home to determine any impact of the changes coinciding with relocation on social interactions. Finally, Model 1d examined the impact of perceived pressure to move as an important contextual factor potentially moderating the impact of relocation on social networks.

Investigation then turned to individual characteristics impacting social network change. As discussed in chapter 3, the extent to which the impact of relocation is likely to vary as a function of demographic characteristics also requires consideration; as such Model 2 examines the effect of age, gender, marital status, years of education. Moreover, physical health and functioning has demonstrated a complex reciprocal relationship with social networks (e.g., Pressman et al., 2005). Therefore step 3 of the analysis introduced baseline physical health, and examined the interaction between time and physical health to investigate the moderating effect of health status prior to relocation on change over time.

As outlined in section 3.5, individual differences in personality characteristics may also impact relocation experiences. To examine the possible moderating role of personality characteristics on social network changes accompanying the relocation transition, step 4 in the analysis (Models 4a and 4b) incorporated an assessment of personality characteristics (extraversion, agreeableness, conscientiousness, neuroticism, openness) at baseline, and examined interactions between time and personality characteristics to identify any moderating effects on change in social network characteristics.

Finally, it was anticipated that the quality of social exchanges (reflected as either positive or negative) and the perception of loneliness is likely to be influenced by the

composition of friend family and neighbour networks. Therefore, change in social exchanges (positive and negative) and loneliness were also modelled adjusting for family, friend and neighbour social networks prior to relocation (at baseline). In addition, as friend and neighbour social networks indicated some change over the study period (evidenced in section 12.1 and 12.2), the impact of within-person change in friend and neighbour network domains over time was also examined.

Results of the analyses for the impact of relocation on social network indicators are organised such that comparisons are first made between the relocation and community sample over the 12 months. This is then followed by the more detailed examination of change over time within the relocation group for each indicator of well-being. For further detail on statistical methods employed and construction of models see chapter 7. Tables reporting the full effects at each step (Models 1-7) are presented in Appendix H. Note that the 1-month assessment was excluded from analyses with neighbour networks as it was thought inappropriate to assess neighbour networks at one month as the village was not adequately established and many participants believed they could not accurately comment on questions which assumed they had the opportunity for interactions with neighbours.

12.1 The impact of relocation on Neighbour networks

12.1.1 Comparisons with the community sample: Neighbour networks

The unadjusted model (including nesting of individuals within couples) indicated there to be no difference between the relocation and community groups in their neighbour networks at baseline; however, a main effect was indicated for time and a significant interaction of group by time was found such that the relocation group reported greater availability of neighbour networks at the 12-month assessment (Model 1a, in Table

12.2). Controlling for age, marital status, retirement status, financial status, baseline physical activity and baseline perceived constraints, due to the difference between the groups identified at baseline (Model 1b), improved model fit (LR ratio test statistic = 19.88, df = 8, p = .010). This model maintained there to be an overall decline in neighbour networks over time (due to the influence of the community group) and a significant interaction of group by time such that the relocation group reported greater neighbour networks at the 12-month assessment, see Figure 12.1.

Table 12.2.
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Neighbour Support Networks over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	-0.02 (0.04)	-0.22 (0.19)
Time	-0.12 (0.03) ***	-0.12 (0.03) ***
Relocation group	0.18 (0.13)	0.05 (0.13)
Relocation group * Time	0.79 (0.09) ***	0.79 (0.09) ***
Age		0.01 (0.01)
Marital status[a]		
Separated/divorced		0.14 (0.11)
Widowed		0.06 (0.13)
Never Married		0.32 (0.19)
Retired		0.13 (0.09)
Enough money to met needs		0.10 (0.18)
Physical activity		0.04 (0.04)
Perceived control (constraints)		-0.07 (0.04)
	Random parameters	
Between couple variance	0.62 (0.09)	0.57 (0.10)
Between Individual variance	0.10 (0.07)	0.12 (0.08)
Residual variance	0.25 (0.02)	0.25 (0.02)
ICC – Couple	0.64	0.61
ICC – Individual	0.10	0.13
	Information criteria	
-2*log likelihood	2728.50	2708.62
AIC	2742.50	2738.62
BIC	2777.65	2813.95

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

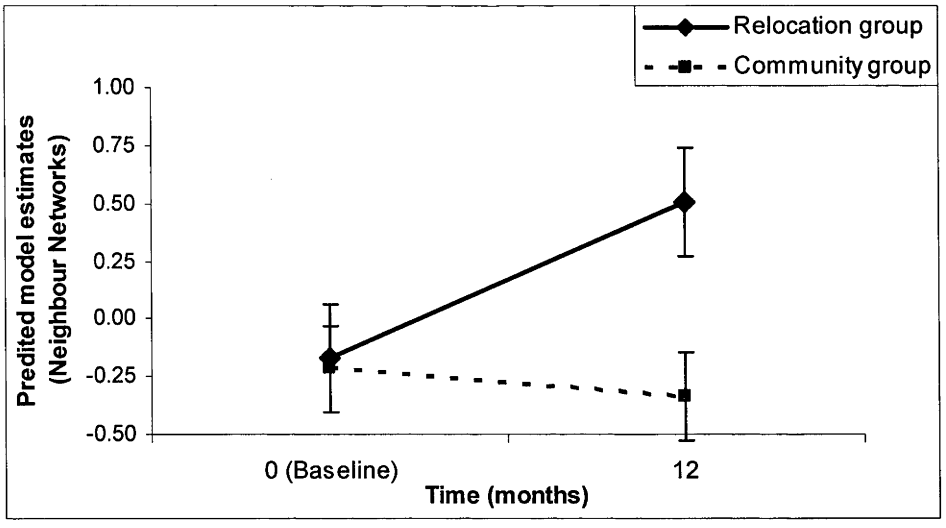

Figure 12.1. Change in neighbour networks by group

Note. Figure depicts predicted neighbour network scores for the relocation and community groups holding covariates constant at married, partially retired, reporting not enough money to meet needs, and at mean age, physical activity and constraints.

12.1.2 Investigating change in neighbour networks as a function of relocation

Tables detailing each step of the modeling procedure to examine change in neighbour networks within the relocation group (nesting individuals within couples) are included in Appendix H.2.

12.1.2.0 Model 0. The unadjusted effect of time.

Examination of the unadjusted change in neighbour networks among the relocation sample indicated an increase from baseline to both the 6- and 12-month post relocation assessment. No significant change was indicated between the 6- and 12-month assessment (see Figure 12.2). Table 12.3 presents the results of the random coefficient model testing the unadjusted effect of time. Calculation of the ICC indicates that approximately 38% of the variance in neighbour support networks is at the couple level while 7% of the variance is at the individual level.

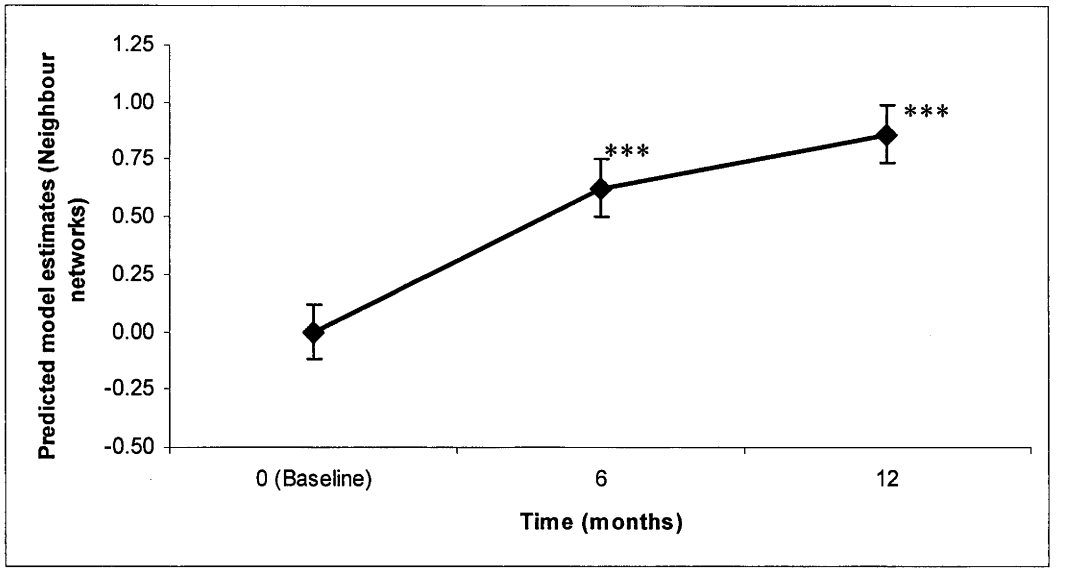

Figure 12.2. Unadjusted change in neighbour support networks.

Note. *** p < .001 denotes significant change from baseline

Table 12.3.
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Neighbour Networks

	Model 0	
Parameter	Time ref baseline	Time ref 6mths
	Fixed effects	
Intercept	-0.01 (0.12)	
Time 6mth	0.63 (0.12) ***	0.22 (0.13)
Time 12mth	0.85 (0.13) ***	
	Random parameters	
Between couple variance	0.39 (0.13)	
Between Individual variance	0.07 (0.09)	
Residual variance	0.56 (0.07)	
ICC – Couple	0.38	
ICC – Individual	0.07	
	Information criteria	
-2*log likelihood	575.67	
AIC	587.67	
BIC	607.98	

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

12.1.2.1 Model 1. Adjusting for contextual factors associated with relocation.

The inclusion of a time in residence by time interaction (Model 1a) did not improve the model fit (LR ratio test statistic = 4.70, df = 3, p = .195), nor did a model including only

the main effect (baseline) (LR ratio test statistic = 1.90, df = 1, p = .162). No effect was indicated for village development (Model 1b; LR ratio test statistic = 2.86, df = 3, p = .413).

Adjustment for baseline perceptions of the home environment and within-person change in these perceptions (Model 1c) improved model fit (LR ratio test statistic = 12.58, df = 2, p = .002). Results indicated more positive perceptions of home prior to relocation were associated with larger neighbour networks (b = 0.28, p = .002), and that an increase in perceptions of home over time was associated with overall increase in neighbour networks (b = 0.26, p = .003). Further post hoc analyses to examine if change in perceptions between baseline and 6-months or 6- to 12-months was associated with change in neighbour networks during the same period, found the change in perceptions of home from baseline to 6-months was specifically associated with increased neighbour networks (Table 12.4). No effect was indicated for perceived pressure to move (Model 1d; LR ratio test statistic = 1.64, df = 3, p = .650).

Table 12.4.
Estimates for Change in Neighbour Networks by Change in Perceptions of Home, by Time Interval

Parameter	Time ref baseline	Time ref 6mths
	Fixed effects	
Intercept	0.004 (0.11)	0.83 (0.14) ***
Change in perceptions of home	0.34 (0.12) **	0.002 (0.05)
	Random parameters	
Between couple variance	0.24 (0.12)	0.53 (0.18)
Between Individual variance	0.01 (0.12)	0.24 (0.12)
Residual variance	0.68 (0.11)	0.23 (0.04)
ICC – Couple	0.26	0.53
ICC – Individual	0.01	0.24

Note. Standard errors are in parentheses. Models include the fixed effect for time and perceptions of home. * p<.05, **p<.01, ***p<.001

12.1.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated no associations with neighbour networks or improvement in model fit (LR ratio test statistic = 4.96, df = 6, p = .549).

12.1.2.3 Model 3. Adjusting for physical health.

Although borderline in improving model fit (LR ratio test statistic = 3.68, df = 1, p = .055), better physical health status at baseline was associated with greater neighbour support networks (b = 0.16, p = .049). The results did not support physical health as a moderator of change in neighbour supports (Model 3b), or improvement in model fit (LR ratio test statistic = 6.49, df = 3, p = .090).

12.1.2.4 Model 4. Adjusting for personality characteristics.

The adjustment for baseline personality (Model 4a) indicated higher neuroticism was associated with greater neighbour networks (b = 0.26, p = .004); however, the inclusion did not improve the model fit (LR ratio test statistic = 10.23, df = 5, p = .069). The inclusion of personality by time interactions (Model 4b) also did not reveal any moderating effects, or improvement in model fit (LR ratio test statistic = 19.33, df = 15, p = .199).

12.1.2.5 The model of best fit.

Examination of the model fit statistics indicated Model 3a (Table 12.5), adjusted for baseline physical health, as the best fitting model for the data. This model indicated that neighbour support networks significantly increased over the relocation period, whereby an average increase of .63 and .85 of a standard deviation (SD) was reported at the 6- and 12-month assessments respectively in comparison to neighbour networks reported at baseline. Although interpreted with caution (effect significant at $p < .05$), perceptions of home were associated with neighbour networks such that for every 1 SD higher positive perceptions at baseline, neighbour networks were .23 of a SD larger. Moreover, for every 1 SD increase in positive perceptions of the home reported by

individuals from baseline, reported neighbour support increased on average by .25 of a SD. An effect was also indicated for physical health at baseline. Although this finding should also be interpreted with caution (given $p = .049$), for every 1 SD greater physical health reported by individuals at baseline, neighbour networks were .16 of a SD larger. Figure 12.3 depicts the change over the transition in neighbour networks for the initial unadjusted model and model of best fit.

Calculation of the ICC indicates approximately 37% of the variance in neighbour networks was now indicated at the couple level, with only 4% at the individual level.

Table 12.5.
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Neighbour Networks

	Model 3a	
Parameter	Time ref baseline	Time ref 6mths
	Fixed effects	
Intercept	0.004 (0.11)	
Time 6mth	0.63 (0.12) ***	
Time 12mth	0.85 (0.12) ***	0.23 (0.13)
Perceptions of home (between-person)	0.23 (0.09) *	
Perceptions of home (within-person change)	0.25 (0.09) **	
Phvsical health	0.16 (0.08) *	
	Random parameters	
Between couple variance	0.34 (0.12)	
Between Individual variance	0.04 (0.08)	
Residual variance	0.54 (0.07)	
ICC – Couple	0.37	
ICC – Individual	0.04	
	Information criteria	
-2*log likelihood	559.41	
AIC	577.41	
BIC	607.87	

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

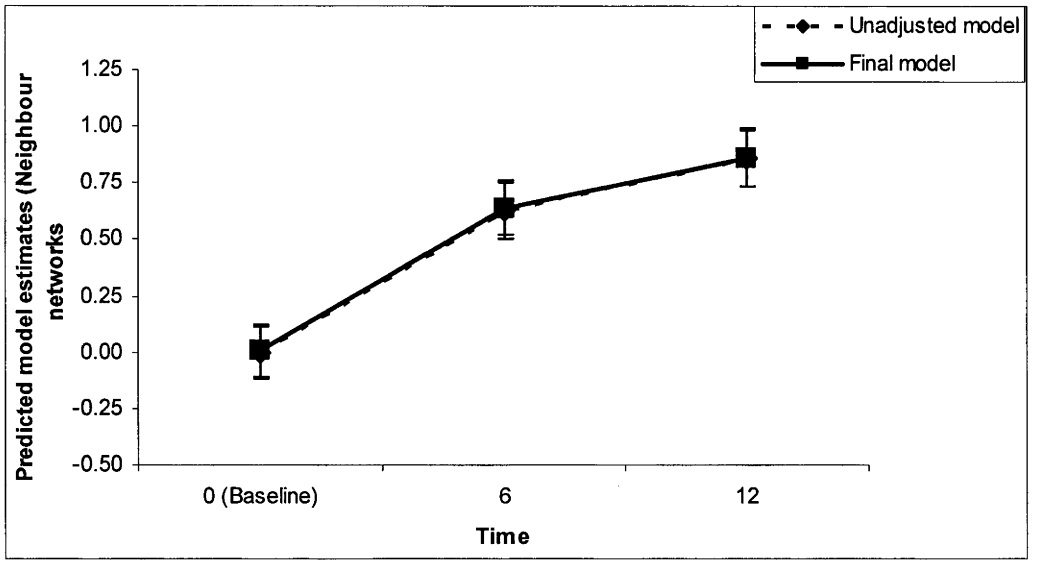

Figure 12.3. Change in neighbour networks over the relocation transition

Note. The Final model in figure 12.3 depicts predicted change in neighbour networks at mean levels of physical health and perceptions of home.

12.2 The impact of relocation on Friend networks

12.2.1 Comparisons with the community sample: Friend networks

The unadjusted model investigating change in friend networks (including nesting of individuals within couples) indicated that the community and relocation groups did not differ in friend networks at baseline. However, the group by time interaction was significant, indicating that the relocation group experienced a greater decline in friend networks at the 12-month assessment compared to the community sample (Model 1a, Table 12.6).

Controlling for age, retirement status, financial status, baseline physical activity and baseline constraints (Model 1b) improved model fit (LR ratio test statistic = 53.03, df = 8, $p < .001$) and indicated a significant effect for marital status, physical activity and perceived control. Persons who had never married reported greater friend networks at baseline compared to married persons, engagement in a greater amount of physical activity was associated with larger friend networks, and greater constraints were associated with smaller friend support networks. This model maintained the significant

interaction of group by time such that the relocation group reported decline in friend networks at the 12-month assessment in contrast to the stability of the community group; and also indicated the relocation group reported higher friend networks at baseline compared to the community sample, see figure 12.4.

Table 12.6
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Friend Social Networks over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	-0.01 (0.04)	-0.23 (0.19)
Time	0.01 (0.03)	0.01 (0.03)
Relocation group	0.12 (0.13)	0.28 (0.13) *
Relocation group*Time	-0.19 (0.04) *	-0.19 (0.08) **
Age		-0.01 (0.01)
Marital status[a]		
Separated/divorced		0.18 (0.11)
Widowed		0.20 (0.13)
Never Married		0.69 (0.19) ***
Retired		-0.02 (0.09)
Enough money to meet needs		0.14 (0.18)
Physical activity		0.15 (0.04) ***
Control – constraints (baseline)		-0.14 (0.04) ***
	Random parameters	
Between couple variance	0.52 (0.14)	0.33 (0.21)
Between Individual variance	0.28 (0.13)	0.39 (0.20)
Residual variance	0.20 (0.01)	0.20 (0.01)
ICC - Couple	0.52	0.36
ICC - Individual	0.28	0.42
	Information criteria	
-2*log likelihood	3682.88	2629.85
AIC	2696.88	2659.85
BIC	2732.03	2735.18

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

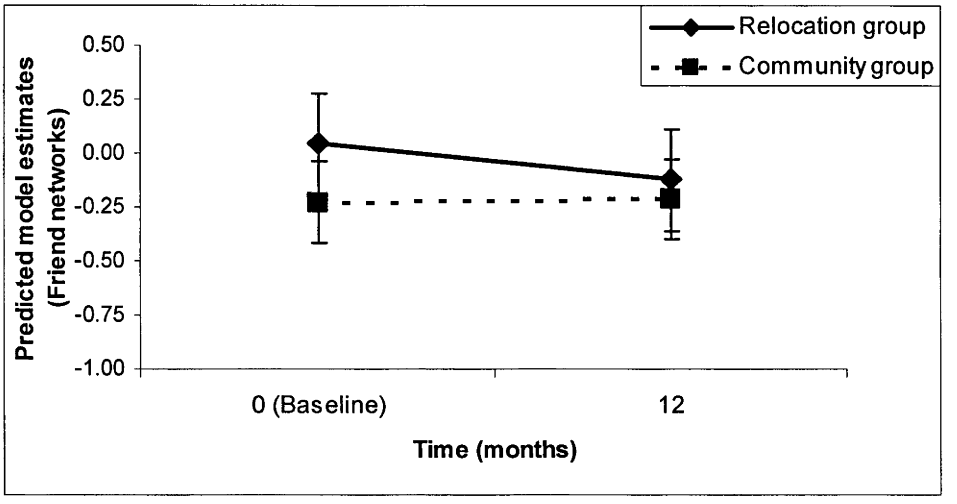

Figure 12.4. Change in friend networks by group

Note. Figure depicts predicted family network scores for the relocation and community groups, holding covariates constant at married, partially retired, reporting not enough money to meet needs, and at mean age, mean physical activity and constraints.

12.2.2 Investigating change in friend networks as a function of relocation

Tables detailing each step of the modeling procedure to examine change in friend networks within the relocation group (nesting individuals within couples) are included in Appendix H.3.

12.2.2.0 Model 0. The unadjusted effect of time.

A consistent linear decrease was observed in friend support networks between the baseline and 6- and 12-month assessments, Table 12.7 presents the results of the random coefficient model. Despite the continued decline in friend supports between the 6- and 12-month assessments no significant difference was indicated between these assessments (see Figure 12.5). Calculation of the ICC indicates that approximately 47% of the variance in friend networks is at the couple level while 18% of the variance is at the individual level.

Table 12.7.
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Friend Networks

Parameter	Model 0		
	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	0.01 (0.12)		
Time 1mth	-0.15 (0.10)		
Time 6mth	-0.23 (0.10) *	-0.08 (0.10)	
Time 12mth	-0.34 (0.10) ***	-0.19 (0.11)	-0.11 (0.11)
		Random parameters	
Between couple variance	0.51 (0.16)		
Between Individual variance	0.20 (0.10)		
Residual variance	0.38 (0.04)		
ICC – Couple	0.47		
ICC – Individual	0.18		
		Information criteria	
-2*log likelihood	695.01		
AIC	709.01		
BIC	734.69		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

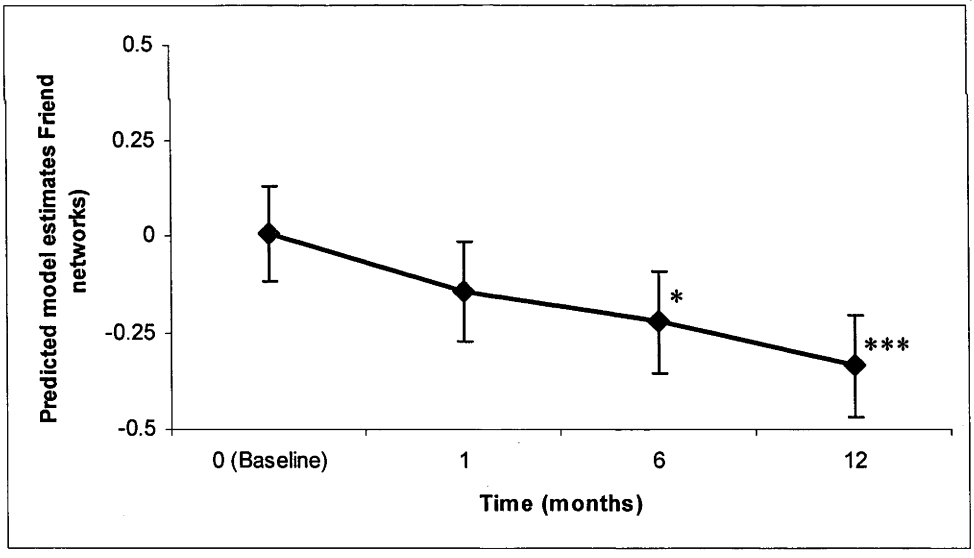

Figure 12.5. Unadjusted change in friend support networks.

Note. * p<.05, *** p<.001 denote significant change from baseline

12.2.2.1 Model 1. Adjusting for contextual factors associated with relocation.

Time in residence was associated with baseline friend networks (Model 1a; $b = 0.02, p = .005$) such that those having resided in their home for longer reported larger networks (average of .02 of a standard deviation (SD) per year); however, an interaction of time

in residence with time in study was not significant. The inclusion of time in residence prior to relocation improved the model fit (LR ratio test statistic = 10.78, df = 4, p = .029), and as such was retained in subsequent models. No associations or improvement in model fit were found with village development (Model 1b; LR ratio test statistic = 2.36, df = 4, p = .670), perceptions of the home environment (Model 1c; LR ratio test statistic = 0.95, df = 2, p = .621), or pressure to move (Model 1d; LR ratio test statistic = 3.94, df = 4, p = .414).

Post hoc analyses further investigating if change in perceptions of the home between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in friend networks during the same period are presented (Table 12.8). Results indicated an increase in perceptions of home from baseline to 1-month post relocation was associated with a decline in friend networks.

Table 12.8.
Estimates for Change in Friend Networks by Change in Perceptions of Home, by Time Interval

Parameter	Time ref baseline	Time ref 1mths	Time ref 6mths
		Fixed effects	
Intercept	0.47 (0.21) *	-0.33 (0.25)	-0.52 (0.27)
Change in perceptions of home	-0.18 (0.09) *	-0.02 (0.07)	0.09 (0.06)
		Random parameters	
Between couple variance	0.41 (0.15)	0.63 (0.19)	0.63 (0.26)
Between Individual variance	0.22 (0.12)	0.06 (0.11)	0.21 (0.18)
Residual variance	0.29 (0.05)	0.45 (0.08)	0.39 (0.07)
ICC – Couple	0.45	0.55	0.51
ICC – Individual	0.24	0.05	0.17

Note. Standard errors are in parentheses. Models include the fixed effect for time, baseline perceptions of the home environment, time lived in residence prior to relocation and interaction with time in study.
* p<.05, **p<.01, ***p<.001

12.2.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated no associations with friend networks, or improvement in model fit (LR ratio test statistic = 9.94, df = 6, p = .127).

12.2.2.3 Model 3. Adjusting for physical health.

The inclusion of physical health status indicated no association with friend networks at baseline (Model 3a), or improvement in model fit (LR ratio test statistic <.001, df = 1, p = .958), and did not moderate change in friend networks over time (Model 3b; LR ratio test statistic = 0.09, df = 4, p = .999).

12.2.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of baseline personality characteristics (Model 4a) did not improve model fit (LR ratio test statistic = 9.03, df = 5, p = .108), nor did the inclusion of personality by time interactions (Model 4b; LR ratio test statistic = 29.19, df = 20, p = .084).

12.2.2.5 The model of best fit.

Examination of the model fit statistics indicated that Model 1a (Table 12.9) adjusted for the amount of time (in years) an individual resided in their home prior to relocation was the best fitting model for the data. This model indicated that despite the trend observed in the unadjusted model there was no significant decline in friend support networks over the relocation period. An effect of time in residence on baseline friend networks was indicated such that those having resided in their home for longer prior to relocation reported the greatest networks (average of .02 of a SD per year). Figure 12.6 depicts friend networks over the transition period for the initial unadjusted model and model of best fit.

Calculation of the ICC indicates that approximately 49% of the variance in friend networks is now indicated at the couple level while 16% of the variance is at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between couples has increased by 2%, the variance between individuals has dropped by 15%, and the within-person (residual) variance has decreased by 3% as a result of including the final set of predictors.

Table 12.9

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Friend Networks

Parameter	Model 1a Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	-0.51 (0.22) *		
Time 1mth	0.15 (0.18)		
Time 6mth	-0.10 (0.19)	-0.24 (0.19)	
Time 12mth	0.03 (0.19)	-0.12 (0.19)	0.12 (0.19)
Time in residence	0.02 (0.01) **		
Time in residence * time	-0.01 (0.01)	0.01 (0.01)	-0.01 (0.01)
		Random parameters	
Between couple variance	0.52 (0.16)		
Between Individual variance	0.17 (0.09)		
Residual variance	0.37 (0.04)		
ICC - Couple	0.49		
ICC - Individual	0.16		
		Information criteria	
-2*log likelihood	684.22		
AIC	706.22		
BIC	746.59		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

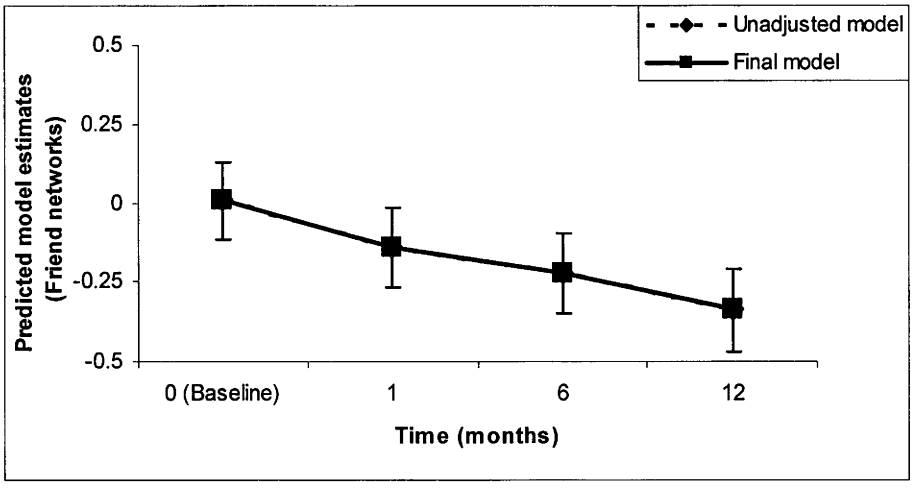

Figure 12.6. Change in friend networks over the relocation transition

Note. The Final model in figure 12.6 depicts predicted friend networks at mean length of time in residence prior to relocation.

12.3 The impact of relocation on social network indicators: Family networks

12.3.1 Comparisons with the community sample: Family network

The relocation and community samples were also examined for change in family network over the 12-month study period and to determine any differences between the groups over time. Initial models comparing family support networks across the relocation and community samples (including nesting for individuals within couples) showed no difference in family networks between the groups at baseline and indicated no significant change over time for either the relocation or community samples between the baseline and 12-month assessment (Model 1a, Table 12.10). Controlling for age, retirement status, financial status, baseline physical activity and baseline perceived constraints, Model 1b (Table 12.10), improved the model fit (LR ratio test statistic = 84.15, df = 8, $p < .001$), and indicated a significant effect for marital status, financial status and control. Persons identified as either separated/divorced or never married reported poorer family networks at baseline compared to married persons. Participants reporting enough money to meet their needs reported larger family networks. Moreover, greater perceived constrains were associated with poorer family support networks at baseline. This model maintained there to be no effect of group or time. Figure 12.7 presents the adjusted model. Calculation of the ICC indicated that approximately 60% of the variance in family networks is explained at the couple-level while 10% is explained at the individual level.

Table 12.10

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Family Social Networks over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	0.02 (0.04)	-0.50 (0.18) **
Time	-0.001 (0.04)	-0.003 (0.04)
Relocation group	-0.16 (0.13)	-0.12 (0.13)
Relocation group*Time	-0.02 (0.10)	-0.03 (0.10)
Age		0.01 (0.01)
Marital status[a]		
Separated/divorced		-0.43 (0.11) ***
Widowed		-0.08 (0.13)
Never Married		-0.81 (0.18) ***
Retired		-0.003 (0.09)
Enough money to meet needs		0.65 (0.18) ***
Physical activity		0.06 (0.04)
Control – constraints (baseline)		-0.19 (0.03) ***
	Random parameters	
Between couple variance	0.54 (0.11)	0.53 (0.09)
Between Individual variance	0.19 (0.10)	0.09 (0.08)
Residual variance	0.27 (0.02)	0.27 (0.02)
ICC – Couple	0.54	0.60
ICC – Individual	0.19	0.10
	Information criteria	
-2*log likelihood	2802.02	2717.87
AIC	2816.02	2747.87
BIC	2851.17	2823.20

Note. Standard errors are in parentheses.

[a] reference category for marital status = married/de-facto

* p<.05, **p<.01, ***p<.001

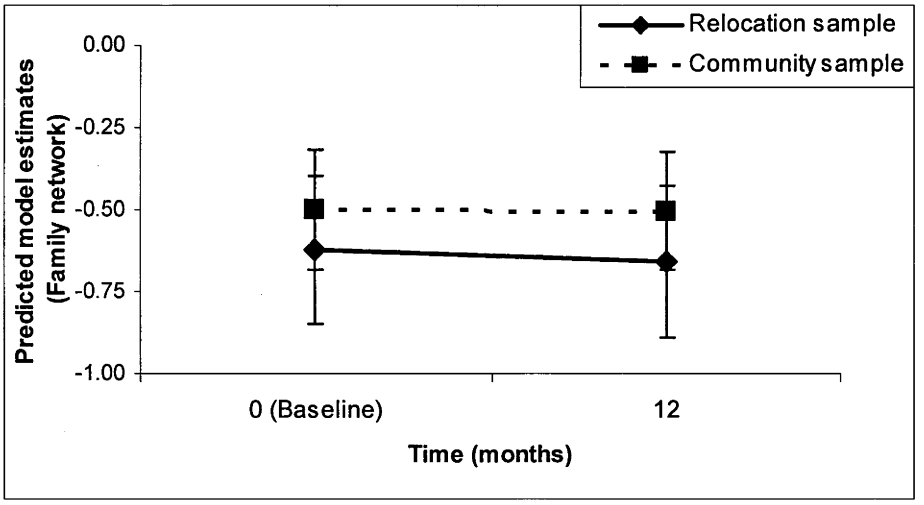

Figure 12.7. Change in family networks by group

Note. Figure depicts predicted family network scores for the relocation and community groups, holding covariates constant at married, partially retired, reporting not enough money to meet needs, and at mean age, levels of physical activity and constraints.

12.3.2 Investigating change in family networks as a function of relocation

Tables detailing each step of the modeling procedure investigating change in family supports within the relocation group (nesting individuals within couples) are included in Appendix H.4.

12.3.2.0 Model 0. The unadjusted effect of time.

An unadjusted model indicated no significant change in family networks over the 12 month transition period (see Table 12.11). The plot of predicted model estimates for the unadjusted model (Figure 12.8) indicates family supports were largely stable over the relocation transition. Calculation of the ICC indicated that approximately 48% of the variance in positive affect is at the couple level while 23% of the variance is at the individual level.

Table 12.11
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Family Networks

		Model 0	
Parameter	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	0.01 (0.11)		
Time 1mth	0.05 (0.08)		
Time 6mth	0.05 (0.08)	0.003 (0.08)	
Time 12mth	-0.04 (0.08)	-0.09 (0.09)	-0.09 (0.09)
		Random parameters	
Between couple variance	0.40 (0.13)		
Between Individual variance	0.19 (0.09)		
Residual variance	0.24 (0.02)		
ICC - Couple	0.48		
ICC - Individual	0.23		
		Information criteria	
-2*log likelihood	586.47		
AIC	600.47		
BIC	626.16		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

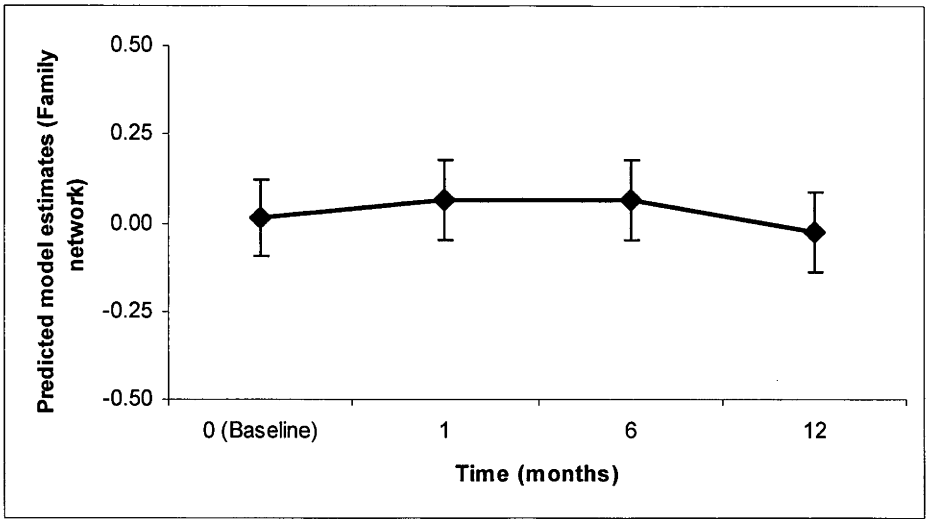

Figure 12.8. Unadjusted change in family support networks.

12.3.2.1 Model 1. Adjusting for contextual factors associated with relocation.

The modeling of contextual factors associated with the move indicated no effect of time in residence (Model 1a; LR ratio test statistic = 1.14, df = 4, p = .888), or village development (Model 1b; LR ratio test statistic = 4.02, df = 4, p = .403) on family supports. Perceptions of home environment prior to moving was associated with the initial availability of family networks (b = 0.22, p = .011), but no effect was found for change in perceptions over time (Model 1c). Post hoc analyses to further investigate if change in perceptions of home between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in family networks during the same period also revealed no significant associations. As within-person change in perceptions of the environment was not associated with family networks and the inclusion of baseline perceptions only significantly improved the model fit (LR ratio test statistic = 5.36, df = 1, p = .021), this alone was retained in subsequent models. Finally, no association was found between perceived pressure to move and family networks (Model 1d).

12.3.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated that persons identified as never married reported smaller family networks in comparison to married persons (b = -1.53, p < .001). No associations were found with age, gender, or years of education.

Inclusion of demographic information did improve the model fit (LR ratio test statistic = 21.98, df = 6, p = .001) and was therefore retained in subsequent models.

12.3.2.3 Model 3. Adjusting for physical health.

The inclusion of physical health was not associated with family networks at baseline (Model 3a), and did not improve model fit (LR ratio test statistic = 1.58, df = 1, p = .208), nor did the inclusion of physical health by time interactions (Model 3b; LR ratio test statistic = 8.06, df = 4, p = .089).

12.3.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of personality characteristics indicated no associations with family networks (Model 4a; LR ratio test statistic = 5.88, df = 5, p = .318), and were not shown to moderate family support networks over time (Model 4b; LR ratio test statistic = 21.0, df = 20, p = .397).

12.3.2.5 The model of best fit.

Examination of the model fit statistics indicated Model 2 (Table 12.12), adjusted for demographic characteristics as the best fitting model for the data. This model indicated that family support networks did not change significantly over the relocation period. However, a significant effect for marital status was observed such that persons identified as never married reported smaller family networks in comparison to married persons. Calculation of the ICC indicates that approximately 33% of the variance in family networks is explained at the couple level, while 28% of the variance was explained at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between couples has decreased by 50%, the variance between individuals has dropped by 11%, and the within-person (residual) variance remains unchanged as a result of including the final set of predictors. Figure 12.9 depicts the change over the transition in family networks for the initial unadjusted model and model of best fit.

Table 12.12

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Family Support Networks

Parameter	Model 2 Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	0.08 (0.13)		
Time 1mth	0.04 (0.08)		
Time 6mth	0.04 (0.08)	0.004 (0.08)	
Time 12mth	-0.05 (0.08)	-0.09 (0.09)	-0.09 (0.09)
Perceptions of home (baseline)	0.26 (0.08) ***		
Marital status[a]			
Separated/divorced	-0.56 (0.36)		
Widowed	-0.07 (0.21)		
Never Married	-1.53 (0.32) ***		
		Random parameters	
Between couple variance	0.20 (0.10)		
Between Individual variance	0.17 (0.08)		
Residual variance	0.24 (0.02)		
ICC – Couple	0.33		
ICC – Individual	0.28		
		Information criteria	
-2*log likelihood	559.13		
AIC	587.13		
BIC	638.51		

Note. Standard errors are in parentheses. Model is adjusted for gender, age, and education.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

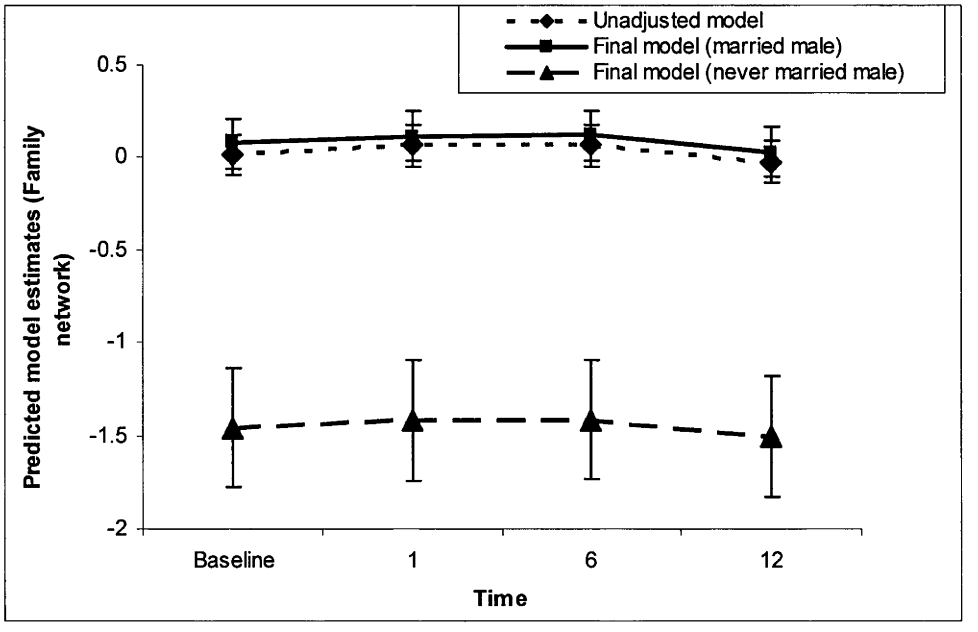

Figure 12.9. Change in family social networks over the relocation transition

Note. The Final model/s in figure 12.9 depicts an individual reporting mean levels for perception of home, with marital status as specified.

12.4 The impact of relocation on social network indicators: Positive exchanges with others

12.4.1 Comparisons with the community sample: Positive social exchanges

Following the examination of differences in social networks, further analysis examined possible change over time and differences between the relocation and community samples in the quality or nature of their social exchanges with others. Positive social exchanges were examined first. An initial unadjusted model comparing positive social exchanges across the relocation and community samples (constructed with a random intercept for individuals only) indicated a significant interaction of group by time such that although there was no difference reported between the groups at baseline, the relocation group reported fewer positive exchanges with others at the 12-month assessment in comparison to the community sample (Model 1a, Table 12.13). Model 1b adjusted for age, marital status, retirement status, financial status, baseline physical activity and perceived control due to the difference between the groups identified at baseline. Results for this adjusted model (also presented in Table 12.13), maintained the significant interaction of group by time and indicated a significant effect for marital status and control such that those persons separated/divorced reported fewer positive exchanges compared to married persons, and greater perceived constraints was also associated with fewer positive exchanges at baseline, and an improvement in model fit (LR ratio test statistic = 19.19, df = 7, p = .014). Figure 12.10 presents the adjusted model. Calculation of the ICC indicates that approximately 50% of the variance in positive social exchanges is explained at the individual level.

Table 12.13

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Positive Social Exchanges over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	-0.02 (0.04)	0.12 (0.18)
Time	0.04 (0.05)	0.04 (0.05)
Relocation group	0.11 (0.12)	0.21 (0.13)
Relocation group*Time	-0.29 (0.13) *	-0.30 (0.13) *
Age		-0.005 (0.01)
Marital status[a]		
Separated/divorced		-0.26 (0.11) *
Widowed		-0.003 (0.13)
Never Married		-0.13 (0.18)
Retired		0.02 (0.09)
Enough money to meet needs		-0.13 (0.18)
Physical activity		0.05 (0.04)
Control – constraints (baseline)		-0.11 (0.04) **
	Random parameters	
Between Individual variance	0.51 (0.05)	0.49 (0.05)
Residual variance	0.49 (0.03)	0.49 (0.03)
ICC – Individual	0.51	0.50
	Information criteria	
-2*log likelihood	3034.50	3015.31
AIC	3046.50	3043.31
BIC	3076.63	3113.61

Note. Standard errors are in parentheses.

[a] reference category for marital status = married/de-facto

* p<.05, **p<.01, ***p<.001

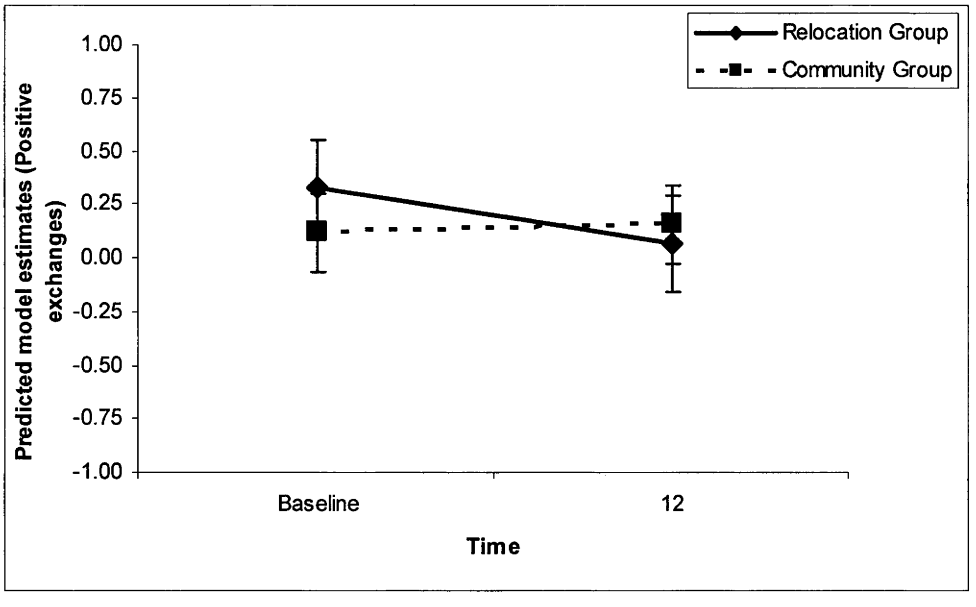

Figure 12.10. Change in positive exchanges by group

Note. Figure depicts predicted positive exchanges for the relocation and community groups, holding covariates constant at married, partially retired, and at mean age, levels of physical activity and constraints.

12.4.2 Investigating change in positive social exchanges as a function of relocation

Tables detailing each step of the modeling procedure investigating change in positive social exchanges within the relocation group (constructed with a random intercept for individuals only) are included in Appendix H.5.

12.4.2.0 Model 0. The unadjusted effect of time.

A significant decline was observed in positive social exchanges over the 12 month transition period (see Table 12.14). Positive social exchanges gradually declined over the 12-month post-relocation period such that an average decrease of .35 of a standard deviation (SD) was reported at the 12-month assessment, when compared to positive exchanges reported at baseline (see Figure 12.11).

Table 12.14
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Positive Social Exchanges

		Model 0	
Parameter	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	0.03 (0.12)		
Time 1mth	-0.12 (0.12)		
Time 6mth	-0.16 (0.12)	-0.04 (0.12)	
Time 12mth	-0.35 (0.12) **	-0.23 (0.12)	-0.19 (0.13)
		Random parameters	
Between couple variance	0.40 (0.12)		
Between Individual variance	0.05 (0.06)		
Residual variance	0.52 (0.05)		
ICC – Couple	0.41		
ICC - Individual	0.05		
		Information criteria	
-2*log likelihood	734.30		
AIC	748.30		
BIC	773.99		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

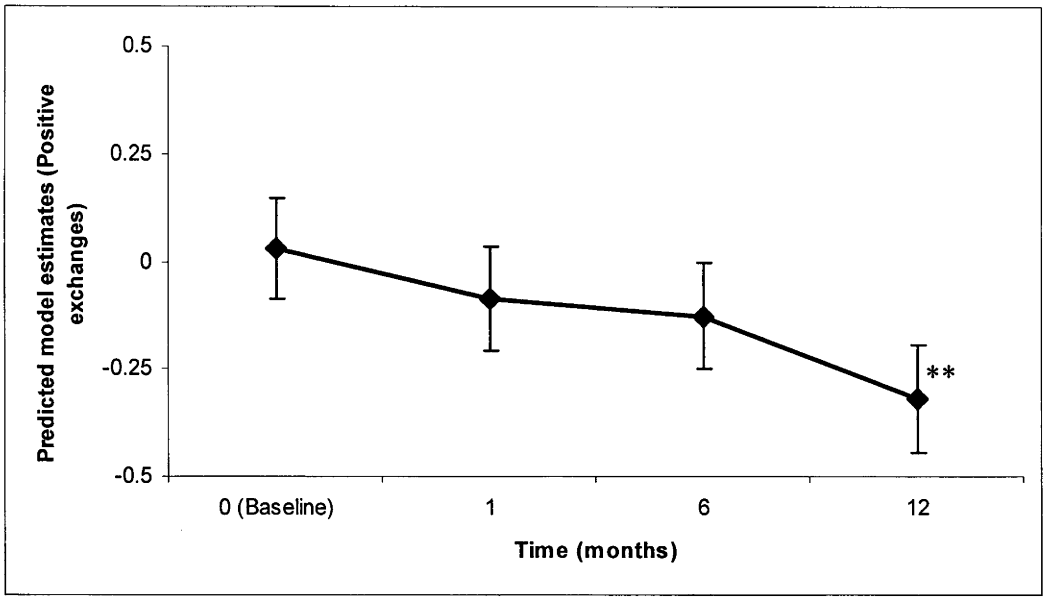

Figure 12.11. Unadjusted change in positive social exchanges.

Note. **p<.01 denotes a significant change from baseline.

12.4.2.1 Model 1. Adjusting for contextual factors associated with relocation.

No effect was found for the amount of time (in years) an individual resided in their home prior to relocation (Model 1a) on positive exchanges (LR ratio test statistic = 1.58, df = 4, p = .812). Adjusting for date of relocation in respect to the opening of the village to the first group of residents (Model 1b) indicated a moderating effect of village development on positive social exchanges (1-6 months: b = -0.02, p = .027) such that early movers reported a decline in positive exchanges between their 1- and 6-month assessments, while those moving later in the establishment of the village reported little change (see Figure 12.12). The inclusion of this indicator of village development indicated borderline significance in the improvement the model fit (LR ratio test statistic = 9.26, df = 4, p = .055) and was included in subsequent models.

Neither baseline nor within-person change in perceptions of the home environment were associated with positive social exchanges (Model 1c). Their inclusion did not improve model fit (LR ratio test statistic = 0.19, df = 2, p = .909). Further post hoc examination of the associations between change in perceptions of the home and change in positive social exchanges, confirmed there to be no effect for change in perceptions of home on

positive social exchanges within each time interval. Finally, the inclusion of perceived pressure to move (Model 1d) did not improve model fit (LR ratio test statistic = 6.78, df = 4, p = .148) and as such pressure to move was not included in subsequent models.

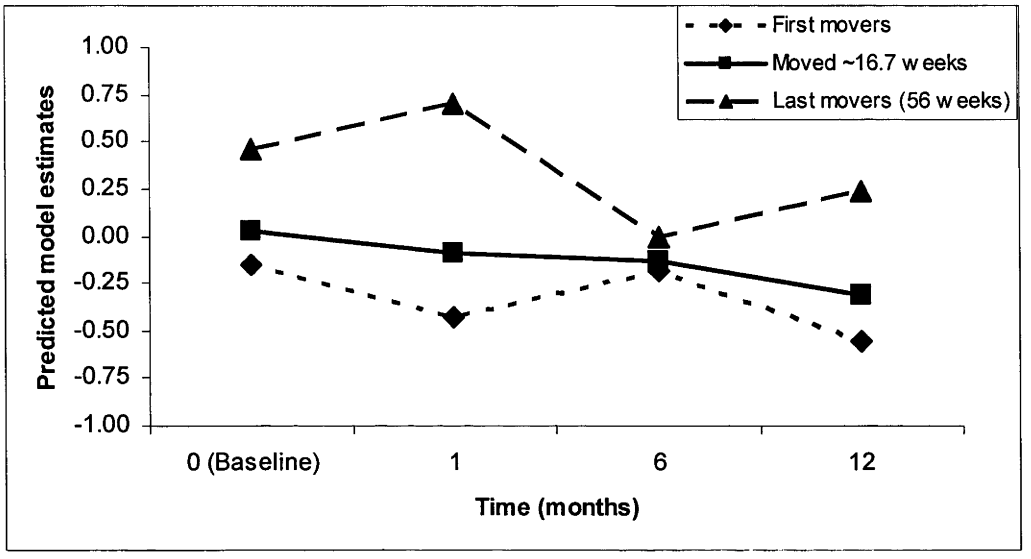

Figure 12.12. Village development by time interaction.

12.4.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated an effect for gender such that females reported greater positive exchanges at baseline compared to males (b = 0.35, p = .008). No associations were found with age or years of education. Overall, inclusion of demographic information did not improve the model fit (LR ratio test statistic = 9.81, df = 6, p = .133); however, as past research has established gender differences as important in social networks and exchanges (e.g., McLaughlin et al., 2010), and the inclusion of gender by itself did improve the model fit (LR ratio test statistic = 6.85, df = 1, p = .009), therefore gender was retained in subsequent models.

12.4.2.3 Model 3. Adjusting for physical health.

The inclusion of physical health indicated no association with positive exchanges at baseline or improvement in model fit (Model 3a; LR ratio test statistic = 0.02, df = 1, p = .886). In addition, there was no evidence of a moderating effect of physical health on

positive exchanges over time or improve model fit (Model 3b; LR ratio test statistic = 0.44, df = 4, p = .979).

12.4.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of personality characteristics indicated no main effects with positive exchanges at baseline (Model 4a; LR ratio test statistic = 4.51, df = 5, p = .478). The inclusion of personality by time interactions (Model 4b) also did not improve model fit (LR ratio test statistic = 22.74, df = 20, p = .302).

12.4.2.5 Model 5. Adjusting for social networks.

Finally, the inclusion of friend, family and neighbour social networks at baseline (Model 5a), improved model fit (LR ratio test statistic = 27.85, df = 3, $p < .001$) and indicated an association between both family and friend social networks and positive social exchanges. As would be expected, greater social networks at baseline were associated with more positive social exchanges (Family: b = 0.18, p = .015; Friend: b = 0.26, p = .001). For every 1 SD greater family or friend support networks reported at baseline, the amount of positive exchanges reported was .18 and .26 of a SD greater respectively. However, the model did not converge to produce standard errors for the variance components. Overall within-person change in friend and neighbour networks was not found to be associated with positive exchanges (Model 5b). Post hoc analyses supported there to be no effect of change in neighbour or friend networks on positive exchanges across any of the time intervals.

12.4.2.6 The model of best fit.

Model 5b (Table 12.15), adjusted for social networks characteristics is suggested as the best fitting model for the data (Model 5a did not converge to produce standard errors for the variance random parameters). This model indicated a decline in positive social exchanges over the 12 month transition period. Although only significant at $p < .05$, a gradual decline was observed such that an average decrease of .40 of a SD was reported

at the 12-month assessment, when compared to positive exchanges reported at baseline. In addition, an association was indicated for gender, such that females reported more positive exchanges than males, and across family and friend support networks at baseline. For every 1 SD greater family and friend support networks reported at baseline, the amount of positive exchanges reported was .20 and .30 of a SD greater respectively. Calculation of the ICC indicates that approximately 22% of the variance in positive exchanges is explained at the couple level, while only 3% of the variance was explained at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between couples has decreased by 63%, the variance between individuals has decreased by 60%, and the within-person (residual) variance remains unchanged as a result of including the final set of predictors. Figure 12.13 depicts the change over the transition in positive exchanges for the initial unadjusted model and model of best fit.

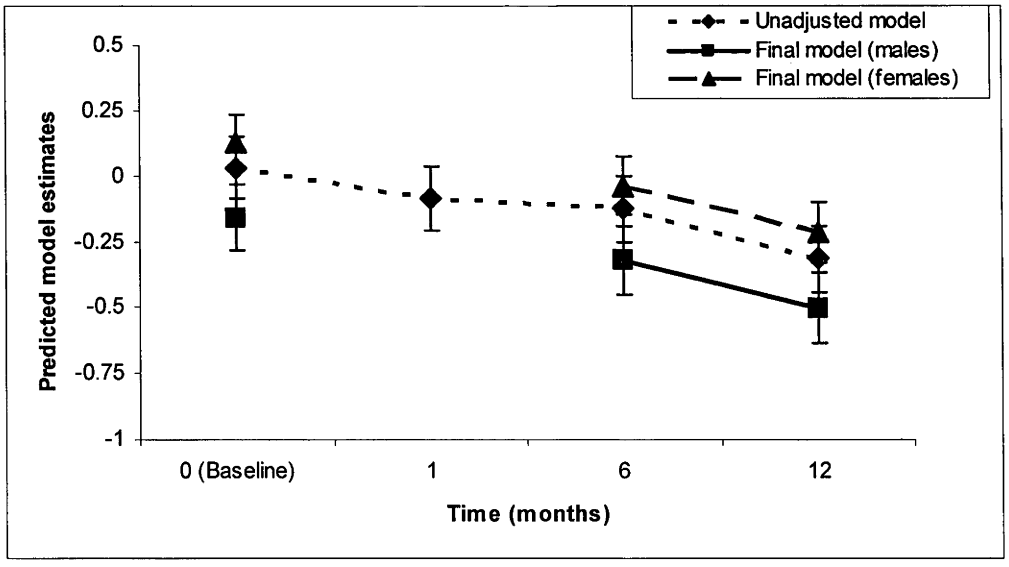

Figure 12.13. Change in positive social exchanges over the relocation transition

Note. The Final model/s in figure 12.13 depict predicted positive exchanges at mean levels of social supports from friend, family and neighbours, average change over time in friend and neighbour network domains, and relocated at the mid-point of the village construction, with gender as specified.

Table 12.15
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Positive Social Exchanges

	Model 5b	
Parameter	Time ref baseline	Time ref 6mth
	Fixed effects	
Intercept	-0.29 (0.16)	
Time 6mth	-0.07 (0.17)	
Time 12mth	-0.40 (0.17) *	-0.33 (0.18)
Village development	0.01 (0.006)	
Village development * Time	-0.01 (0.01)	0.01 (0.01)
Female	0.28 (0.12) *	
Social network characteristics		
Family (baseline)	0.20 (0.08) **	
Friend (baseline)	0.30 (0.08) ***	
Neighbour (baseline)	0.11 (0.09)	
Friend (within-person change)	0.12 (0.07)	
Neighbour (within-person change)	0.06 (0.09)	
	Random parameters	
Between couple variance	0.15 (0.08)	
Between Individual variance	0.02 (0.07)	
Residual variance	0.52 (0.06)	
ICC – Couple	0.22	
ICC – Individual	0.03	
	Information criteria	
-2*log likelihood	522.37	
AIC	552.37	
BIC	603.14	

Note. Standard errors are in parentheses. The inclusion of within-person change in neighbour networks precludes the inclusion of the 1-month assessment.
* p<.05, **p<.01, ***p<.001

12.5 The impact of relocation on social network indicators: Negative social exchanges

12.5.1 Comparisons with the community sample: Negative social exchanges

An unadjusted model (including nesting of individuals within couples) showed that there was no difference between the groups at baseline; and although Figure 12.14 indicates there to be some decline in negative exchanges between the baseline and 12-month assessment, no significant change over time for either the relocation of community samples is indicated (Model 1a, Table 12.16). Controlling for age, marital

status, retirement status, financial status, baseline physical activity and baseline constraints (Model 1b), improved model fit (LR ratio test statistic = 68.23, df = 8, $p <$ .001) and indicated those separated/divorced reported greater negative social exchanges compared to married persons. A significant effect was also found for baseline physical activity and perceived control such that both greater engagement in physical activity and greater perceived constraints were associated with greater negative exchanges. Reporting enough money to meet needs was associated with less negative social exchanges. This model maintained that there was no change over time in negative exchanges for either group, see figure 12.14. Calculation of the ICC indicates that approximately 46% of the variance in negative exchanges is explained at the couple-level while 13% is explained at the individual level.

Examining the final model using a multi-level regression procedure to produce robust standard errors (as discussed in section 7.6.3) with a random intercept for individuals, produced no substantial effect on the results (see appendix H.6).

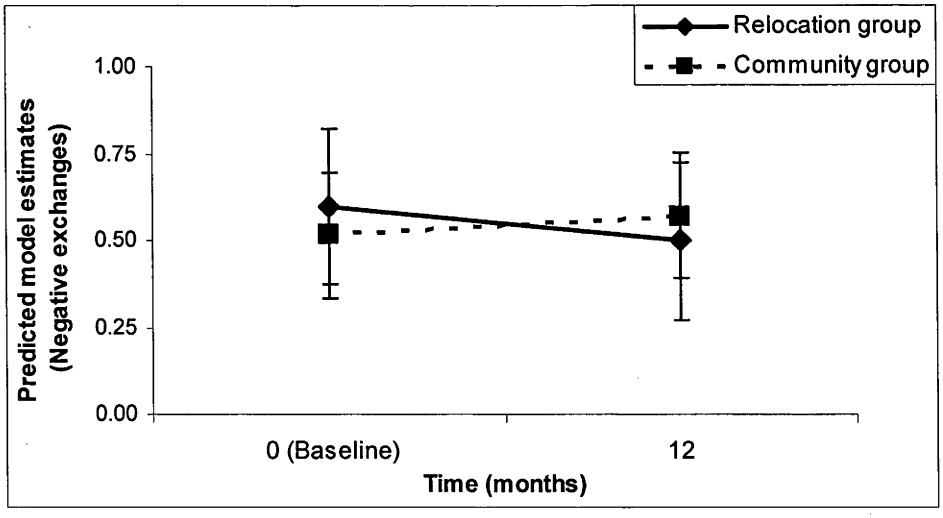

Figure 12.14. Change in negative exchanges by group

Note. Figure depicts predicted negative exchanges for the relocation and community groups, holding covariates constant at married, partially retired, reporting not enough money to meet needs, and at mean age, levels of physical activity and constraints.

Table 12.16
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Negative Social Exchanges over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	0.01 (0.04)	0.52 (0.18) **
Time	0.05 (0.04)	0.06 (0.04)
Relocation group	-0.06 (0.04)	0.08 (0.13)
Relocation group*Time	-0.15 (0.11)	-0.15 (0.11)
Age		-0.01 (0.01) *
Marital status[a]		
Separated/divorced		0.23 (0.11) *
Widowed		-0.05 (0.13)
Never Married		-0.11 (0.18)
Retired		-0.09 (0.09)
Enough money to meet needs		-0.51 (0.17) **
Physical activity		0.07 (0.04)
Control – constraints (baseline)		0.21 (0.03) ***
	Random parameters	
Between Couple variance	0.53 (0.09)	0.42 (0.09)
Between Individual variance	0.10 (0.09)	0.12 (0.09)
Residual variance	0.37 (0.02)	0.37 (0.02)
ICC – Couple	0.53	0.46
ICC – Individual	0.10	0.13
	Information criteria	
-2*log likelihood	2922.48	2854.24
AIC	2936.48	2884.24
BIC	2971.63	2959.57

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

12.5.2 Investigating change in negative social exchanges as a function of relocation

A complete set of tables detailing each step of the modeling procedure to examine change in negative social exchanges within the relocation group (nesting individuals within couples) are included in Appendix H.6.

12.5.2.0 Model 0. The unadjusted effect of time.

Negative exchanges significantly declined from baseline to both the 1- and 12-month post relocation assessments (Table 12.17). An average decrease of .22 of a standard deviation (SD) was reported at the 1-month assessment, and a .20 decrease at the 12-month assessment in comparison to negative social exchanges reported at baseline.

Figure 12.15 illustrates a slight increase in negative exchanges between the 1- and 6-month assessments supporting a non-linear decline across the study period.

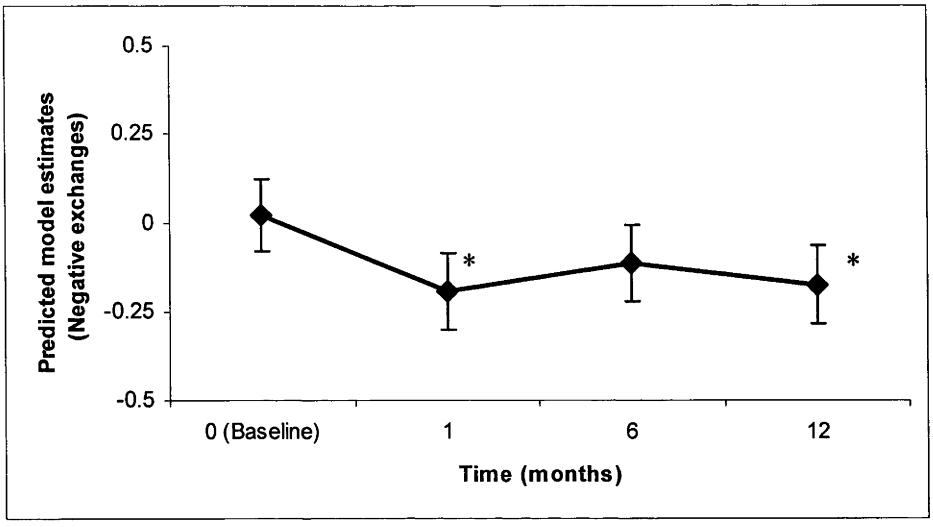

Figure 12.15. Unadjusted change in negative social exchanges.

Note. *p<.05 denotes a significant change from baseline.

Table 12.17
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Negative Social Exchanges

Parameter	Model 0 Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	0.02 (0.10)		
Time 1mth	-0.22 (0.09) *		
Time 6mth	-0.13 (0.09)	0.08 (0.09)	
Time 12mth	-0.20 (0.09) *	0.02 (0.09)	-0.06 (0.09)
		Random parameters	
Between couple variance	0.36 (0.11)		
Between Individual variance	0.09 (0.06)		
Residual variance	0.29 (0.03)		
ICC – Couple	0.49		
ICC – Individual	0.12		
		Information criteria	
-2*log likelihood	612.82		
AIC	620.82		
BIC	646.51		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

12.5.2.1 Model 1. Adjusting for contextual factors associated with relocation.

Adjustment for contextual factors associated with the move indicated no effect of time in residence (Model 1a; LR ratio test statistic = 1.36, df = 4, p = .851), village development (Model 1b; LR ratio test statistic = 3.66, df = 4,, p = .455), perceptions of the home environment (Model 1c; LR ratio test statistic = 0.62, df = 2, p = .735), or perceived pressure to move (Model 1d; LR ratio test statistic = 4.64, df = 4, p = .326) on negative exchanges. Post hoc analyses further examining if change in exchanges between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in perceptions during the same period also confirmed there to be no effect on negative social exchanges within each time interval.

12.5.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated an association for age (b = -0.03, p = .029) and education (b = -0.08, p = .001) such that older adults and those with a greater level of education reported less negative social exchanges. No significant effects were indicated for marital status or gender. Inclusion of demographic information improved the model fit (LR ratio test statistic = 12.87, df = 6, p = .045) and were retained in future models.

12.5.2.3 Model 3. Adjusting for physical health.

The inclusion of baseline physical health (Model 3a) indicated no association with negative exchanges or improvement in model fit (LR ratio test statistic = 0.34, df = 1, p = .056). The addition of physical health by time interactions (Model 3b) also did not indicate any moderating effect on negative exchanges over time, or improvement in model fit (LR ratio test statistic = 3.00, df = 4, p = .558).

12.5.2.4 Model 4. Adjusting for personality characteristics.

The adjustment for personality characteristics improved model fit (LR ratio test statistic = 14.78, df = 5, p = .011) and indicated that higher agreeableness was associated with

fewer negative social exchanges at baseline (b = -0.14, p = .037). For every 1 SD greater agreeableness reported at baseline, negative social exchanges were .14 of a SD lower (Model 4a). The inclusion of personality by time interactions did not improve model fit (LR ratio test statistic = 19.20, df = 15, p = .205).

12.5.2.5 Model 5. Adjusting for social networks.

The inclusion of friend, family and neighbour social networks at baseline (Model 5a), indicated no associations with negative exchanges, or improvement in model fit (LR ratio test statistic = 0.35, df = 3, p = .950). Moreover, no effect was found for within-person change in friend and neighbour networks on negative exchanges (Model 5b). Post hoc analyses also indicated no effect for change in neighbour or friend networks on negative exchanges within the discrete time intervals.

12.5.2.6 The model of best fit.

Examination of the model fit statistics indicated Model 4a (Table 12.18), adjusted for baseline personality characteristics, as the best fitting model for the data. Although significant effects identified in this model must be interpreted with caution (effects only significant at $p < .05$), this model indicated that despite some fluctuation, overall negative social exchanges decreased over the 12-month transition period. An average decrease of .22 of a SD was reported at the 1-month assessment, and compared to reports at baseline; an average decrease of .19 of a SD is indicated at 12-months post relocation. In addition, a significant effect was indicated for age and education such that older adults and those with a greater level of education reported less negative social exchanges. For every year over 75 years of age, negative exchanges reduced by .03 of a SD, whereas for each year of education above 14 years, negative social exchanges reduced by .06. Finally, baseline agreeableness was found to be predictive of negative exchanges such that for every 1 SD greater agreeableness reported at baseline, negative social exchanges were .14 of a SD less.

Calculation of the ICC indicates that approximately 44% of the variance in negative exchanges is explained at the couple level, while only 5% of the variance was explained at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between couples has decreased by 628%, the variance between individuals has decreased by 67%, and the within-person (residual) variance has increased by 3% as a result of including the final set of predictors. Figure 12.16 depicts the change over the transition in negative social exchanges for the initial unadjusted model and model of best fit.

Examining this final model using a multi-level regression procedure to produce robust standard errors (as discussed in 7.6.3) with a random intercept for individuals only (reported in Appendix H.6) produced small effects on the results that maintain that the interpretation of analyses proceed with caution. Education and agreeableness were indicated as non-significant, whereas baseline neuroticism indicates a small borderline significant effect ($b = 0.16, p = .050$).

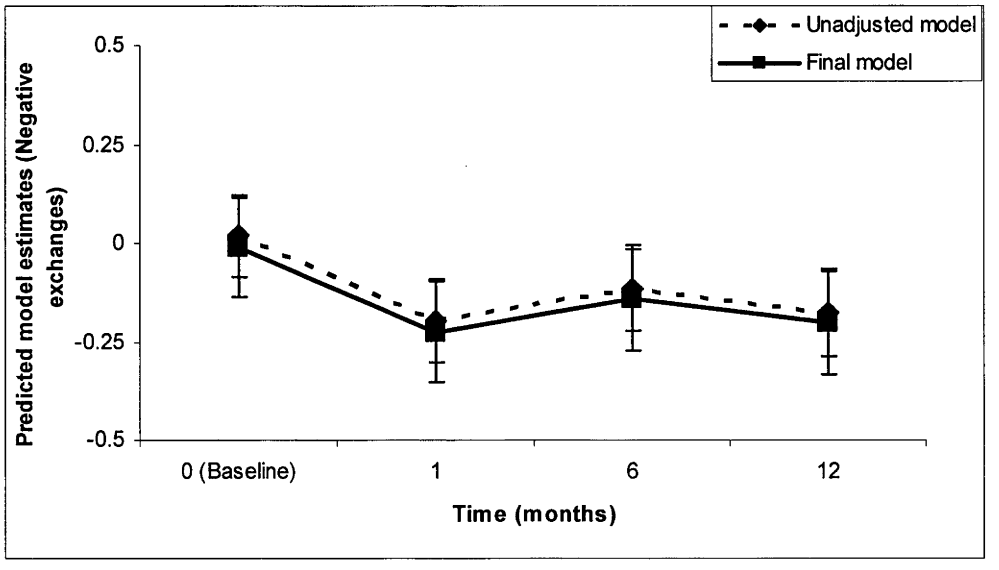

Figure 12.16. Change in negative social exchanges over the relocation transition

Note. The Final model in figure 12.16 depicts predicted negative exchanges for an individual who is married, male, of mean age and education level, and with mean levels of personality characteristics.

Table 12.18

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Negative Social Exchanges

		Model 4a	
Parameter	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	-0.01 (0.13)		
Time 1mth	-0.22 (0.09) *		
Time 6mth	-0.14 (0.09)	0.08 (0.09)	
Time 12mth	-0.19 (0.09) *	0.03 (0.09)	-0.06 (0.09)
Marital status[a]			
Separated/divorced	0.05 (0.33)		
Widowed	0.15 (0.20)		
Never Married	0.10 (0.31)		
Female	-0.05 (0.12)		
Age	-0.03 (0.01) *		
Education	-0.06 (0.02) **		
Personality characteristics			
Extraversion	0.004 (0.06)		
Agreeableness	-0.14 (0.07) *		
Conscientiousness	-0.003 (0.07)		
Neuroticism	0.10 (0.07)		
Openness	-0.13 (0.07)		
		Random parameters	
Between couple variance	0.26 (0.08)		
Between Individual variance	0.03 (0.04)		
Residual variance	0.30 (0.03)		
ICC – Couple	0.44		
ICC – Individual	0.05		
		Information criteria	
-2*log likelihood	579.17		
AIC	615.17		
BIC	681.23		

Note. Standard errors are in parentheses.

[a] reference category for marital status = married/de-facto

* p<.05, **p<.01, ***p<.001

12.6 The impact of relocation on social network indicators: Loneliness

12.6.1 Comparisons with the community sample: Perceived loneliness

The initial unadjusted model comparing perceived loneliness across the relocation and community samples (constructed with a random intercept for individuals only) supported the conclusion that there was no difference in perceived loneliness between the groups at baseline; and indicated there was no significant change over time across the groups, and no significant difference between the samples at the 12-month assessment, see Table 12.19. Controlling for age, marital status, retirement status, financial status, baseline physical activity and baseline constraints, due to the difference between the groups identified at baseline (Model 1b), indicated a significant effect of marital status, retirement status and perceived control on loneliness, and an improvement in model fit (LR ratio test statistic = 101.93, df = 8, p <.001). Persons identified as separated/divorced or widowed reported greater perceived loneliness at baseline in comparison to married persons. Retirees reported lower perceived loneliness than those still in the workforce. Greater constraints were associated with higher perceived loneliness. Figure 12.17 presents the adjusted model. Calculation of the ICC indicates that approximately 64% of the variance in loneliness is explained at the individual level.

Examining the final model using a multi-level regression procedure to produce robust standard errors (as discussed in 7.6.3) produced no substantial effect on the results (see Appendix H.7).

Table 12.19

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Perceived Loneliness over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	-0.0005 (0.04)	0.21 (0.18)
Time	0.05 (0.04	0.06 (0.04)
Relocation group	0.004 (0.12)	-0.03 (0.12)
Relocation group*Time	-0.16 (0.10)	-0.16 (0.10)
Age		-0.003 (0.01)
Marital status[a]		
Separated/divorced		0.50 (0.11) ***
Widowed		0.48 (0.12) ***
Never Married		0.12 (0.18)
Retired		-0.23 (0.09) **
Enough money to meet needs		-0.20 (0.17)
Physical activity		-0.03 (0.04)
Control – constraints (baseline)		0.26 (0.04) ***
	Random parameters	
Between Individual variance	0.69 (0.05)	0.56 (0.04)
Residual variance	0.31 (0.02)	0.31 (0.02)
ICC – Individual	0.69	0.64
	Information criteria	
-2*log likelihood	2868.79	2766.86
AIC	2880.79	2794.86
BIC	2910.92	2865.17

Note. Standard errors are in parentheses.

[a] reference category for marital status = married/de-facto

* p<.05, **p<.01, ***p<.001

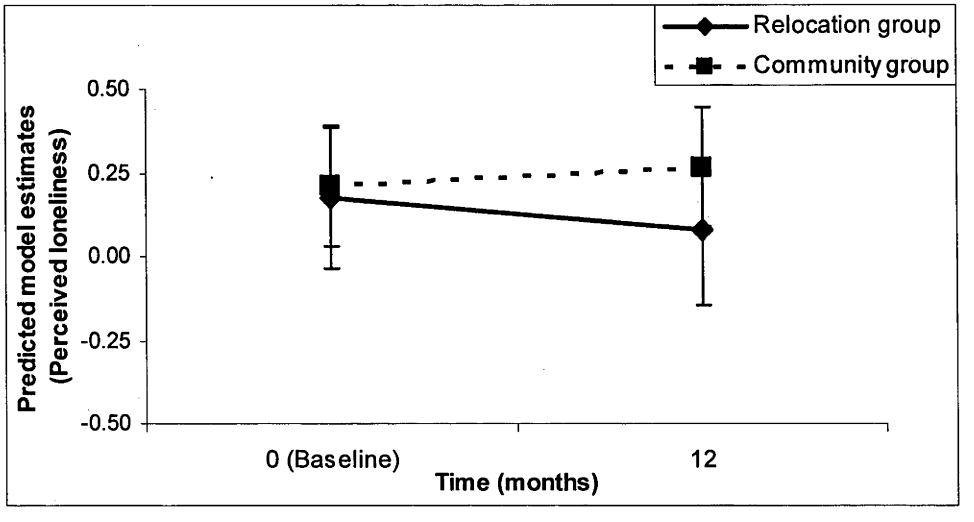

Figure 12.17. Change in loneliness by group

Note. Figure depicts predicted loneliness for the relocation and community groups, holding covariates constant at married, partially retired, reporting not enough money to meet needs, and at mean age, levels of physical activity and constraints.

12.6.2 Investigating change in reported loneliness as a function of relocation

Tables detailing each step of the modeling procedure investigating change in loneliness within the relocation group (constructed with a random intercept for individuals only) are included in Appendix H.7.

12.6.2.0 Model 0. The unadjusted effect of time.

Table 12.20 presents the results of the random coefficient model testing the unadjusted effect of time and supports that there was a significant decline in reported loneliness over the 12 month transition period (see Figure 12.18). While loneliness did not indicate significant decline at the initial 1-month post-relocation assessment, significant change was detected between the 1- and 6-month assessment and in comparison to baseline, loneliness had declined an average of .23 of a standard deviation (SD) 6-months post relocation. Loneliness was then observed to continue to decline with further significant change indicated from the 6- to 12-month assessment. At the 12-month assessment, loneliness had declined on average .30 of a SD in comparison to baseline levels. Calculation of the ICC indicates that approximately 53% of the variance in loneliness is as the individual level.

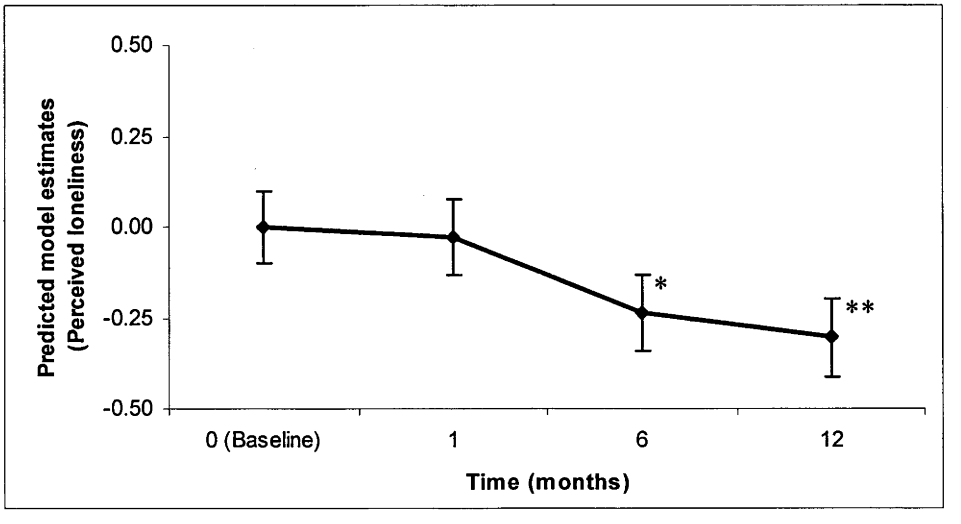

Figure 12.18. Unadjusted change in loneliness.

Table 12.20
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Perceived Loneliness

Parameter	Model 0 Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	9.94^{e-16} (0.10)		
Time 1mth	-0.03 (0.10)		
Time 6mth	-0.23 (0.10) *	-0.21 (0.10) *	
Time 12mth	-0.30 (0.10) **	-0.27 (0.11) **	-0.07 (0.11)
		Random parameters	
Between Individual variance	0.42 (0.09)		
Residual variance	0.38 (0.04)		
ICC – Individual	0.53		
		Information criteria	
-2*log likelihood	669.83		
AIC	681.83		
BIC	703.85		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

12.6.2.1 Model 1. Adjusting for contextual factors associated with relocation.

An investigation of the contextual effects surrounding relocation indicated no effect of time in residence (Model 1a; LR ratio test statistic = 1.74, df = 4, p = .783), village development (Model 1b; LR ratio test statistic = 6.40, df = 4, p = .171), or pressure to move (Model 1d; LR ratio test statistic = 1.38, df = 4, p = .849) on perceived loneliness. Moreover, no effect was indicated for change in perceptions of home on loneliness within each time interval. However, the inclusion of perceptions of the home environment (Model 1c) indicated that at baseline, more positive perceptions of the home environment were associated with lower levels of perceived loneliness (b = -0.19, p = .029). No effect was found for change in perceptions of home on loneliness over time. While the inclusion of both the between and within-person variables did not improve the model fit (LR ratio test statistic = 4.99, df = 2, p = .082), including baseline perceptions alone did (LR ratio test statistic = 4.99, df = 1, p = .026), and as such was retained in subsequent models.

12.6.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated that persons with higher education reported to be less lonely (b = -0.07, p = .007). For every 1 year of education over the average of 14 years, reported loneliness at baseline was .07 of a SD lower. No associations were indicated for age, gender, or years of education. The inclusion of demographic information did not improve the model fit (LR ratio test statistic = 10.29, df = 6, p = .113); however, as past research has established socioeconomic status, reflected in levels of education, as having implications for social networks and perceived loneliness (Antonucci, 2001; Broese van Groenou & van Tilburg, 2003; Shaw et al., 2007; Stevens & Van Tilburg, 2011), and a model containing only education did improve model fit (LR ratio test statistic = 7.01, df = 1, p = .008), education was included in subsequent models.

12.6.2.3 Model 3. Adjusting for physical health.

Inclusion of baseline physical health (Model 3a; LR ratio test statistic = 0.04, df = 1, p = .841) and physical health by time interactions (Model 3b; LR ratio test statistic = 0.42, df = 4, p = .981) indicated no association with perceived loneliness or improvement in model fit.

12.6.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of baseline personality characteristics (Model 4a) improved the model fit (LR ratio test statistic = 22.60, df = 5, p <.001) and indicated higher extraversion was associated with lower perceived loneliness (b = -0.24, p < .001). For every 1 SD greater extraversion at baseline, reported loneliness was .24 of a SD lower. Moreover, the inclusion of personality by time interactions (Model 4b) indicated a moderating effect of agreeableness (Baseline – 1-month: b = 0.22, p = .038) and conscientiousness (Baseline – 1-month: b = -0.28, p = .008), and further improved the model fit (LR ratio test statistic = 25.32, df = 15, p = .046). Persons higher in agreeableness reported an

increase in loneliness from the baseline to 1-month assessment; whereas persons lower in agreeableness reported a decrease in loneliness during this period (see Figure 12.19). In contrast, persons high in conscientiousness (representing 1 SD above the mean) reported a decrease in loneliness from the baseline to 1-month assessment; whereas persons low in conscientiousness (representing 1 SD below the mean) reported an increase in loneliness during this period (see Figure 12.20).

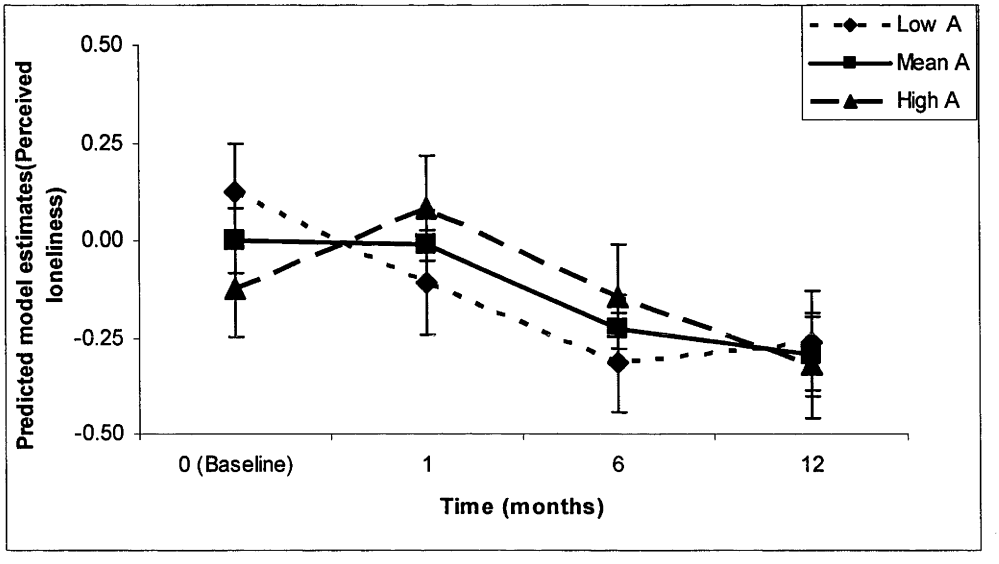

Figure 12.19. Agreeableness by time interaction.

Note. Model adjusted for baseline personality characteristics, perceptions of home and education.

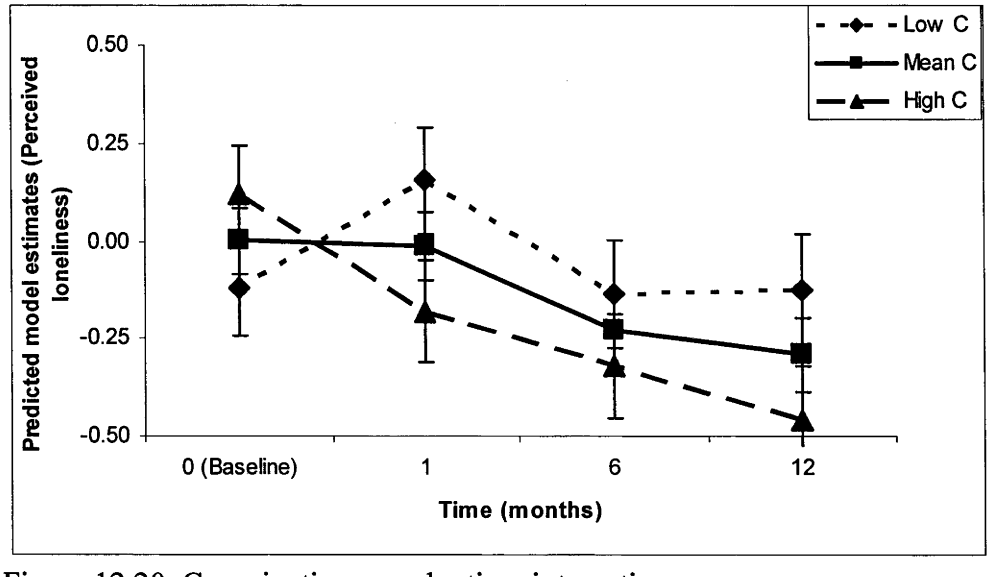

Figure 12.20. Conscientiousness by time interaction.

Note. Model adjusted for baseline personality characteristics, perceptions of home and education.

12.6.2.5 Model 5. Adjusting for social networks.

Adjustment for friend, family and neighbour social networks at baseline (Model 5a), did not indicate any effect of social networks on loneliness, or improve the fit of the model (LR ratio test statistic = 3.85, df = 3, p = .278). Moreover, Model 5b did not indicate any overall effect of within-person change in friend and neighbour networks on loneliness. However, post hoc analyses investigating if change in loneliness between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in networks during the same period, indicated that a 1 SD increase in friend networks from baseline to the 1-month assessment was associated with a .21 SD decline in loneliness. No effect was found for change in neighbour networks on loneliness within each time interval.

12.6.2.6 The model of best fit.

Examination of the model fit statistics indicated Model 4b (Table 12.21), adjusted for personality characteristics as the best fitting model for the data. This model indicated that although loneliness did not indicate significant decline at the initial 1-month post-relocation assessment, significant change was detected from the 1- to 6-month assessment and, in comparison to baseline, loneliness had declined an average of .23 of a SD 6-months post relocation. Loneliness was then observed to continue to decline with further significant change indicated from the 6- to 12-month assessment. By the 12-month assessment, loneliness had declined on average .29 of a SD in comparison to baseline levels.

In addition, a small association (although only significant at $p < .05$) was indicated with education such that for every 1 year of education over the average of 14 years, reported loneliness at baseline was .06 of a SD lower.

Finally, associations were found with personality characteristics assessed at baseline. Lower extraversion and higher neuroticism were associated with greater

loneliness at baseline. Moreover, the inclusion of personality by time interactions indicated a moderating effect for agreeableness and conscientiousness. Persons high in agreeableness or low in conscientiousness reported increases in loneliness from the baseline to 1-month assessment; whereas persons low in agreeableness or high in conscientiousness reported decreases in loneliness during this period (see Figures 12.19, 12.20). Calculation of the ICC indicates that approximately 43% of the variance in loneliness was explained at the individual level. This represents a drop of 40%, accounted for by the final set of predictors. Figure 12.21 depicts the change over the transition in perceived loneliness for the initial unadjusted model and model of best fit.

Examining this final model using a multi-level regression procedure to produce robust standard errors (as discussed in 7.6.3) with a random intercept for individuals only, produced similar effects on the results that maintain that the interpretation of analyses proceed with caution. In this subsequent analysis the decline in loneliness from 6- to 12-months is indicated as significant (b = -0.28, p = .007). The conscientiousness by time interaction is indicated as non-significant.

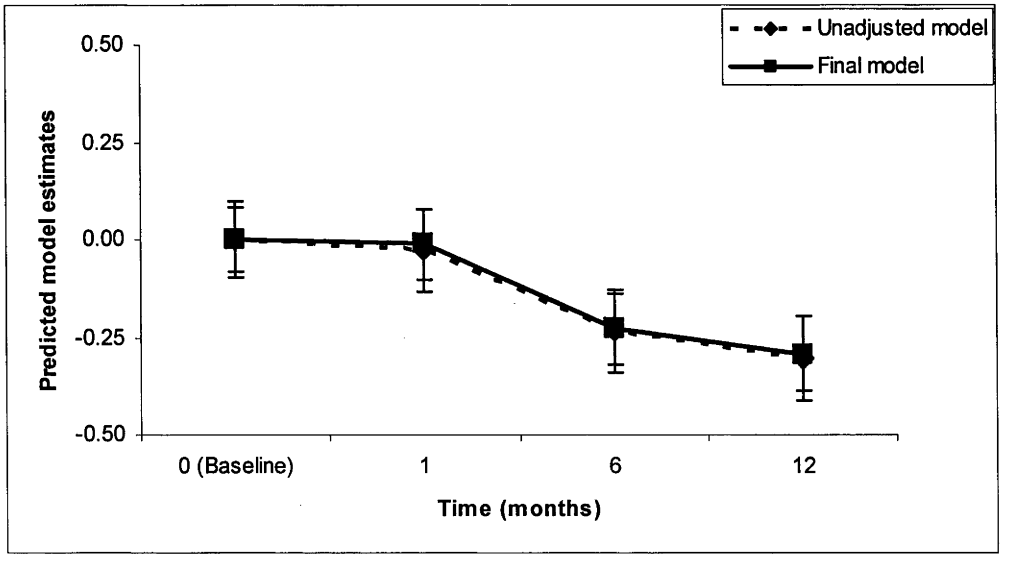

Figure 12.21. Change in perceived loneliness over the relocation transition

Note. The Final model in figure 12.21 depicts predicted perceived loneliness at the mean level of education, personality characteristics and perceptions of the home environment.

Table 12.21
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Perceived Loneliness

Parameter	Model 5b Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	1.11^{e-15} (0.08)		
Time 1mth	-0.01 (0.09)		
Time 6mth	-0.23 (0.10) *	-0.22 (0.10) *	
Time 12mth	-0.29 (0.10) **	-0.28 (0.10) **	-0.06 (0.10)
Perceptions of home (baseline)	-0.10 (0.07)		
Education	-0.06 (0.02) *		
Personality characteristics			
Extraversion	-0.34 (0.09) ***		
Agreeableness	-0.13 (0.09)		
Conscientiousness	0.11 (0.09)		
Neuroticism	0.21 (0.10) *		
Openness	-0.09 (0.09)		
Extraversion * Time	0.03 (0.10)	0.13 (0.10)	0.04 (0.10)
Agreeableness * Time	0.22 (0.10) *	-0.01 (0.11)	-0.11 (0.11)
Conscientiousness * Time	-0.28 (0.11) **	0.07 (0.11)	-0.07 (0.12)
Neuroticism * Time	-0.02 (0.11)	-0.09 (0.11)	-0.05 (0.11)
Openness * Time	-0.03 (0.10)	0.08 (0.10)	-0.04 (0.10)
		Random parameters	
Between Individual variance	0.25(0.06)		
Residual variance	0.33 (0.03)		
ICC - Individual	0.43		
		Information criteria	
-2*log likelihood	609.91		
AIC	665.91		
BIC	768.67		

Note. Standard errors are in parentheses. Effects for personality characteristic * time interactions reported as effects of baseline characteristic on changes in loneliness between Base(ref)-6mths, 1(ref)-6mths, 6(ref)-12mths.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

12.7 Chapter Summary

To investigate the adaptation of older adults following relocation to the retirement village in respect to their social networks, comparisons were first made between changes reported in the relocation and community samples over the 12-month period. Results of the analyses indicated that consistent with key advantages promoted as

characteristic of retirement village living (i.e., companionship; (Gardner et al., 2005; Graham & Tuffin, 2004), relocation had the greatest impact on neighbour networks. Persons in the relocation sample experienced a significant increase in neighbour networks during the 12-month period following relocation. Specifically neighbour networks were identified as having increased significantly 6-months post relocation, and maintained the increase at the 12-month assessment. Consistent with this, perceived loneliness was observed to have significantly declined from baseline to the 6- and 12-month assessment. However, the community sample also demonstrated a decline during the follow-up period resulting in little difference being observed between the groups at 12-months and obscuring the role of relocation to the village in reducing loneliness.

In contrast, change in friend support networks indicated a decline over the 12-month period; however, this trend became non-significant upon controlling for time in original residence. As many of the study participants had resided in their home for a substantial amount of time (averaging approximately 21 years) and friend and neighbour networks are likely to overlap, this effect is not surprising. In addition, positive and negative social exchanges both declined over the 12-months post-relocation, a possible function of the new environment and the increase in social interactions with new acquaintances which may lack the familiarity to be characterised as positive or negative. There was no change observed in family support networks over time.

The changes observed over time were largely confined to the relocation group. The relocation participants reported greater neighbour networks, poorer friend networks and fewer positive exchanges 12-months post relocation compared to the community sample. No significant differences were observed between the relocating and

community dwelling older adults in family networks or negative social exchanges 12-months post relocation.

The present study found contextual factors surrounding the move, and changes in perceptions of the home, played little part in changes to social networks and exchanges with others following relocation. Supporting the role of social connection in perceptions of the home environment, an overall change (increase) in perceptions of home over the adjustment period was associated with an increase in neighbour networks. However, change in perceptions of the home environment was not associated with any overall change in positive or negative social exchanges, friend or family social networks, or perceived loneliness. Similarly, adjustment for the stage of village development at which residents relocated revealed little effect on changes to social networks. The only significant effect was for positive exchanges such that following a trend of persons moving later in the development and occupancy of the village experiencing a greater degree of positive exchanges in comparison to the villages' first residents, a greater decline was then observed between the 1- and 6-month assessments. Perceived pressure to move was not significantly associated with any of the social network outcomes.

The investigation of whether changes in social network outcomes varied as a function of physical health indicated no significant effects. The investigation of personality characteristics as moderators of change and indicators of individual difference in social networks following relocation produced mixed results. Change in friend, family and neighbour social networks, and positive and negative exchanges, were not moderated by personality characteristics. However, agreeableness and conscientiousness were found to moderate changes in perceived loneliness over time. Persons high in agreeableness reported increases in loneliness from the baseline to 1-month post relocation, whereas persons low in agreeableness reported decreases in loneliness during this initial transition period.

Finally, the investigation of change in positive and negative social exchanges also examined their association with change in friend and neighbour social networks. Supporting the idea that the increase in social interactions with new acquaintances may lack the familiarity to be characterised as positive or negative, the observed change in friend and neighbour social networks were not associated with changes in positive and negative social exchanges. However, analyses indicated that change (increase) in friend networks between the baseline and 1-month assessment was associated with a decrease in loneliness during this period.

Table 12.22 provides a summary of the main findings relating to the impact of relocation on social network indicators. Overall relocation had a somewhat localised impact on social networks, the most significant effect being an increase in neighbour networks. Neighbour networks were also associated with a change in perceptions of the home environment. Positive exchanges over time were moderated by perceived pressure to move and associated with the development of the village at the time of relocation. Perceived loneliness was moderated by personality characteristics and associated with changes in friend networks. Friend and family networks, along with negative social exchanges reported little change over time and were largely un-influenced by the covariates examined. Investigation will now turn to the impact of relocation on perceived SWB.

Table 12.22

Summary of Results for the Investigation of the Impact of Relocation on Social Networks

Evidence of:	Neighbour networks	Friend networks	Family networks	Positive exchanges	Negative exchanges	Loneliness
Change over time for the relocation group	✓			✓	✓	✓
Group difference at 12-months	✓	✓		✓		
Change associated with:						
Change in perceptions of home	✓					
Time in previous residence						
Stage of village development at time of move						
Change in social networks – friends						✓ [a]
Change in social networks - neighbours						
Change in social exchanges – positive						
Change in social exchanges – negative						
Change moderated by:						
Pressure to move				✓		
Physical health						
Personality						✓

Note. [a] change between baseline and 1-month only.

Chapter 13. The impact of relocation on indicators of subjective well-being

13.0 Chapter overview

To date there has been a paucity of research investigating the experience and adaptation of older adults following relocation in respect to the domains of subjective well-being. One of the aims of the present study was to attempt to address this gap in the literature. Following the investigation of social networks (chapter 12), the impact of relocation on positive affect, negative affect, life satisfaction was explored. This chapter reports the investigation of research question 5: *Are changes in subjective well-being (SWB; positive affect, negative affect, or satisfaction with life) experienced as a function of relocating to the retirement village?* Random coefficient analyses were used to examine changes in SWB over time. Change within the relocation sample was investigated across four time points (pre-move, 1-, 6- and 12-months); in addition, comparisons were made between change reported in the relocation and community samples over the 12-month period. For each outcome variable a series of models were fitted using an information-theoretic approach whereby blocks of predictor variables were entered sequentially. Each model was compared with the previous model (using model fit indicies - Likelihood-ratio and AIC criteria) to determine if the new parameter/s improved the fit of the model (see section 7.6.3). If model fit was improved (using a $p <$ .05 significance threshold for Likelihood ratio test, model reported a lower AIC) the predictors were retained in the subsequent model. In obtaining the final model, analyses investigated if change in SWB was:

i) associated with changes in perceptions of the home environment;

ii) a function of the pressure felt to relocate, the amount of time one had resided in the current home, or the stage of village completion at the time of move;

iii) moderated by physical health (i.e., do changes in SWB over the relocation transition vary as a function of physical health?);

iv) moderated by personality characteristics (i.e., do changes in SWB over the relocation transition vary as a function of personality characteristics?);

v) associated with change in levels of perceived control;

vi) moderated by social support networks or associated with change in social networks and exchanges.

The results suggest relocation had little impact on SWB. Analyses indicate there to be no significant change in life satisfaction or negative affect over the period following relocation and only a small transitory fluctuation in positive affect in the short-term following relocation. No significant differences were identified between the relocating and community dwelling older adults in SWB 12-months post relocation. Change in positive affect was moderated by baseline physical health and associated with changes in perceived constraints, friend networks and positive social exchanges. Negative affect was moderated by personality characteristics and associated with change in constraints, friend networks and negative social exchanges. Satisfaction with life was moderated by physical health and personality characteristics, and associated with change in constraints, friend networks and perceptions of the home environment. The research strategy supporting the stepwise modeling of covariates in the investigation of the impact of relocation on SWB is outlined below.

13.0.1 Overall analysis strategy

The series of models tested in the analysis are summarized in Table 13.1. When drawing comparisons between the community and relocation samples over time an unadjusted model (Model 1a) was tested first. A second model (Model 1b) then adjusted for those variables upon which the groups were identified to differ at baseline (i.e., age,

marital status, retirement status, financial status, baseline physical activity and baseline constraints).

Table 13.1.
Summary of Variables Included at each Step of the Analysis

	Variable/s added for analysis:
Comparisons with the community sample	
Model 1a	Unadjusted
Model 1b	age, marital status, retirement status, financial status, physical activity (baseline), constraints (baseline)
Investigating change in SWB as a function of relocation	
Model 0	Unadjusted
Model 1	a) time in residence; b) village development; c) perceptions of home (baseline), perceptions of home (within-person change); d) pressure to move, pressure to move x Time
Model 2	Demographics
Model 3	a) physical health (baseline); b) physical health x Time
Model 4	a) personality characteristics; b) personality x Time
Model 5	a) control (baseline); b) control (within-person change)
Model 6	a) social networks (baseline); b) social networks x Time c) social networks (within-person change)
Model 7	a) social exchanges (baseline); b) social exchanges (within-person change)

The following strategy was employed to investigate change in SWB as a function of relocation (using the relocation sample only). As contextual factors may be especially significant in short-term adaptation to a life change such as relocation, the first set of analyses investigating the relocation experience in depth addressed characteristics of the home and relocation experience. The amount of time an individual has lived in a residence may have implications for their embeddedness in the neighbourhood, attachment to the home, the impact of relocation, and adjustment to a new residence. Therefore, Model 1a included the time (in years) an individual resided in their home prior to relocation, and an interaction of this measurement and time to identify any moderating effects on changes in SWB. As the retirement village was not completed at

the time the first residents moved in, reasoning that initial resident to the village may have very different experiences than those relocating to an established village environment, Model 1b explored change over time adjusting for time (in weeks) of relocation in respect to the opening of the village to the first group of residents, and investigated the moderating effect of time of move, in relation to village development, on change over time. As perceptions of home were found to change over the course of relocation, and the home environment plays a primary role in older adults well-being, Model 1c introduced baseline and within-person change in perceptions of the home to determine any impact of the changes coinciding with relocation on SWB. Finally, Model 1d examined the impact of perceived pressure to move as an important contextual factor potential moderating the impact of relocation on well-being.

Investigation then turned to individual characteristics impacting SWB. Model 2 examined the extent to which relocation is likely to vary as a function of demographic characteristics (age, gender, marital status, years of education). While poor health, a common motive cited for relocation in past research, was not found to be a distinctive characteristic of the relocation sample in the present study (chapter 8), it has an important although complex reciprocal relationship with SWB (e.g., Meeks & Murrell, 2001) and therefore may play a role in influencing the way in which the transition is experienced. In Model 3 the analysis introduced baseline physical health, and examined the interaction between time and physical health to investigate the moderating effect of health status prior to relocation on change over time.

While little is known of the impact on relocation, research on adaption to other life events indicates the potential involvement of personality characteristics in the adaptation process (Bardi & Ryff, 2007; Koenig & Cunningham, 2001a). To explore this further in the context of relocation in later life, step 4 in the analysis (Models 4a and 4b) incorporated an assessment of personality characteristics (extraversion,

agreeableness, conscientiousness, neuroticism, openness) at baseline, and examined interactions between time and personality characteristics to identify any moderating effects on change.

Positive control beliefs have been established as yet another important contributor to positive and adaptive outcomes when faced with significant life events (Lachman & Weaver, 1998a; Skinner, 1996). As maintaining control and independence in later life can be strongly associated with the home environment (Butler et al., 1998) and as such have important significance in examining the impact of relocation to a retirement village, Models 5a and 5b adjusted for perceived control (constraints and mastery) at baseline, and examined the impact of within-person change in control over time.

Finally, past research highlights that social supports can play an important role in well-being through helping to buffer negative or stressful events and facilitate adjustment (Cohen & Wills, 1985; Pinquart & Sorensen, 2000). Therefore, change in SWB was also modelled adjusting for family, friend and neighbour social networks, and positive and negative social exchanges, prior to relocation (at baseline), and analyses explored the potential for social supports moderating SWB outcomes. In addition, as social network indicators can be significantly impacted by relocation to a retirement village (evidenced in chapter 12), the impact of within-person change in friend and neighbour network domains and social exchanges over time was also examined.

Results of the analyses for the impact of relocation on SWB are organised such that comparisons are first made between the relocation and community sample over the 12 months. This is then followed by the more detailed examination of change over time within the relocation group for each indicator of well-being. For further detail on statistical methods employed and construction of models see chapter 7. Tables reporting the full effects at each step (Models 1-7) are presented in Appendix H.

13.1 The impact of relocation on indicators of subjective well-being: Positive affect

13.1.1 Comparisons with the community sample: Positive affect

An unadjusted model (including nesting of individuals within couples) indicated that the groups did not differ significantly at baseline and identified no difference in positive affect (PA) between the community and relocation group at baseline or the 12-month assessment, with no significant change found over time (Model 1a, in Table 13.2). Controlling for age, marital status, retirement status, financial status, baseline physical activity and baseline constraints, due to the difference between the groups identified at baseline, indicated a significant effect of retirement status, physical activity and perceived control, and an improvement in model fit (Model 1b; LR ratio test statistic = 65.12, df = 8, $p < .001$). Retirees and persons reporting greater perceived constraints at baseline, reported lower PA; higher levels of physical activity at baseline was associated with greater PA (see Table 13.2). This model maintained that there was no significant change in PA over time for either group, see figure 13.1.

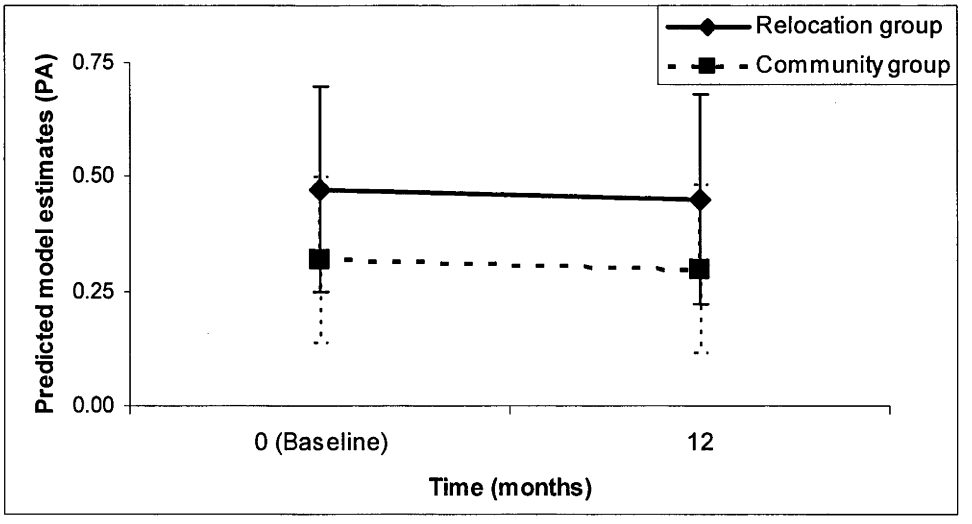

Figure 13.1. Change in positive affect by group

Note. Figure depicts predicted positive affect for the relocation and community groups holding covariates constant at married , partially retired, reporting not enough money to meet needs, and at mean age, levels of physical activity and constraints.

Table 13.2
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Positive Affect over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	0.02 (0.04)	0.32 (0.18)
Time	-0.02 (0.04)	-0.02 (0.04)
Relocation group	-0.15 (0.13)	0.16 (0.13)
Relocation group*Time	0.01 (0.11)	0.0003 (0.11)
Age		-0.004 (0.01)
Marital status[a]		
Separated/divorced		-0.11 (0.11)
Widowed		-0.02 (0.13)
Never Married		0.02 (0.18)
Retired		-0.23 (0.09) **
Enough money to meet needs		-0.19 (0.18)
Physical activity		0.14 (0.04) ***
Control – constraints (baseline)		-0.19 (0.04) ***
	Random parameters	
Between couple variance	0.53 (0.10)	0.38 (0.10)
Between Individual variance	0.14 (0.09)	0.20 (0.10)
Residual variance	0.33 (0.02)	0.33 (0.02)
ICC – Couple	0.53	0.42
ICC – Individual	0.14	0.22
	Information criteria	
-2*log likelihood	2884.41	2819.30
AIC	2898.41	2849.30
BIC	2933.57	2924.63

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

13.1.2 Investigating change in positive affect as a function of relocation

A complete set of tables detailing each step of the modeling procedure to examine change in PA within the relocation group (nesting individuals within couples) are included in Appendix H.8.

13.1.2.0 Model 0. The unadjusted effect of time.

Positive affect significantly increased (.28 of a standard deviation (SD)) from baseline to the 1-month post relocation assessment, and then showed a comparable decline from the 1- to 12-month assessments, see Figure 13.2. Table 13.3 presents the results of the

random coefficient model testing the unadjusted effect of time. Calculation of the ICC indicates that approximately 46% of the variance in PA is at the couple level while 12% of the variance is at the individual level.

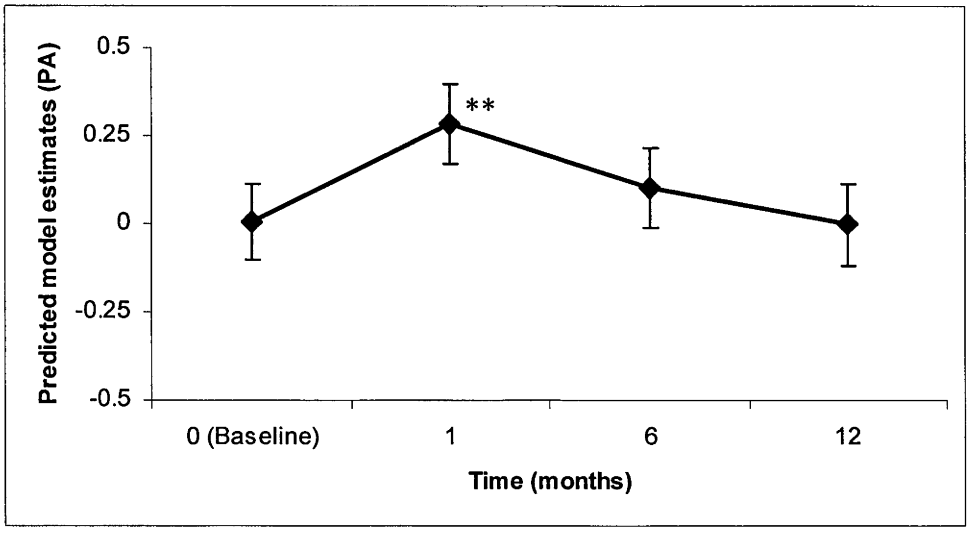

Figure 13.2. Unadjusted change in positive affect.

Note. ** p<.01 denotes a significant change from baseline

Table 13.3
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Positive Affect

Parameter	Model 0 Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	0.004 (0.11)		
Time 1mth	0.28 (0.10) **		
Time 6mth	0.10 (0.10)	-0.18 (0.10)	
Time 12mth	-0.005 (0.10)	-0.29 (0.10) **	-0.10 (0.10)
		Random parameters	
Between Couple variance	0.39 (0.12)		
Between Individual variance	0.10 (0.07)		
Residual variance	0.35 (0.03)		
ICC – Couple	0.46		
ICC – Individual	0.12		
		Information criteria	
-2*log likelihood	647.93		
AIC	661.93		
BIC	687.62		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

13.1.2.1 Model 1. Adjusting for contextual factors associated with relocation.

The modeling for contextual factors associated with the move indicated no effect of time in residence (Model 1a; LR ratio test statistic = 4.91, df = 4, p = .297) or village development (Model 1b; LR ratio test statistic = 1.58, df = 4, p = .812) on PA. Baseline perceptions of home were associated with greater PA (b = 0.20, p = .016), and improved the model fit (LR ratio test statistic = 4.02, df = 1, p = .045). Post hoc analyses were conducted to further investigate if change in perceptions between baseline and 1-month, 1- and 6-months or 6- to 12-months were associated with change in PA during the same period. The results indicated there to be no effect for change in perceptions of home on PA within each time interval. Finally, the inclusion of both perceived pressure to move at baseline and pressure by time interactions did not improved the model fit (Model 1d; LR ratio test statistic = 5.24, df = 4, p = .263), and as such pressure to move was not included in subsequent models.

13.1.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated no associations with PA or improvement in model fit (LR ratio test statistic = 4.18, df = 6, p = .652).

13.1.2.3 Model 3. Adjusting for physical health.

The modeling of baseline physical health indicated no association with PA (Model 3a; LR ratio test statistic = 2.98, df = 1, p = .085); however, the inclusion of a physical health by time interaction (Model 3b) improved the model fit (LR ratio test statistic = 13.78, df = 4, p = .008) and indicated greater physical health at baseline was associated with higher PA (b = 0.31, p = .001), and a moderating effect of physical health on PA (Baseline - 1-month: b = -0.23, p = .013). Individuals with greater physical health at baseline indicated higher PA and thus less change from the baseline to 1-month assessment compared to those with poorer physical health (see Figure 12.3).

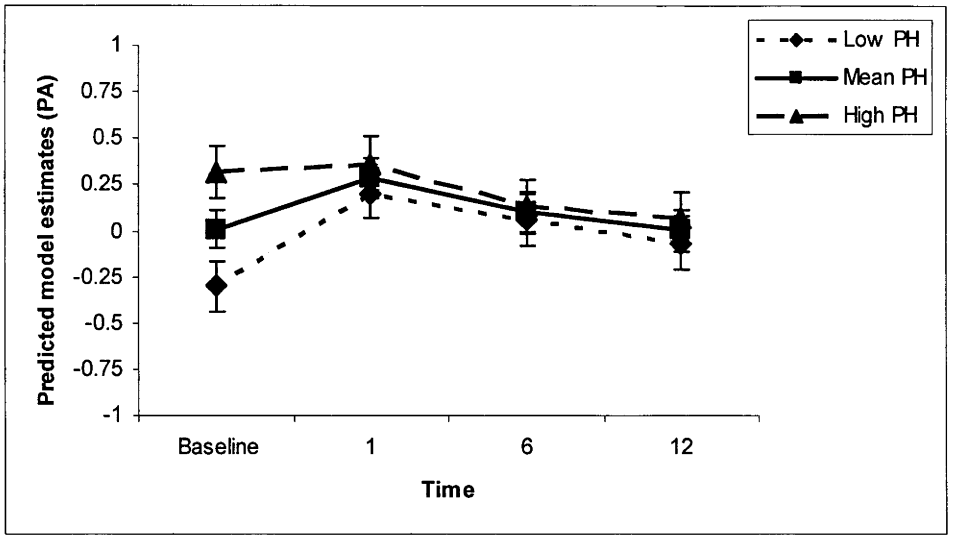

Figure 12.3. Physical health by time interaction

Note. Model adjusted for baseline perceptions of home and physical health.

13.1.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of baseline personality characteristics (Model 4a) improved model fit (LR ratio test statistic = 10.91, df = 5, p = .053, borderline). Specifically, agreeableness was associated with greater PA at baseline (b = 0.18, p = .019). Personality by time interactions were not significant, and did not improve model fit (LR ratio test statistic = 19.98, df = 15, p = .173).

13.1.2.5 Model 5. Adjusting for perceived control.

Adjustment for perceived control (constraint, mastery) at baseline, Model 5a failed to find any effect of baseline mastery or constraint on PA, or improve the fit of the model (LR ratio test statistic = 1.23, df = 2, p = .540). However, the inclusion of within-person change in control variables (Model 5b) improved model fit (LR ratio test statistic = 13.29, df = 4, p = .010), and indicated that overall change in perceived constraints was associated with PA over time (b = -0.20, p = .001).

Further examining the association between change in perceived control and change in PA a series of post hoc analyses were conducted to examine if change in positive PA between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in control during the same period. The results are presented in Table 13.4 and

indicate that an increase in constraints (decreased control) was associated with a decline in PA between the 6- and 12-month assessment.

Table 13.4
Estimates for Change in Positive Affect by Change in Control, by Time Interval

Parameter	Time ref baseline	Time ref 1mths	Time ref 6mths
		Fixed effects	
Intercept	-0.002 (0.10)	0.14 (0.09)	0.10 (0.10)
Change in constraints	-0.12 (0.09)	-0.06 (0.05)	-0.11 (0.05) *
Change in mastery	-0.08 (0.09)	-0.06 (0.05)	-0.02 (0.05)
		Random parameters	
Between couple variance	0.23 (0.16)	0.13 (0.09)	0.26 (0.11)
Between Individual variance	0.13 (0.12)	0.12 (0.09)	0.06 (0.08
Residual variance	0.35 (0.06)	0.27 (0.05)	0.24 (0.04)
ICC - Couple	0.32	0.25	0.46
ICC - Individual	0.18	0.23	0.11

Note. Standard errors are in parentheses. Models include the fixed effect for time and adjust for baseline perceptions of the home environment, physical health, personality characteristics and control, and interactions of physical health by time.
* p<.05, **p<.01, ***p<.001

13.1.2.6 Models 6-7. Adjusting for social networks.

The inclusion of friend, family and neighbour social networks at baseline (Model 6a), improved the model fit (LR ratio test statistic = 22.36, df = 3, p <.001), and indicated a positive association of baseline friend networks with PA (b = 0.23, p = .002). However, baseline social networks did not moderate PA over time (Model 6b; LR ratio test statistic = 15.96, df = 9, p = .068). Moreover, overall within-person change in friend and neighbour networks was not found to be associated with PA (Model 6c). Post hoc analyses also indicated that there was no effect for change in neighbour or friend networks on PA within each time interval.

The inclusion of baseline positive and negative social exchanges (Model 7a) did not improve model fit (LR ratio test statistic = 4.53, df = 2, p = .104). Within-person change in positive exchanges was also associated with PA (Model 7b; b = 0.11, p =

.040), and was borderline in the test of improved model fit (LR ratio test statistic = 9.19, df = 4, p = .057).

Results of post hoc analyses conducted to examine if change in PA between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in social exchanges during the same period are presented in Table 13.5 and indicate an effect for change in negative social exchanges on PA between the baseline and 1-month assessment. While overall increase in positive exchanges was associated with an increase in PA, an increase in negative exchanges during the baseline to 1-month period was associated with a decrease in PA during the same period.

Table 13.5
Estimates for Change in Positive Affect by Change in Social Exchanges, by Time Interval

Parameter	Time ref baseline	Time ref 1mths	Time ref 6mths
		Fixed effects	
Intercept	-0.001 (0.08)	0.12 (0.09)	0.07 (0.09)
Change in positive exchanges	0.11 (0.09)	0.09 (0.05)	0.04 (0.05)
Change in negative exchanges	-0.19 (0.09) *	-0.01 (0.05)	0.03 (0.05)
		Random parameters	
Between couple variance	0.08 (0.09)	0.13 (0.09)	0.23 (0.08)
Between Individual variance	0.08 (0.09)	0.06 (0.07)	2.92^{e-07} (1.04^{e-04})
Residual variance	0.35 (0.06)	0.26 (0.04)	0.24 (0.04)
ICC - Couple	0.16	0.29	0.49
ICC - Individual	0.16	0.13	0.00

Note. Standard errors are in parentheses. Models include the fixed effect for time, baseline perceptions of home, physical heath, personality characteristics, social networks, and social exchanges, the interaction of physical health with time, and within-person change in friend networks
* p<.05, **p<.01, ***p<.001

13.1.2.7 The model of best fit.

Examination of the model fit statistics indicated Model 7b (Table 13.6), adjusted for physical perceptions of the home environment, health, personality, perceived control and social network characteristics as the best fitting model for the data. This model indicated a significant increase in PA averaging .28 of a SD from baseline to the 1-

month post relocation assessment, followed by a decline from the 1- to 12-month assessments, averaging .29 of a SD.

A significant effect was indicated for physical health at baseline such that for every 1 SD better physical health, PA was .26 of a SD higher. Moreover, evidence was provided for physical health as a moderator of the change in PA over time such that individuals with greater physical health at baseline indicated higher PA and thus less change from the baseline to 1-month assessment compared to those with poorer physical health.

Although the interpretation requires caution ($p < .05$), perceived control was indicated as impacting PA. For every 1 SD greater constraint felt at baseline, PA was .20 of a SD lower. Moreover, change in perceived constraint was associated with PA over time such that an average 1 SD increase in constraints over time was associated with an average decline in PA of .16 of a SD across the follow-up period.

Finally, social network characteristics were found to be associated with PA over time. A strong significant effect was identified for friend networks, for every 1 SD greater friend networks reported at baseline, PA was .24 of a SD higher. In addition, negative social exchanges at baseline and changes in positive exchanges were indicated to have an impact on PA. For every 1 standard SD greater negative exchanges reported at baseline, PA was .17 of a SD lower. Moreover, an average 1 SD increase in positive social exchanges over time was associated with an average increase in PA of .11 of a SD across the follow-up period. Figure 13.4 depicts the change over the transition in PA for the initial unadjusted model and model of best fit.

Calculation of the ICC indicates that approximately 27% of the variance in PA is now indicated at the couple level while 12% of the variance is at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between couples has decreased by 64%, the variance between individuals has dropped

by 40%, and the within-person (residual) variance has decreased by 11% as a result of including the final set of predictors.

Table 13.6
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Positive Affect

		Model 7b	
Parameter	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	-0.003 (0.08)		
Time 1mth	0.28 (0.09) **		
Time 6mth	0.10 (0.09)	-0.19 (0.09) *	
Time 12mth	-0.01 (0.09)	-0.29 (0.10) **	-0.10 (0.10)
Physical health	0.26 (0.08) **		
Physical health * Time	-0.20 (0.09) *	-0.02 (0.09)	0.02 (0.09)
Perceived control			
Constraint (baseline)	-0.20 (0.07) *		
Mastery (baseline)	0.13 (0.07)		
Constraint (within-person change)	-0.16 (0.06) *		
Mastery (within-person change)	0.05 (0.06)		
Social network characteristics			
Family (baseline)	0.11 (0.07)		
Friend (baseline)	0.24 (0.08) ***		
Neighbour (baseline)	0.11 (0.08)		
Positive exchanges (baseline)	0.02 (0.07)		
Negative exchanges (baseline)	-0.17 (0.08) *		
Positive exchanges (within-person)	0.11 (0.05) *		
Negative exchanges (within-person)	-0.07 (0.06)		
		Random parameters	
Between couple variance	0.14 (0.08)		
Between Individual variance	0.06 (0.06)		
Residual variance	0.31 (0.03)		
ICC – Couple	0.27		
ICC – Individual	0.12		
		Information criteria	
-2*log likelihood	574.38		
AIC	630.38		
BIC	733.14		

Note. Standard errors are in parentheses. Model 7b is also adjusted for perceptions of home and personality characteristics at baseline
* p<.05, **p<.01, ***p<.001

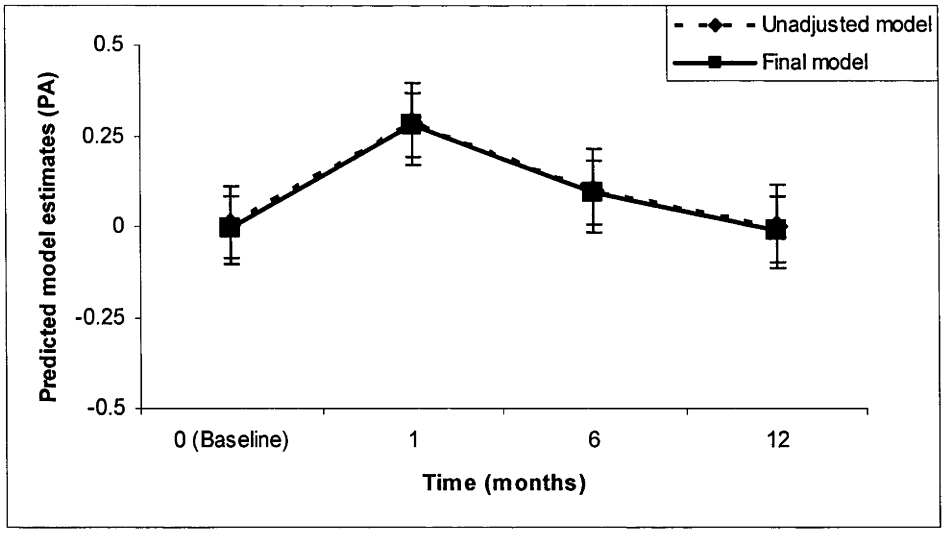

Figure 13.4. Change in positive affect over the relocation transition

Note. The final model in figure 13.4 depicts predicted positive affect at mean physical health, perceived control, social networks and social exchanges at baseline, and average within-person change in control and social exchanges.

13.2 The impact of relocation on indicators of subjective well-being: Negative affect

13.2.1 Comparisons with the community sample: Negative affect

The initial unadjusted model comparing negative affect (NA) across the relocation and community samples (constructed with a random intercept for individuals only) indicated there to be no difference between the groups at baseline or 12-month assessment, with no significant change found over time (Model 1a, in Table 13.7). Controlling for age, retirement status, financial status, baseline physical activity and baseline constraints, due to the difference between the groups identified at baseline improved model fit (Model 1b; LR ratio test statistic = 115.87, df = 8, $p < .001$). Persons reporting greater perceived constraints at baseline reported higher NA; older adults, those reporting enough money to meet their needs, and those reporting greater physical activity reported lower NA; and those persons indicated to be separated/divorced reported higher NA

compared to married persons (see Table 13.7). This model maintained that there was no significant change in NA over time for either group, see figure 13.5.

Examining the final model using a multi-level regression procedure to produce robust standard errors produced no substantial effect on the results.

Table 13.7
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Negative Affect over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	0.01 (0.04)	0.62 (0.17) ***
Time	0.03 (0.04)	0.03 (0.04)
Relocation group	-0.07 (0.12)	-0.05 (0.12)
Relocation group * Time	-0.05 (0.11)	-0.04 (0.11)
Age		-0.01 (0.01) *
Marital status[a]		
Separated/divorced		0.23 (0.10) *
Widowed		0.12 (0.12)
Never Married		0.14 (0.17)
Retired		-0.09 (0.08)
Enough money to meet needs		-0.63 (0.17) ***
Physical activity		-0.07 (0.04) *
Control – constraints (baseline)		0.30 (0.04) ***
	Random parameters	
Between Individual variance	0.64 (0.05)	0.50 (0.04)
Residual variance	0.36 (0.02)	0.36 (0.02)
ICC - Individual	0.64	0.58
	Information criteria	
-2*log likelihood	2920.47	2804.60
AIC	2932.47	2832.60
BIC	2962.60	2902.91

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

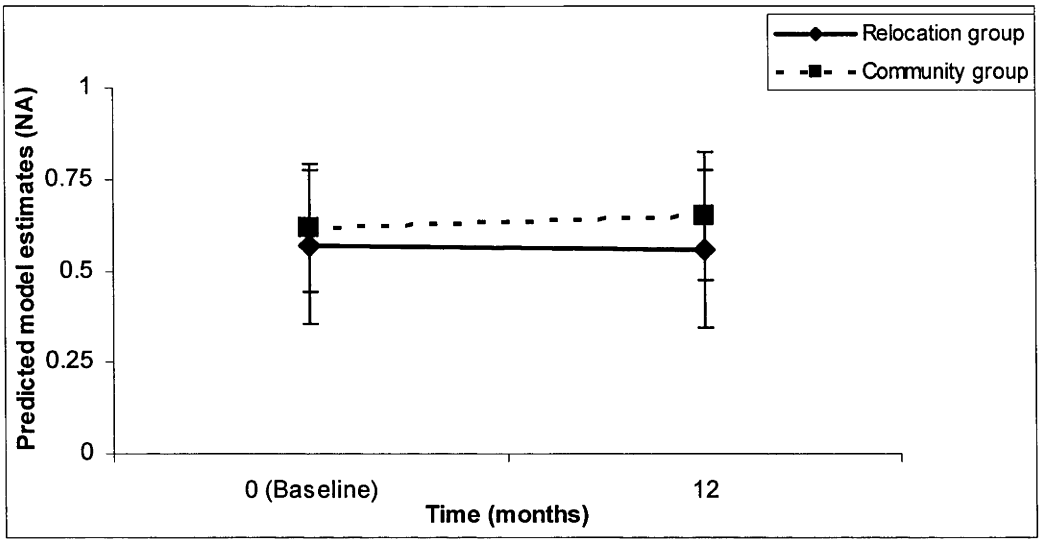

Figure 13.5. Change in negative affect by group

Note. Figure depicts predicted negative affect with covariates held constant at married, partially retired, reporting not enough money to meet needs, and at mean age, levels of physical activity and constraints.

13.2.2 Investigating change in negative affect as a function of relocation

Tables detailing each step of the modeling procedure investigating change in NA within the relocation group (constructed with a random intercept for individuals only) are included in Appendix H.9.

13.2.2.0 Model 0. The unadjusted effect of time.

Investigation of the unadjusted change in NA over time indicated no significant change occurred over the transition period, see Figure 13.6. Table 13.8 presents the results of the random coefficient model testing the unadjusted effect of time. Calculation of the ICC indicates that approximately 49% of the variance in negative affect is as the individuals level.

Table 13.8
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Negative Affect

Parameter	Model 0 Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	8.87^{e-16} (0.11)		
Time 1mth	-0.12 (0.11)		
Time 6mth	-0.10 (0.11)	0.02 (0.12)	
Time 12mth	-0.04 (0.12)	0.08 (0.12)	0.06 (0.12)
		Random parameters	
Between Individual variance	0.46 (0.10)		
Residual variance	0.48 (0.05)		
ICC – Individual	0.49		
		Information criteria	
-2*log likelihood	731.34		
AIC	743.34		
BIC	765.36		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

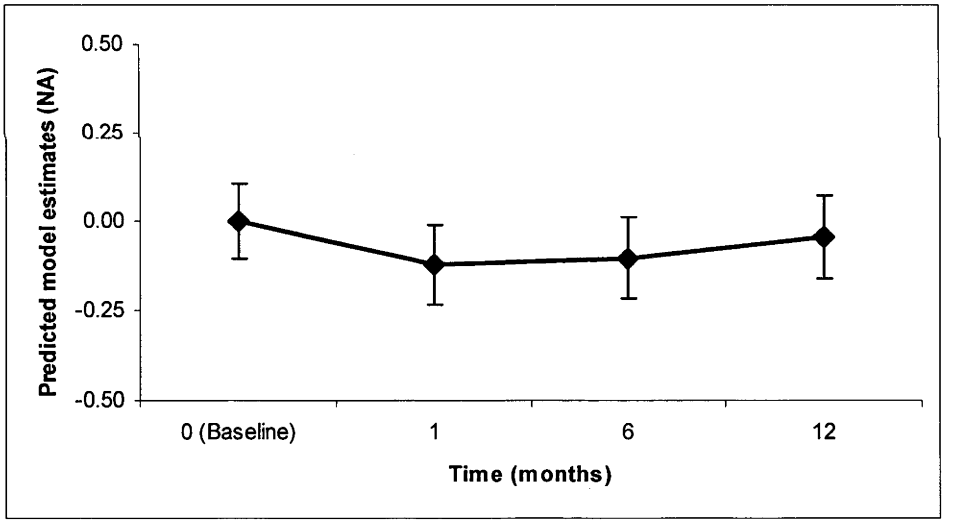

Figure 13.6. Unadjusted change in negative affect.

13.2.2.1 Model 1. Adjusting for contextual factors associated with relocation.

An investigation of the contextual effects surrounding relocation indicated no effect of time in residence (Model 1a; LR ratio test statistic = 1.16, df = 4, p = .885), village development (Model 1b; LR ratio test statistic = 3.48, df = 4, p = .482), perceptions of the home environment (Model 1c; LR ratio test statistic = 1.03, df = 2, p = .598), or

pressure to move (Model 1d; LR ratio test statistic = 5.92, df = 4, p = .205) on NA. Post hoc analyses further investigating if change in NA between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in perceptions of home during the same period revealed no effect for change in perceptions of home on NA within each time interval.

13.2.2.2 Model 2. Adjusting for demographic characteristics.

Adjustment for demographic characteristics indicated a small association with age such that older adults reported slightly less NA than younger persons (b = -0.02, p = .032). For every year over 74 years of age, negative affect was .02 of a standard deviation (SD) lower. No effects were indicated for marital status, gender, or education, and the inclusion of the demographic information did not improve the model fit (LR ratio test statistic = 7.20, df = 6, p = .302). The inclusion of age alone also did not improve the fit of the model (LR ratio test statistic = 3.54, df = 1, p = .306) and failed to meet significance in a model including only age (p = .058), therefore demographic characteristics were not included in future models.

13.2.2.3 Model 3. Adjusting for physical health.

Inclusion of baseline physical health (Model 3a; LR ratio test statistic = 0.47, df = 1, p = .494) and physical health by time interactions (Model 3b; LR ratio test statistic = 3.61, df = 4, p = .461) indicated no association with NA or improvement in model fit.

13.2.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of baseline personality characteristics (Model 4a) improved model fit (LR ratio test statistic = 18.30, df = 5, p = .003) and indicated higher neuroticism was associated with greater NA at baseline (b = 0.29, p = .001). The inclusion of personality by time interactions (Model 4b) did not improve the model fit (LR ratio test statistic = 21.13, df = 15, p = .134); therefore they were not included in subsequent models.

13.2.2.5 Model 5. Adjusting for perceived control.

Adjustment for baseline mastery or constraint did not demonstrate any effect on NA (Model 5a) or improvement in model fit (LR ratio test statistic = 1.51, df = 2, p = .469). However, an overall increase in perceived constraints was associated with an increase in NA (Model 5b; b = 0.17, p = .017). As changes in perceived control may play a significant role in their adjustment to the new environment (Armer, 1996) and the model containing only the within-person change in constraints variable improved the model fit (LR ratio test statistic = 6.84, df = 1, p = .009) it was retained in future models. Post hoc analyses to examine if change in NA between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in control during the same period indicated no effect within the discrete time intervals.

13.2.2.6 Models 6-7. Adjusting for social networks.

In step 6, no association was found for baseline social networks on NA (Model 6a; LR ratio test statistic = 1.97, df = 3, p = .579), nor did the results support any moderating effect of baseline social networks (Model 6b; LR ratio test statistic = 6.53, df = 12, p = .887), or within-person change in friend and neighbour networks on NA over time (Model 6c; LR ratio test statistic = 5.92, df = 4, p = .205). Post hoc analyses to examine if change in NA between baseline and 1-month, 1- and 6-months or 6- and 12-months was associated with change in networks during the same period also indicated no significant effect of change in neighbour networks within the time intervals. However, a significant effect was found for change in friend networks such that an increase in friend networks between baseline and 1-month was associated with an increase in NA at this time (Table 13.9).

Table 13.9
Estimates for Change in Negative Affect by Change in Friend Networks, by Time Interval

Parameter	Time ref baseline	Time ref 1mths	Time ref 6mths
		Fixed effects	
Intercept	8.93^{e-16} (0.10)	-0.14 (0.09)	-0.10 0.10)
Change in friend networks	0.21 (0.10) *	0.06 (0.06)	-0.07 (0.06)
		Random parameters	
Between Individual variance	0.33 (0.10)	0.22 (0.08)	0.29 (0.09)
Residual variance	0.45 (0.08)	0.39 (0.07)	0.35 (0.06)
ICC - Individual	0.42	0.36	0.45

Note. Standard errors are in parentheses. Models include the fixed effect for time, baseline personality characteristics, social networks, and within-person change in constraints.
* p<.05, **p<.01, ***p<.001

The inclusion of baseline social exchanges indicated greater negative exchanges were associated with higher NA at baseline (Model 7a: $b = 0.36, p < .001$) and improved model fit (LR ratio test statistic = 27.32, df = 2, $p < .001$). An overall increase in negative exchanges was also associated with an increase in NA (Model 7b; $b = 0.13, p = .045$). The inclusion of within-person change in social exchanges did not improve the model fit (LR ratio test statistic = 4.48, df = 2, $p = .106$); however, a model containing only the within-person change in negative exchanges variable did improve the model fit (LR ratio test statistic = 4.42, df = 1, $p = .009$), and as such was retained for subsequent analyses.

Post hoc analyses were also conducted to investigate the association between changes in NA, from baseline and 1-month, 1- and 6-months or 6- and 12-months, and change in social exchanges during the same period. No effect for change in positive exchanges on NA was found between each time interval. However, effects were indicated for negative exchanges such that an increase in negative exchanges between baseline and 1-month assessment was associated with an increase in NA; whereas an increase in negative exchanges between the 6- and 12-month assessment was associated with a decrease in NA (Table 13.10).

Table 13.10
Estimates for Change in Negative Affect by Change in Social Exchanges, by Time Interval

Parameter	Time ref baseline	Time ref 1mths	Time ref 6mths
		Fixed effects	
Intercept	8.23^{e}-16 (0.09)	-0.12 (0.09)	-0.08 (0.09)
Change in positive exchanges	0.01 (0.09)	0.05 (0.06)	0.01 (0.06)
Change in negative exchanges	0.40 (0.10) ***	0.07 (0.06)	-0.13 (0.06) *
		Random parameters	
Between Individual variance	0.22 (0.08)	0.14 (0.07)	0.22 (0.07)
Residual variance	0.39 (0.07)	0.39 (0.07)	0.33 (0.06)
ICC - Individual	0.36	0.26	0.40

Note. Standard errors are in parentheses. Models include the fixed effect for time, baseline personality characteristics, social exchanges, and within-person change in constraints.
* p<.05, **p<.01, ***p<.001

13.2.2.7 The model of best fit.

Examination of the model fit statistics indicated the final model (Table 13.11), adjusted for personality characteristics and social exchanges, as the best fitting model for the data. This model indicated that no significant change occurred in NA over the transition period. To be interpreted with caution (effect significant at $p < .05$), an association was found with neuroticism, such that higher neuroticism was associated with greater NA at baseline. For every 1 SD greater neuroticism reported at baseline, NA was .17 of a SD higher. Similarly, change in perceived constraints was associated with NA over time, such that an overall increase in perceived constraints from baseline was associated with a .13 increase in NA. In addition, a significant effect was found for negative exchanges at baseline. For every 1 SD greater negative exchanges reported at baseline, NA was .42 of a SD higher. Finally, change in negative exchanges was associated with NA over time. A 1 SD overall increase in negative exchanges from baseline was associated with a .13 increase in NA. See Figure 13.7.

Calculation of the ICC indicates that approximately 29% of the variance in negative affect was indicated at the individual level in this adjusted model. This represents a drop of 59%, accounted for by the final set of predictors.

Examining this final model using a multi-level regression procedure to produce robust standard errors with a random intercept for individuals only produced limited effect on the results that maintain that the interpretation of analyses proceed with caution. The effect of within-person change in constraints is indicated as non-significant in the more robust model.

Table 13.11
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Negative Affect

		Model 7b	
Parameter	Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	9.84^{E-16} (0.09)		
Time 1mth	-0.09 (0.11)		
Time 6mth	-0.08 (0.11)	0.01 (0.12)	
Time 12mth	-0.01 (0.12)	0.08 (0.12)	0.07 (0.12)
Personality characteristics			
Extraversion	-0.13 (0.07)		
Agreeableness	-0.01 (0.07)		
Conscientiousness	0.02 (0.07)		
Neuroticism	0.17 (0.07) *		
Openness	0.02 (0.07)		
Constraints (within-person change)	0.13 (0.06) *		
Social network characteristics			
Positive exchanges (baseline)	0.13 (0.07)		
Negative exchanges (baseline)	0.42 (0.08) ***		
Positive exchanges (within-person)	0.02 (0.06)		
Negative exchanges (within-person)	0.13 (0.07) *		
		Random parameters	
Between Individual variance	0.19 (0.06)		
Residual variance	0.47 (0.05)		
ICC – Individual	0.29		
		Information criteria	
-2*log likelihood	674.40		
AIC	706.40		
BIC	765.12		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

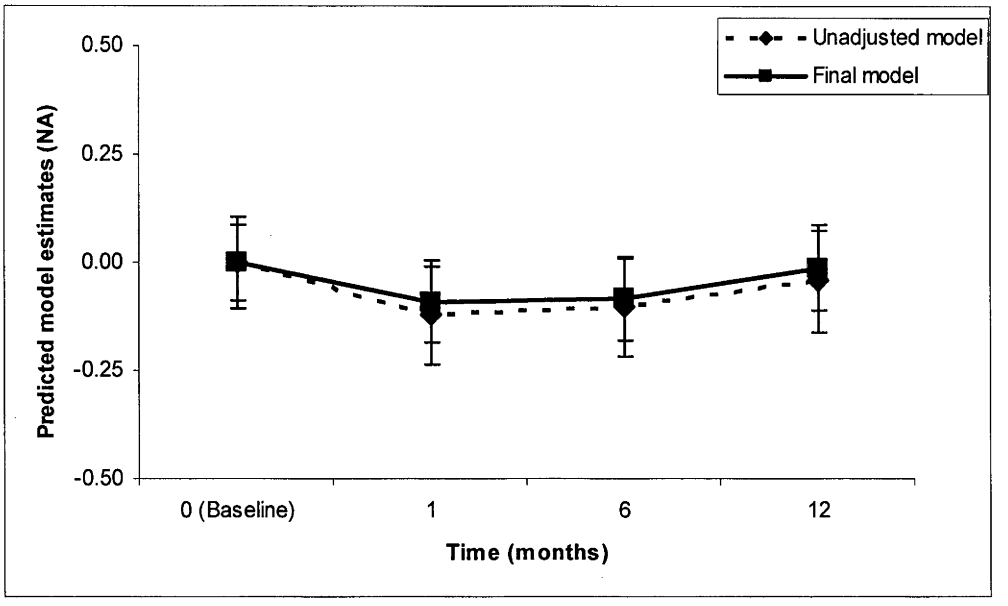

Figure 13.7. Change in negative affect over the relocation transition

Note. The final model in figure 13.7 depicts predicted negative affect at mean levels of personality characteristics and social exchanges at baseline, within-person change in constraints and social exchanges.

13.3 The impact of relocation on indicators of subjective well-being: Satisfaction with Life.

13.3.1 Comparisons with the community sample: Life satisfaction

This initial unadjusted model (nesting for individuals within couples) indicated there to be no difference between the groups at baseline or the 12-month assessment, with no significant change found over time (Model 1a, in Table 13.12). Controlling for age, marital status, retirement status, financial status, baseline physical activity and baseline constraints, due to the difference between the groups identified at baseline, indicated a significant effect of marital status and perceived control, and an improvement in model fit (Model 1b; LR ratio test statistic = 109.68, d = 8, p <.001), and indicated that the relocation group did report significantly greater satisfaction with life at baseline. Persons reporting greater perceived constraints at baseline reported lower satisfaction with life. In addition, persons indicated as separated/divorced, widowed, or never

married reported lower life satisfaction compared to married persons. Persons reporting greater physical activity or enough money to meet needs reported higher life satisfaction (see Table 13.12). Figure 13.8 presents predicted values generated from the adjusted model coefficients.

Examining the final model using a multi-level regression procedure to produce robust standard errors (as discussed in 7.6.3) with a random intercept for individuals, had no impact on the results.

Table 13.12
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Satisfaction With Life over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	-0.04 (0.04)	-0.46 (0.18) *
Time	-0.06 (0.03)	-0.06 (0.03)
Relocation group	0.24 (0.13)	0.35 (0.13) **
Relocation group*Time	0.08 (0.09)	0.07 (0.09)
Age		0.003 (0.01)
Marital status[a]		
Separated/divorced		-0.45 (0.11) ***
Widowed		-0.30 (0.13) *
Never Married		-0.39 (0.18) *
Retired		0.11 (0.09)
Enough money to meet needs		0.47 (0.17) **
Physical activity		0.09 (0.04) *
Control – constraints (baseline)		-0.27 (0.03) ***
	Random parameters	
Between couple variance	0.74 (0.07)	0.51 (0.09)
Between Individual variance	0.02 (0.05)	0.09 (0.08)
Residual variance	0.25 (0.02)	0.25 (0.02)
ICC – Couple	0.73	0.60
ICC – Individual	0.02	0.11
	Information criteria	
-2*log likelihood	2766.86	2658.26
AIC	2781.95	2688.27
BIC	2817.10	2763.60

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

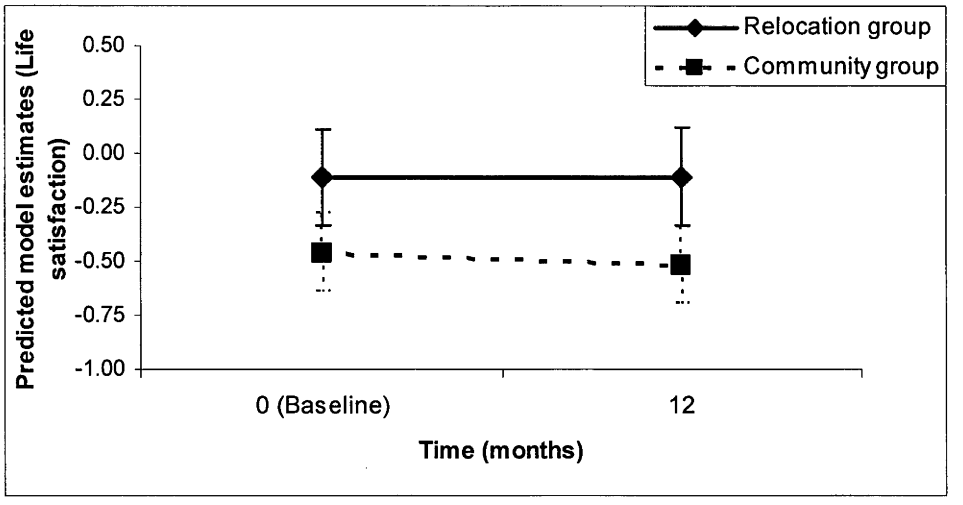

Figure 13.8. Change in satisfaction with life by group

Note. Figure depicts predicted life satisfaction for the relocation and community groups holding covariates constant at married, partially retired, reporting not enough money to meet needs, and at mean age, levels of physical activity and constraints.

13.3.2 Investigating change in satisfaction with life as a function of relocation

Tables detailing each step of the modeling procedure investigating change in life satisfaction within the relocation group (nesting individuals within couples) are included in Appendix H.10.

13.3.2.0 Model 0. The unadjusted effect of time.

Examination of the unadjusted change in life satisfaction over time supports that there was no significant change across the transition period, see Figure 13.9. Table 13.13 presents the results of the random coefficient model testing the unadjusted effect of time. Calculation of the ICC indicates that both the couple and individual level each account for approximately 29% of the variance in life satisfaction.

Table 13.13
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Life Satisfaction

Parameter	Model 0 Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	-0.02 (0.11)		
Time 1mth	0.07 (0.10)		
Time 6mth	0.16 (0.10)	0.09 (0.11)	
Time 12mth	0.04 (0.11)	-0.02 (0.11)	-0.11 (0.11)
		Random parameters	
Between Couple variance	0.27 (0.13)		
Between Individual variance	0.27 (0.11)		
Residual variance	0.40 (0.04)		
ICC – Couple	0.29		
ICC – Individual	0.29		
		Information criteria	
-2*log likelihood	694.29		
AIC	708.29		
BIC	733.98		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

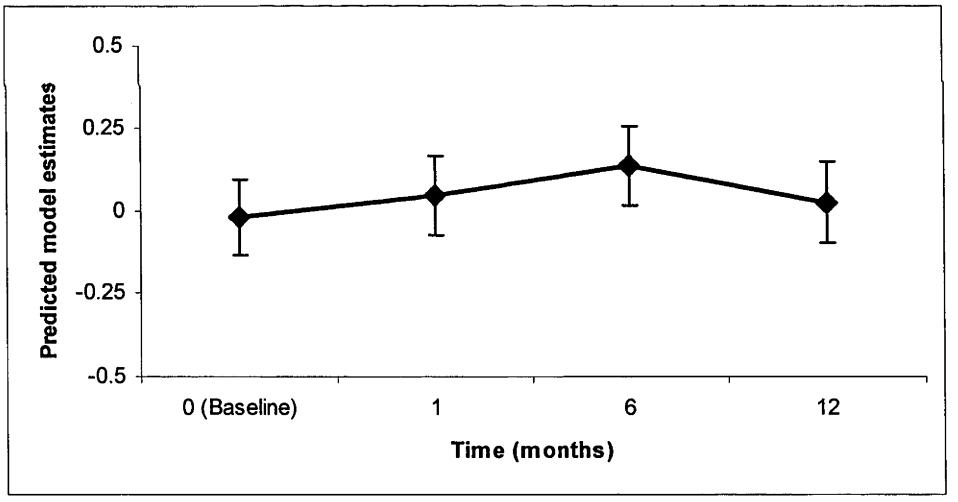

Figure 13.9. Unadjusted change in satisfaction with life.

13.3.2.1 Model 1. Adjusting for contextual factors associated with relocation.

The investigation of the contextual effects surrounding relocation on life satisfaction over time indicated no effect of time in residence (Model 1a; LR ratio test statistic = 1.83, df = 4, p = .768) or village development (Model 1b; LR ratio test statistic = 3.59, df = 4, p = .464). Adjusting for both baseline and within-person change in perceptions

of the home environment (Model 1c) indicated more positive perceptions of home held at baseline were associated with greater life satisfaction ($b = 0.22, p = .015$). The inclusion of perceptions of one's environment also improved the model fit (LR ratio test statistic = 6.81, df = 2, $p = .033$) and as such was retained in subsequent models. Post hoc analyses examining change in perceptions of home between baseline discrete time intervals further indicate an effect for change in perceptions of home on life satisfaction between the 6- and 12-month assessments (see Table 13.14). During this period, an increase in perceptions of the home was associated with a significant increase in life satisfaction.

Finally, pressure to move was not found to moderate life satisfaction over time (Model 1d), and the inclusion of both the baseline and pressure by time interactions did not improved the model fit (LR ratio test statistic = 6.88, df = 4, $p = .142$).

Table 13.14
Estimates for Change in Life Satisfaction by Change in Perceptions of Home, by Time Interval

Parameter	Time ref baseline	Time ref 1mths	Time ref 6mths
		Fixed effects	
Intercept	-0.01 (0.11)	0.19 (0.11)	0.12 (0.12)
Change in perceptions of home	0.04 (0.09)	0.07 (0.06)	0.13 (0.06) *
		Random parameters	
Between couple variance	0.26 (0.16)	0.24 (0.13)	0.20 (0.16)
Between Individual variance	0.37 (0.16)	0.22 (0.12)	0.31 (0.16)
Residual variance	0.32 (0.05)	0.35 (0.06)	0.32 (0.06)
ICC – Couple	0.27	0.30	0.24
ICC – Individual	0.39	0.27	.037

Note. Standard errors are in parentheses. Models include the fixed effect for time and baseline perceptions of home.
* p<.05, **p<.01, ***p<.001

13.3.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated no associations with life satisfaction or improvement in model fit (LR ratio test statistic = 8.35, df = 6, $p = .214$).

13.3.2.3 Model 3. Adjusting for physical health.

Model 3a indicated greater physical health at baseline was associated with higher life satisfaction ($b = 0.17, p = .041$), and an improved model fit (LR ratio test statistic = 4.03, df = 1, $p = .045$). Moreover, the inclusion of physical health by time interactions (Model 3b) further improved the model fit (LR ratio test statistic = 9.04, df = 3, $p = .029$); and indicated a moderating effect of physical health on positive affect (6-12 months: $b = 0.22, p = .040$). For those persons with greater physical health at baseline, an increase in life satisfaction is indicated between the 6- and 12-month assessments, in contras, a decrease is reported by those with poorer physical health at baseline (see Figure 13.10).

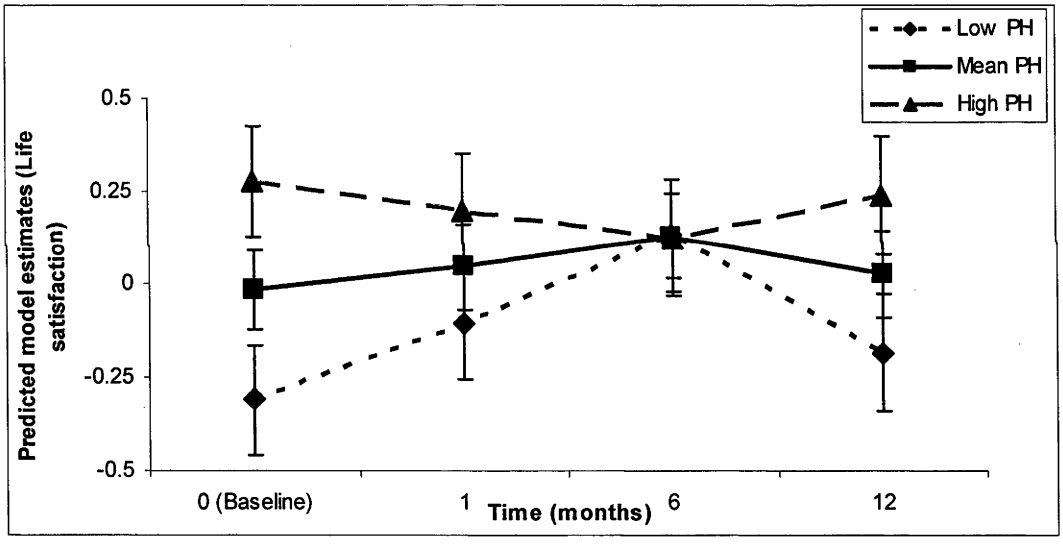

Figure 13.10. Physical health by time interaction

Note. Model adjusted for baseline and within-person change in perceptions of home.

13.3.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of baseline personality characteristics (Model 4a) improved model fit (LR ratio test statistic = 24.97, df = 5, $p < .001$) and indicated higher extraversion was associated with greater life satisfaction at baseline ($b = 0.28, p < .001$). The inclusion of personality by time interactions (Model 4b) indicated a moderating effect of openness (Baseline – 1-month: $b = -0.23$, p = .026; 6-12 months: $b = 0.25, p = .025$); however,

model fit was not improved (LR ratio test statistic = 18.49, df = 15, p = .238). As openness may actually be of greatest importance in the context of the impact of residential relocation on well-being, with individuals high in openness more likely to readily adapt to the event (Prenda & Lachman, 2001), and the model containing only the openness by time interaction did improve model fit (LR ratio test statistic = 10.44, df = 3, p = .015), the interaction was retained in subsequent models. Persons high in openness (represented by 1 standard deviation (SD) above the mean) reported a decrease in life satisfaction between the baseline and 1-month assessments, and an increase from 6- to 12-months; whereas persons low in openness (represented by 1 SD below the mean) reported an increase in life satisfaction between baseline and 1-month and a decrease from 6- to 12-months, see Figure 13.11.

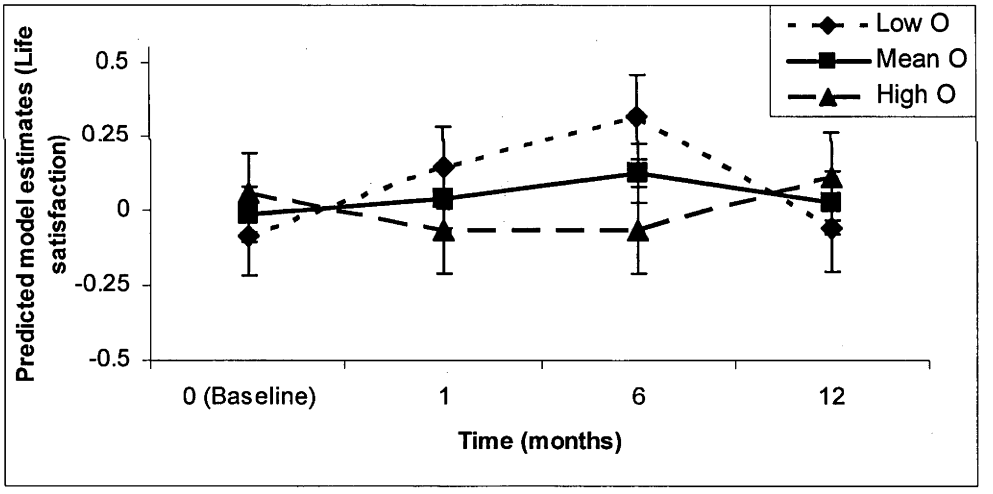

Figure 13.11. Openness by time interaction

Note. Model adjusted for baseline personality characteristics, physical health and perceptions of home, within-person change in perceptions of home, and physical health by time interactions.

13.3.2.5 Model 5. Adjusting for perceived control.

Perceived control (constraint, mastery), was not associated with life satisfaction at baseline (Model 5a), and did not improve model fit (LR ratio test statistic = 1.68, df = 2, p = .432). The inclusion of indicators of within-person change in control (Model 5b) also did not improve model fit (LR ratio test statistic = 6.87, df = 4, p = .143). Further

post hoc analyses conducted to examine if change in life satisfaction between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in constraints and mastery during the same period also indicated no effect for change in control on life satisfaction within each discrete time interval.

13.3.2.6 Models 6-7. Adjusting for social networks and exchanges.

In the present study, social networks (friend, family or neighbour) were not associated with life satisfaction at baseline (Model 6a; LR ratio test statistic = 5.41, df = 3, p = .144), nor were baseline social networks found to moderate satisfaction with life over time (Model 6b; LR ratio test statistic = 12.03, df = 12, p = .443). Moreover, Model 6c did not indicate any effect of within-person change in friend and neighbour networks on life satisfaction. Post hoc analyses conducted to examine if change in satisfaction with life between baseline and 1-month, 1- and 6-months or 6- to 12-months was associated with change in networks during these discrete time periods indicated no effect for change in neighbour networks on life satisfaction within any time interval. The results for change in friend networks are presented in Table 13.15 and indicate an effect for change in friend networks on life satisfaction between the 1- and 6-month assessments.

Table 13.15
Estimates for Change in Life Satisfaction by Change in Friend Networks, by Time Interval

Parameter	Time ref baseline	Time ref 1mths	Time ref 6mths
		Fixed effects	
Intercept	-0.001 (0.09)	0.16 (0.09)	0.12 (0.10)
Change in friend networks	0.11 (0.08)	0.11 (0.05) *	0.04 (0.05)
		Random parameters	
Between couple variance	0.02 (0.12)	0.05 (0.11)	5.51^{E-07}
Between Individual variance	0.33 (0.14)	0.19 (0.12)	0.31 (0.08)
Residual variance	0.28 (0.05)	0.31 (0.05)	0.29 (0.05)
ICC - Couple	0.03	0.09	0.00
ICC - Individual	0.52	0.35	0.52

Note. Standard errors are in parentheses. Models include the fixed effect for time, baseline perceptions of the home environment, physical health, personality characteristics, social networks, interactions of time by physical health and openness, and within-person change in perceptions of home.
* p<.05, **p<.01, ***p<.001

The inclusion of positive and negative social exchanges (Model 7a) improved model fit (LR ratio test statistic = 14.38, df = 2, $p < .001$), and indicated an effect of positive ($b = 0.18$, $p = .01$) and negative exchanges ($b = -0.30$, $p < .001$) at baseline. However, change in positive or negative exchanges was not associated with life satisfaction over time (Model 7b; LR ratio test statistic = 3.53, df = 2, $p = .171$). Post hoc analyses further examining the association between change in positive and negative social exchanges and change in life satisfaction between baseline and 1-month, 1- and 6-months or 6- and 12-months, also indicated no effect for change in social exchanges on life satisfaction within each time interval.

13.3.2.7 The model of best fit.

Examination of the model fit statistics indicated Model 7a (Table 13.16), adjusted for physical health, personality characteristics and social exchanges as the best fitting model for the data. This model indicated that life satisfaction did not substantially change across the transition period.

To be interpreted with caution (effect significant at $p < .05$), a significant effect was found for physical health such that better physical health at baseline was associated with higher life satisfaction. For every 1 SD better physical health, life satisfaction was .22 of a SD higher. Moreover, physical health was also identified as a moderator of life satisfaction over time. Persons with poorer physical health reported a decrease in life satisfaction between the 6- and 12-month assessments; whereas persons with better than average physical health reported an increase in life satisfaction between 6- and 12-month assessments, see Figure 13.12.

In addition, significant associations were indicated with extraversion and conscientiousness, such that being higher on these personality traits was associated with greater life satisfaction at baseline. For every 1 SD greater extraversion or conscientiousness reported at baseline, satisfaction with life was .22 or .18 of a SD

higher respectively. A moderating effect of openness was also indicated. Persons high in openness reported a decrease in life satisfaction between the baseline and 1-month assessments, and an increase from 6- to 12-months; whereas persons low in openness reported an increase in life satisfaction between baseline and 1-month and a decrease from 6- to 12-months, see Figure 13.13.

Finally, the model indicated a significant effect of positive and negative exchanges at baseline. A report of greater positive exchanges at baseline was associated with .18 of a SD higher life satisfaction. A report of greater negative exchanges at baseline was associated with .30 of a SD lower life satisfaction. Figure 13.14 depicts the change over the transition in satisfaction with life for the initial unadjusted model and model of best fit.

Calculation of the ICC indicates that approximately 1% of the variance in life satisfaction is indicated at the couple level while 40% of the variance is at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between couples has decreased by 98%, the variance between individuals has dropped by 11%, and the within-person (residual) variance has decreased by 10% as a result of including the final set of predictors.

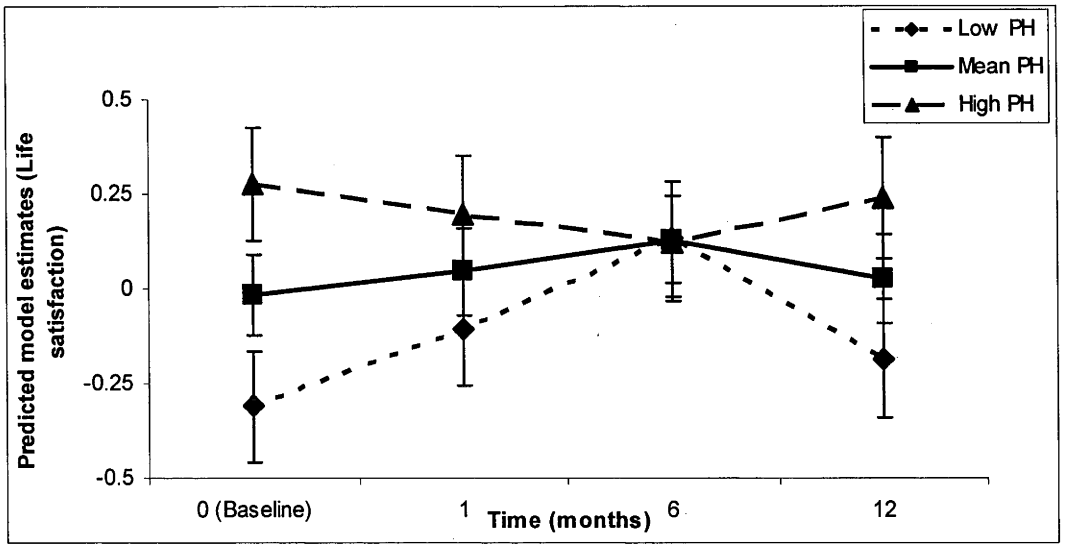

Figure 13.12. Physical health by time interaction

Note. Model adjusted for baseline perceptions of the home environment, physical health, personality characteristics and positive and negative social exchanges, interactions of time by physical health and openness, and within-person change in perceptions of home.

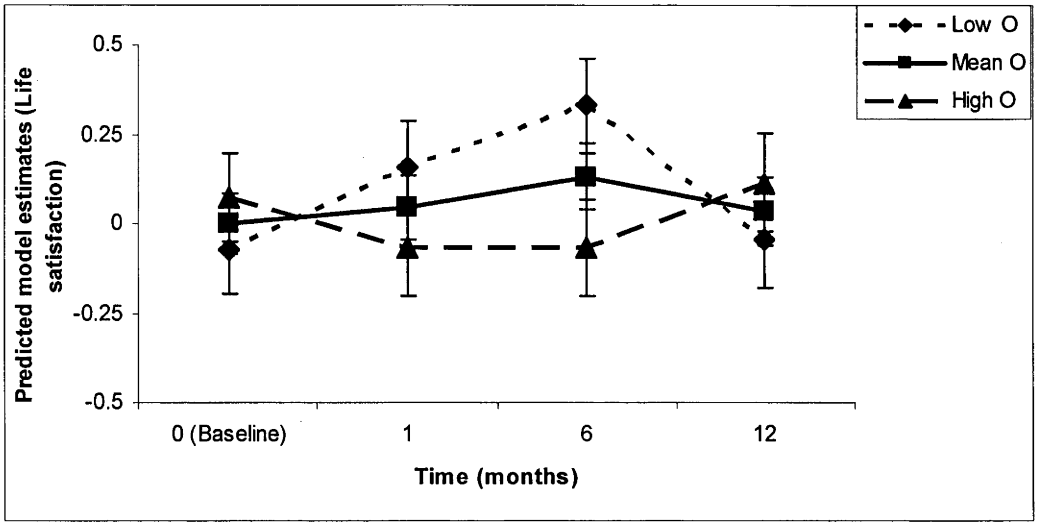

Figure 13.13. Openness by time interaction

Note. Model adjusted for baseline perceptions of the home environment, physical health, personality characteristics and positive and negative social exchanges, interactions of time by physical health and openness, and within-person change in perceptions of home.

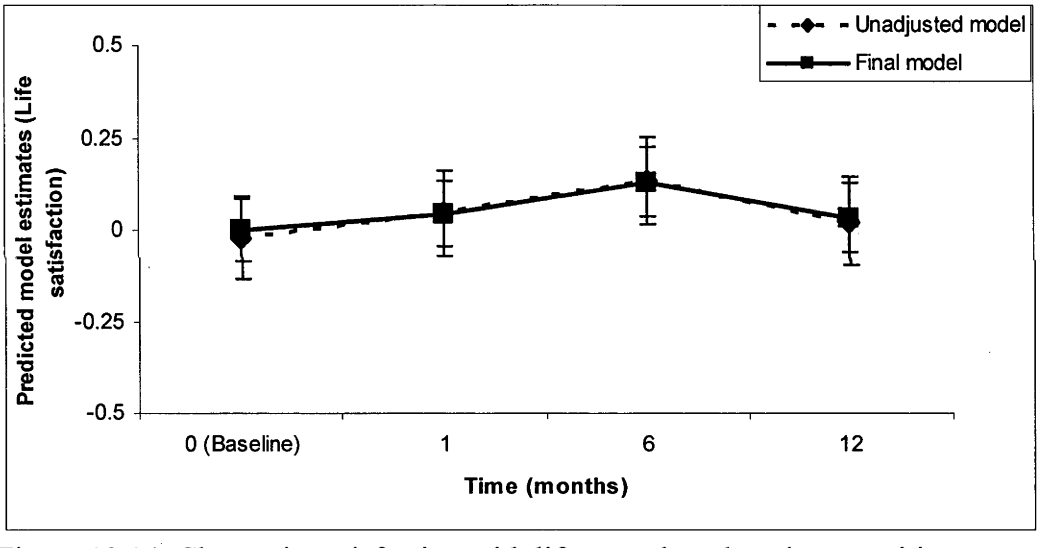

Figure 13.14. Change in satisfaction with life over the relocation transition

Note. The final model in figure 13.14 depicts predicted life satisfaction at mean perceptions of the home environment, physical health, personality characteristics and positive and negative social exchanges at baseline, and mean levels of within-person change in perceptions of home.

Table 13.16
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Adjusted Model Predicting Change in Satisfaction with Life

Parameter	Model 7a Time ref baseline	Time ref 1mth	Time ref 6mths
		Fixed effects	
Intercept	-0.001 (0.09)		
Time 1mth	0.05 (0.10)		
Time 6mth	0.13 (0.10)	0.09 (0.10)	
Time 12mth	0.03 (0.10)	-0.01 (0.10)	-0.10 (0.10)
Perceptions of home (baseline)	0.06 (0.08)		
Perceptions of home (within-person)	0.11 (0.06)		
Physical health	0.22 (0.09) *		
Physical health * Time	-0.16 (0.10)	-0.17 (0.10)	0.25 (0.10) *
Personality characteristics			
Extraversion	0.22 (0.07) **		
Agreeableness	0.04 (0.08)		
Conscientiousness	0.18 (0.08) *		
Neuroticism	-0.11 (0.08)		
Openness	0.07 (0.09)		
Openness * Time	-0.18 (0.10)	-0.09 (0.10)	0.28 (0.10) **
Social network characteristics			
Positive exchanges (baseline)	0.18 (0.07) **		
Negative exchanges (baseline)	-0.30 (0.08) ***		
		Random parameters	
Between couple variance	0.005 (0.09)		
Between Individual variance	0.24 (0.11)		
Residual variance	0.36 (0.04)		
ICC – Couple	0.01		
ICC – Individual	0.40		
		Information criteria	
-2*log likelihood	624.62		
AIC	670.62		
BIC	755.03		

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

Examining this final model using a multi-level regression procedure to produce robust standard errors with a random intercept for individuals only produced no substantial effect on the results, but maintain that the interpretation of analyses proceed with caution.

13.4 Chapter Summary

The present study found no significant differences between the relocating and community dwelling older adults in any of the indicators of subjective well-being (PA, NA, or satisfaction with life) 12-months post relocation. The relocation group was then examined utilising the pre-move, 1-, 6- and 12-month data obtained to establish any short-term changes to SWB following relocation. While life satisfaction and NA continued to show no significant change over the 12-month period, PA was observed to significantly increase from the pre-move assessment to 1-month post relocation, but demonstrating to be only a transitory fluctuation, PA had returned to levels comparable to pre-move status 12-months post relocation.

Little evidence was provided in the present study for contextual factors surrounding the move, or changes in perceptions of the home, as playing a role in adaption to relocation as indicated by SWB. Change in perceptions of the home environment was not associated with any overall change in SWB. However, providing some evidence that perceptions of the home environment are associated with life satisfaction in the context of relocation, analyses indicated that an increase in positive perceptions between the 6- and 12-month assessment, the period in which largest degree of change was observed, was associated with an increase in life satisfaction during the same period.

The investigation of physical health prior to relocation as a moderator of change in SWB over time produced mixed results. Better physical health at baseline was associated with greater PA, and thus less change, from the baseline to 1-month assessment compared to those with average or poor physical health. Moreover, poor physical health was associated with a decease in life satisfaction between the 6- and 12-month assessments, whereas those with better than average physical health reported an increase during the same period. No effect was found for NA.

The examination of personality characteristics as moderators of change and indicators of individual difference in SWB following relocation also produced mixed results. The present study provided only partial support for the hypothesis that persons high in extraversion, agreeableness and conscientiousness would be more likely to display positive SWB outcomes (due to characteristically being able to engage with and integrate into new environments); where high neuroticism would be associated with greater distress. Change in positive or negative affect was not moderated by any of the personality characteristics. Openness to experience moderated change in life satisfaction such that persons reporting high openness reported a decrease in life satisfaction between the baseline and 1-month post move assessment and an increase from 6- to 12-months. In contrast, persons low in openness reported an increase in life satisfaction between baseline and 1-month and a decrease from 6- to 12-months.

Supporting that perceived control is associated with SWB, the present study indicated overall increases in perceived constraints (reduced control) were associated with an overall decline in PA. Further post hoc analyses specifically indicating that increases in perceived constraints between the 6- and 12-month assessment were associated with decreases in PA during this period.

In contrast to expectations, the observed change in friend and neighbour social networks demonstrated in chapter 12 were not associated with any overall change in affect or life satisfaction. However, analyses indicated that change (increase) in friend networks between the baseline and 1-month assessment was associated with an increase in NA, whilst change between the 1- and 6-month assessment was associated with an increase in life satisfaction. Overall increases in positive and negative exchanges were associated with increases in PA and NA respectively. However, post hoc analyses also indicated that while an increase in negative exchanges from baseline to 1-month post relocation was associated with an increase in NA, an increase in negative exchanges

between the 6- and 12-month assessments was associated with a small decrease in NA. Change in positive or negative social exchanges were not associated with life satisfaction over time.

Table 13.17 provides a summary of the main findings relating to the impact of relocation on indicators of SWB. Overall, relocation had seemingly little impact on SWB. Positive affect over time was moderated by physical health and associated with change in constraints, friend networks and positive social exchanges. Negative affect was associated with change in friend networks and negative social exchanges. Satisfaction with life was moderated by physical health and personality characteristics, and associated with change in friend networks and perceptions of the home environment.

Table 13.17
Summary of Results for the Investigation of the Impact of Relocation on Subjective Well-being

Evidence of:	PA	NA	SWL
Change over time for the relocation group	✓		
Group difference at 12-months			
Change associated with:			
Change in perceptions of home			✓[a]
Time in previous residence			
Stage of village development at time of move			
Change in control – constraints	✓	✓	
Change in control – mastery			
Change in social networks – friends	✓[a]	✓[b]	✓[c]
Change in social networks - neighbours			
Change in social exchanges – positive	✓		
Change in social exchanges – negative		✓	
Change moderated by:			
Pressure to move			
Physical health	✓		✓
Personality			✓
Social networks			

Note. [a] change between 6- and 12-months only. [b] change between baseline and 1-month only. [c] change between 1- and 6-months only.

Chapter 14. The impact of relocation on Engagement in Life

14.0 Chapter overview

This chapter reports the investigation of change in engagement in life over the relocation transition as a further indicator of personal well-being. A sense of purpose in life contributes to an individual's physical health, cognition and well-being and as such can be an important indicator of successful transition following a significant life event (e.g., Bosma et al., 2002; Boyle et al., 2010). In the context of relocation to a retirement village, a disruption or cessation of activities which reinforce independence (e.g., gardening or maintaining one's own home), may function to reduce one's sense of worth and purpose. Alternatively, participation in personally meaningful activities may increase with practical tasks (e.g., household chores) exchanged for recreational or volunteer activities as a result of the services provided by the village.

This chapter reports the investigation of research question 6: *Does engagement in life change as a function of relocating to the retirement village?* Random coefficient analyses were used to examine change over time within the relocation sample across four time points (pre-move, 1-, 6- and 12-months); and make comparisons between the relocation and community samples over the 12-month period. A series of models were fitted using an information-theoretic approach and criteria outlined in section 7.6. Predictors were retained if the addition of the new parameter/s improved model fit (using a $p < .05$ significance threshold for Likelihood ratio test, model reported a lower AIC). Although this approach is considered most appropriate due to the number of independent variables and small sample size, it is acknowledged that the large number of statistical analyses undertaken has implications for statistical power and the potential of Type I errors. Therefore, a significant level of .01 is considered in the final model

with effects reported at $p < .05$ interpreted with caution. These issues will also be addressed as limitations in the discussion of results. In obtaining the final model, analyses investigated if engagement in life was:

i) associated with changes in perceptions of the home environment;

ii) a function of the pressure felt to relocate, the amount of time one had resided in the current home, or the stage of village completion at the time of move;

iii) moderated by physical health (i.e., do changes in engagement over the relocation transition vary as a function of physical health?);

iv) moderated by personality characteristics (i.e., do changes in engagement over the relocation transition vary as a function of personality characteristics?);

v) moderated by social support networks or associated with change in social networks and exchanges.

The results suggest relocation had no significant impact on engagement in life. No significant difference was observed between the relocating and community dwelling older adults at the 12-month follow-up. Perceived pressure to move and change in perceptions of the home environment were not associated with any change in engagement. Change in engagement was not moderated by physical health or personality characteristics. While greater friend networks and less negative social exchanges were both associated with engagement at baseline, change in engagement was not associated with changes in social networks or exchanges. The research strategy supporting the modeling of covariates in the investigation of the impact of relocation on engagement is outlined below.

14.0.1 Analysis strategy

The series of models tested in the analysis are summarized in Table 14.1. To compare the community and relocation samples over time an unadjusted model (Model 1a) was tested first. A second model (Model 1b) then adjusted for those variables upon which

the groups were identified to differ at baseline (i.e., age, marital status, retirement status, financial status, baseline physical activity and baseline constraints).

Table 14.1.
Summary of Variables Included at each Step of the Analysis

	Variable/s added for analysis:
Comparisons with the community sample	
Model 1a	Unadjusted
Model 1b	age, marital status, retirement status, financial status, physical activity (baseline), constraints (baseline)
Investigating change in engagement (purpose) in life as a function of relocation	
Model 0	Unadjusted
Model 1	a) time in residence; b) village development; c) perceptions of home (baseline), perceptions of home (within-person change); d) pressure to move, pressure to move x Time
Model 2	Demographics
Model 3	a) physical health (baseline); b) physical health x Time
Model 4	a) personality characteristics; b) personality x Time
Model 5	a) social networks (baseline); b) social networks x Time c) social networks (within-person change)
Model 6	a) social exchanges (baseline); b) social exchanges (within-person change)

The following strategy was employed to investigate change in engagement as a function of relocation (using the relocation sample only). As adaptation and the impact of relocation on engagement may be influenced by contextual factors associated with the move, the first set of models examined the impact of characteristics of the home and relocation experience. Again these included an investigation of: the amount of time an individual had resided in their home prior to relocation, and an interaction of this measurement and time to identify any moderating effects on changes in engagement (Model 1a); and the impact of the timing of the move in relation to the development of the village (Model 1b). As perceptions of the home environment are noted to play a role in older adults' well-being, and perceptions of home demonstrated change over the

course of relocation (chapter 11); Model 1c examined engagement adjusting for baseline and within-person change in perceptions of the home to determine any impact of the changes coinciding with relocation on SWB. Finally, Model 1d examined the impact of perceived pressure to move as an important contextual factor potential moderating the impact of relocation on well-being.

Investigation then turned to individual characteristics which may be associated with engagement in life. Model 2 examined the extent to which relocation is likely to vary as a function of demographic characteristics (age, gender, marital status, years of education). Research has indicated that a bi-directional relationship exists between physical health and engagement in life. While individuals who are more socially engaged report significantly higher levels of subjective health, good health enables people to engage in activities they find personally meaningful and rewarding (Ebersole, 1998; Pinquart, 2002). In the present study, the second of these approaches is investigated. Model 3 introduced baseline physical health, and examined the interaction between time and physical health to investigate the moderating effect of health status prior to relocation on change over time.

While research into personality and engagement is limited, in a similar manner to that of social networks, personality characteristics may also function as moderators of engagement in life. Possessing personality characteristics that reflect openness, flexibility, creativity and responsibility may by their nature moderate participation in activities that are personally meaningful and the consequent benefit of such participation. To explore this further in the context of relocation in later life, step 4 in the analysis (Models 4a and 4b) incorporated an assessment of personality characteristics (extraversion, agreeableness, conscientiousness, neuroticism, openness) at baseline, and examined interactions between time and personality characteristics to identify any moderating effects on change.

Finally, research indicates that social relationships are a significant source of purpose in life for older adults through reinforcing one's sense of identity, promoting respect, and creating a sense of usefulness (e.g., Pinquart, 2002). Therefore, Models 5 and 6 introduced the investigation of the impact of family, friend and neighbour social networks, and positive and negative social exchanges, prior to relocation (at baseline). Moreover, as social network indicators can be significantly impacted by relocation to a retirement village (evidenced in chapter 12), the impact of within-person change in friend and neighbour network domains and social exchanges over time was also examined.

The analysis of the change in engagement in life is organised such that comparisons are first made between the relocation and community sample over the 12 months, followed by a more detailed examination of change over time within the relocation group. Statistical methods employed and construction of models are described in chapter 7. Tables reporting the full effects at each step (Models 1-6) are presented in Appendix H.11.

14.1 The impact of relocation on engagement in life

14.1.1 Comparisons with the community sample: Engagement in Life

An unadjusted model (nesting individuals within couples) indicated no significant change in engagement over time, and no difference between the groups at baseline or 12-month assessment (see Model 1a, Table 14.2). Controlling for age, marital status, retirement status, financial status, baseline physical activity and baseline constraints (Model 1b), improved model fit (LR ratio test statistic = 75.48, df = 7, p <.001), and indicated an association of physical activity and perceived control with engagement in life. Persons reporting greater perceived constraints at baseline, reported lower

engagement in life; higher levels of physical activity at baseline were associated with greater engagement. Despite the interaction of group by time not reaching significance, depicted in Figure 14.1, engagement in life demonstrates stability over the 12 months for the community sample, whereas the relocation sample appears to decline.

Table 14.2
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Change in Engagement in Life over 12mths

Parameter	Model 1a	Model 1b
	Fixed effects	
Intercept	0.01 (0.04)	0.05 (0.18)
Time	-0.02 (0.04)	-0.02 (0.04)
Relocation group	-0.09 (0.13)	0.09 (0.13)
Relocation group * Time	-0.17 (0.10)	-0.18 (0.10)
Age		0.002 (0.01)
Marital status[a]		
Separated/divorced		-0.21 (0.11)
Widowed		-0.04 (0.13)
Never Married		-0.02 (0.18)
Retired		-0.10 (0.09)
Enough money to meet needs		0.02 (0.17)
Physical activity		0.11 (0.04) **
Perceived control (constraints)		-0.27 (0.04) ***
	Random parameters	
Between couple variance	0.37 (0.15)	0.22 (0.12)
Between Individual variance	0.32 (0.14)	0.36 (0.12)
Residual variance	0.32 (0.02)	0.32 (0.02)
ICC – Couple	0.37	0.24
ICC – Individual	0.32	0.40
	Information criteria	
-2*log likelihood	2878.23	2802.74
AIC	2892.23	2832.75
BIC	2927.39	2908.08

Note. Standard errors are in parentheses.
[a] reference category for marital status = married/de-facto
* p<.05, **p<.01, ***p<.001

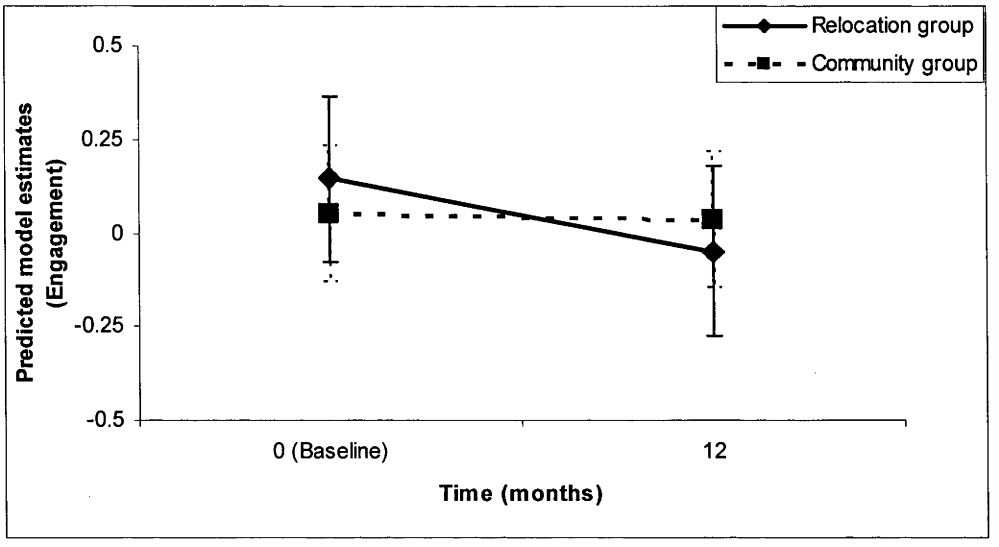

Figure 14.1. Change in engagement with life by group

Note. Figure depicts predicted engagement in life for the relocation and community groups, holding covariates constant at married, partially retired, reporting not enough money to meet needs, and at mean age, levels of physical activity and constraints.

14.1.2 Investigating change in engagement in life as a function of relocation

Complete tables detailing each step of the modeling procedure (Models 1 to 5) examining change in life engagement within the relocation group (including a random intercept for individuals only) are included in Appendix H.11. Note engagement in life was only measured at the baseline and 12-month intervals.

14.1.2.0 Model 0. The unadjusted effect of time.

Engagement in life demonstrated no significant change over the transition period, see Figure 14.2. Table 14.3 presents the results of the random coefficient model testing the unadjusted effect of time. Calculation of the ICC indicates that there is approximately 49% of the variance in engagement in life is at the individual level.

Table 14.3
Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Unadjusted Change in Engagement in Life

Parameter	Model 0
	Fixed effects
Intercept	3.29^{e-15} (0.10)
Time 12mth	-0.04 (0.11)
	Random parameters
Between Individual variance	0.43 (0.11)
Residual variance	0.44 (0.08)
ICC - Individual	0.49
	Information criteria
-2*log likelihood	380.46
AIC	388.46
BIC	400.45

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

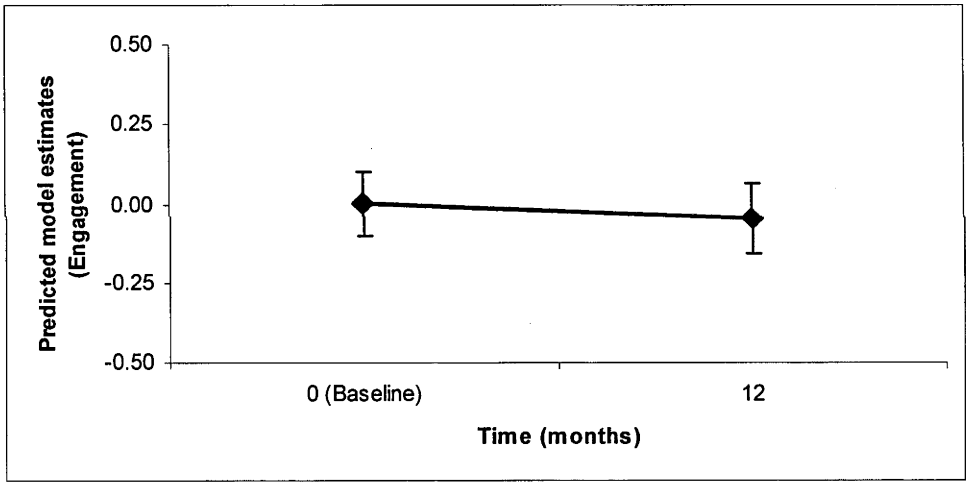

Figure 14.2. Unadjusted change in engagement in life.

14.1.2.1 Model 1. Adjusting for village development and perceptions of the environment.

The present study indicated no associations between time in residence (Model 1a; LR ratio test statistic = 0.02, df = 2, p = .990), village development (Model 1b; LR ratio test statistic = 0.80, df = 2, p = .669), perceptions of the home environment (Model 1c; LR ratio test statistic = 3.48, df = 2, p = .176), or pressure to move (Model 1d; LR ratio test statistic = 2.64, df = 2, p = .267) on baseline level of engagement, or engagement in life over time.

14.1.2.2 Model 2. Adjusting for demographic characteristics.

The inclusion of demographic characteristics indicated no associations with engagement in life, or improvement in model fit (LR ratio test statistic < .001, df = 1, p = .990).

14.1.2.3 Model 3. Adjusting for physical health.

No association was found between baseline physical health (Model 3a; LR ratio test statistic = 0.99, df = 1, p = .320) and engagement, and the inclusion of physical health by time interactions (Model 3b) did not indicate any moderating effect on engagement over time, or improvement in model fit (LR ratio test statistic = 1.67, df = 2, p = .435).

14.1.2.4 Model 4. Adjusting for personality characteristics.

The inclusion of baseline personality characteristics (Model 4a) improved model fit (LR ratio test statistic = 28.64, df = 5, p < .001) and were associated with extraversion (b = 0.18, p = .020), agreeableness (b = 0.19, p = .019), and neuroticism (b = -0.25, p = .004), such that higher extraversion and agreeableness, and lower neuroticism were associated with greater engagement in life. The inclusion of personality by time interactions did not indicate any significant moderating effects, or improvement in model fit (LR ratio test statistic = 6.67, df = 5, p = .264).

14.1.2.5 Models 5-6. Adjusting for social networks and social exchanges.

The inclusion of baseline social networks (Model 5a) improved model fit (LR ratio test statistic = 14.41, df = 3, p = .002), and indicated a significant positive effect of friend networks (b = 0.31, p < .001). However, baseline social networks did not moderate engagement in life over time (Model 5b; LR ratio test statistic = 1.54, df = 3, p = .694). Moreover, within-person change in friend and neighbour networks (Model 5c) was not found to be associated with changes in engagement in life (LR ratio test statistic = 2.66, df = 2, p = .264). The inclusion of baseline positive and negative exchanges (Model 6a) then further improved the model fit (LR ratio test statistic = 8.78, df = 2, p = .012), and indicated a significant effect of negative exchanges (b = -0.24, p = .002). No effect was

found for within-person change in positive or negative exchanges on engagement in life (Model 6b), or improvement in model fit (LR ratio test statistic = 0.16, df = 2, p = .925).

14.1.2.6 The model of best fit.

Examination of the model fit statistics indicated Model 6a (Table 14.4), adjusted for baseline personality and social network characteristics as the best fitting model for the data. This model established that there was no significant change in engagement in life over the 12-month transition period. However, greater availability of friend networks at baseline were associated with greater engagement in life, while a greater experience of negative exchanges and higher neuroticism was associated with lower engagement in life at baseline. A 1 standard deviation (SD) greater availability of friend network at baseline was associated with .31 of a SD higher engagement in life. A 1 SD greater degree of negative exchanges or, 1 SD higher degree of neuroticism, reported at baseline was associated with life engagement being .24 and .23 of a SD lower respectively. Figure 14.3 depicts the change over the transition in negative social exchanges for the initial unadjusted model and model of best fit.

Calculation of the ICC indicates that approximately 35% of the variance in life engagement is now indicated at the individual level. Comparing this final model to the unadjusted model, it is noted that the variance between individuals has decreased by 19%; however, the within-person (residual) variance has increased by 33% as a result of including the final set of predictors.

Table 14.4

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Model Predicting Change in Engagement in Life over 12 months

Parameter	Model 5c
	Fixed effects
Intercept	3.33^{E-15} (0.08)
Time 12mth	-0.07 (0.11)
Personality characteristics	
Extraversion	0.10 (0.07)
Agreeableness	0.04 (0.08)
Conscientiousness	0.01 (0.08)
Neuroticism	-0.23 (0.08) **
Openness	0.10 (0.07)
Social network characteristics	
Family (baseline)	0.04 (0.08)
Friend (baseline)	0.31 (0.09) ***
Neighbour (baseline)	-0.05 (0.08)
Positive exchanges (baseline)	0.02 (0.08)
Negative exchanges (baseline)	-0.24 (0.08) **
	Random parameters
Between Individual variance	0.35 (0.10)
Residual variance	0.66 (0.06)
ICC – Individual	0.35
	Information criteria
-2*log likelihood	328.63
AIC	356.63
BIC	398.60

Note. Standard errors are in parentheses.
* p<.05, **p<.01, ***p<.001

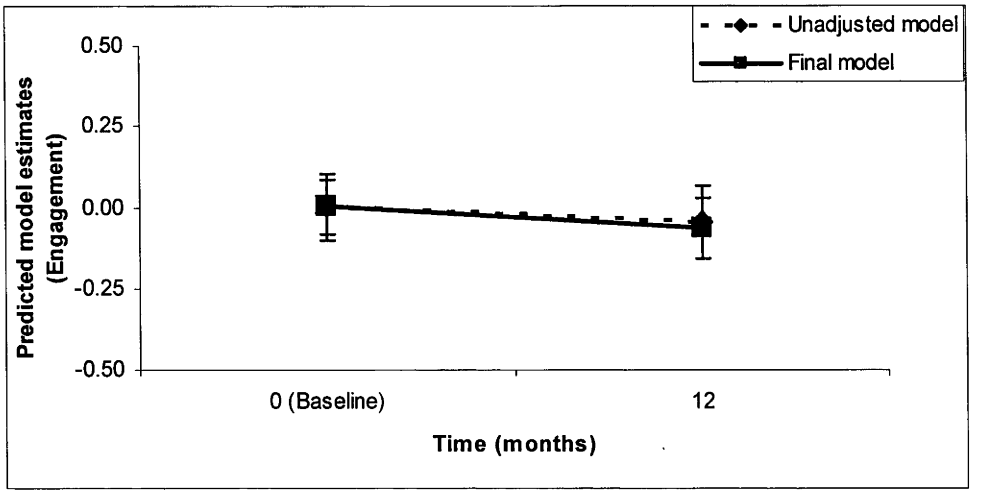

Figure 14.3. Change in engagement in life over the relocation transition

Note. The final model in figure 14.3 depicts predicted engagement in life at mean personality and social network characteristics.

14.2 Chapter Summary

The investigation of engagement in life within the relocation group indicated that the relocation process had no significant impact on purpose over the initial (12-month) adjustment period. In addition, despite differing trends observed between the groups (the relocation was suggested to decline in comparison to the community sample), no significant difference was observed between the relocating and community dwelling older adults at the 12-month follow-up.

No evidence was provided in the present study for contextual factors surrounding the relocation process, or changes in perceptions of home as impacting engagement in life. Although physical health is suggested to have a complex bi-directional association with engagement, the present study did not find engagement over time to be moderated by physical health. Similarly, although high neuroticism was associated with lower engagement at baseline, personality characteristics did not moderate change over time. Finally, while greater friend networks and less negative social exchanges were both associated with engagement at baseline (supporting social networks as playing an important role in establishing and maintaining a sense of purpose), change in engagement was not associated with changes in social networks or exchanges. Table 14.5 provides a summary of the main findings relating to the impact of relocation on engagement in life.

Table 14.5
Summary of Results for the Investigation of the Impact of Relocation on Engagement in Life

Evidence of:	Engagement
Change over time for the relocation group	
Group difference at 12-months	
Change associated with:	
Change in perceptions of home	
Time in previous residence	
Stage of village development at time of move	
Change moderated by:	
Pressure to move	
Physical health	
Personality	
Social networks	
Associated with baseline:	
Personality	✓
Social networks	✓

Chapter 15. Discussion of research findings.

Although older Australians express a strong preference to remain in their own home as they age (ABS, 2005), the demand for retirement village residences is increasing (McMullen & Sam, 2008). While reports suggest that retirement villages support independent living and social engagement, relocation can be a stressful and confronting experience. Moreover, some older adults report to fear losing independence, privacy and social isolation as a function of moving (Dupis-Blanchard et al., 2009; Fisher, 1990; Graham & Tuffin, 2004; Grant, 2006). Building from the limitations of previous studies, the present study sought to provide a comprehensive investigation of the experience of this transtion. As the transition from community living to a retirement village may have significant consequences for the well-being of older adults, it was considered important that an investigation focus on key factors contributing to the experience.

The following chapter provides an overview of findings from the present study. Considering many older Australians are resistent to the idea of retirement village living, the idiosyncratic charateristics that distinguish those older adults making the transition are explored. The expectations of prospective residents prior to moving then provides an insight into the significance of this event in late life. The experience of relocation is then explored through the initial reactions of residents (1-month post-move) and the short-term (12-months post-move) effects on social networks and engagement, perceived loneliness, subjective well-being and engagement in life.

While the move is reported as a strssful experience by many, benefits such as reduced daily hassles, security and social contact were noted as immediately evident to many residents. Importantly for the village under study, the expectations held by residents prior to moving appear to have generally been met. Assessment of short-term adjustment suggests reduced social isolation (increased neighbour supports, reduced

loneliness) is a principle benefit of relocation. However, the benefits of relocation were higher for participatns who: were healthy; were not pressured to move; obtained higher scores on personality characteristics such as agreeableness; and experienced increased social interaction after the move. Table 15.1 provides a summary of findings presented in chapters 11 to 14.

While the limitations of this study are acknowledged; overall, this investigation provides an important contribution to our understanding of the needs and experiences of our ageing community. Through continued monitoring of long-term outcomes for residents we may ensure this housing option is a positive choice for healthy and successful ageing.

Table 15.1
Summary of Quantitative Research Findings

Outcome:	Perceptions of home	Friend networks	Family networks	Neighbour networks	Positive exchanges	Negative exchanges	Loneliness	Positive Affect	Negative Affect	Satisfaction with Life	Engagement in life
Time	✓			✓	✓	✓	✓	✓			
Direct Effects:											
Time in previous residence		✓									
Stage of village development							✓[a]				
Pressure to move											
Perception of home			✓	✓							
Physical health				✓				✓		✓	
Personality											
Extraversion										✓	
Agreeableness						✓	✓				
Conscientiousness										✓	
Neuroticism							✓		✓		✓
Openness											
Perceived control - constraint								✓			
Perceived control - mastery											
Social networks - friends					✓			✓			✓
Social networks - family					✓						
Social networks - neighours											
Social exchanges - positive										✓	
Social exchanges - negative								✓	✓	✓	✓
Moderating Effects:											
Time in previous residence											
Stage of village development											
Pressure to move	✓				✓						
Physical health								✓		✓	
Personality											
Extraversion											
Agreeableness							✓				
Conscientiousness							✓				
Neuroticism											
Openness										✓	
Change associated with:											
Change in perceptions of home				✓							
Time in previous residence											
Change in friend networks											
Change in neighbour networks											
Change in positive exchanges								✓			
Change in negative exchanges									✓		
Change in perceived constraints								✓	✓		
Change in perceived mastery											

Note. [a] change between baseline and 1-month only.

15.1 Review of Research Findings

15.1.1 Group differences prior to moving

Research Question 1: *Do those older adults relocating to the retirement village differ from their peers residing in the community in socio-demographic, health and well-being, or environmental characteristics?*

Initial investigation into the differences between relocating and community-dwelling older adults revealed few distinctive characteristics differentiating those individuals who choose to relocate to a retirement village. On average, those relocating to the retirement village were older (approximately 10 years), and more likely to be retired, widowed, and to report having enough money to meet their needs. The relocation group also reported having less control over various aspects of their life, at baseline. However, the hypothesis that participants in the relocation sample would report poorer health and perceptions of the home environment, in comparison the community sample was not supported. Those older adults moving to the village were not more socially isolated, in poorer health, were not more dissatisfied with their neighbourhood environment, and did not reflect any specific personality characteristics when compared to the community sample; however, the community group was reportedly more physically active than those relocating to the retirement village.

15.1.2 Expectations and first impressions

Research Question 2: *a) What expectations regarding relocation do prospective retirement village residents hold prior to relocation, and b) what benefits and difficulties do they report in the initial stage of transitions?*

Pre-move expectations were predominantly positive with all respondents anticipating benefits associated with moving into their new residence. Most commonly these expectations reflected an anticipated reduction in stress (previously associated with maintaining a large household and garden), an increase in social contacts, the provision

of healthcare and support in the case of future need, and security. However, approximately one third of respondents expected to experience some difficulties as a consequence of their move, primarily relating to the task of downsizing. Concerns were also held in relation to the work involved in relocating and adapting to the new environment.

Following the initial relocation period (1-month post-move), two thirds of respondents were able to identify benefits already resulting from their move. These were primarily reflected in the reduced maintenance and gardening hassles, the new home furnishings and appliances, feeling secure in the new environment and an increase in social contacts. Difficulties, experienced by approximately a third of residents, reflected the re-adjustment to living in a new environment and the hassles resulting from maintenance issues and delays in the completion of their new home.

15.1.3 Primary transition outcomes: Social networks, subjective well-being and engagement in life.

Research Question 4: *Are changes in social networks and exchanges experienced following relocation to the retirement village?*

The hypotheses that i) Initial declines in social networks would be observed in social networks and exchanges following relocation; however, over time positive increases in friend and neighbour social networks and positive social exchanges, and reductions in perceived loneliness would be observed; and iii) In comparison to community residents, residents of the retirement village would report more positive social exchanges and less loneliness 12-months post-move, were partially supported. Following relocation, significant positive change was observed in neighbour networks and loneliness. Specifically, social interactions with neighbour had increased significantly at both 6- and 12-months post relocation in comparison to baseline. Consistent with this, perceived loneliness was found to decline over the 12-month period.

In contrast, examination of the unadjusted change in friend support networks, and positive and negative social exchanges indicated declines over the 12-month period. However, these declines were not significant upon controlling for time in original residence. As hypothesised there was no change observed in family support networks over time.

Research Question 5: *Are changes in SWB (positive and negative affect, and life satisfaction) experienced following relocation to a retirement village?*

Research Question 6: *Does engagement in life change following relocation to a retirement village?*

Following relocation to the retirement village, little change was observed in subjective well-being. A temporary fluctuation, reflecting adaptation, was observed in positive affect (PA). PA significantly increased from the pre-move assessment to 1-month post relocation, but returned to levels comparable to pre-move status 12-months post relocation. Life satisfaction and negative affect (NA) showed no significant change over the 12-month period. As predicted, the relocation group showed no significant change in engagement in life over the 12-month period.

15.1.4 Comparisons with community-dwelling residents.

The changes observed over time were largely confined to the sample of relocating adults. While a significant decline in loneliness was observed for both groups, this was less pronounced in the community sample. Furthermore, the relocation participants reported significantly greater neighbour networks, poorer friend networks and fewer positive exchanges 12-months post relocation than the community sample. No significant differences were observed between the relocating and community dwelling older adults in family networks, negative social exchanges, engagement, or any of the indicators of subjective well-being (PA, NA, or satisfaction with life) 12-months post relocation.

15.1.5 Perceptions of the home environment, the development of the village and pressure to move.

Research Question 3: *a) Do perceptions of the home environment change over time? b) Are perceptions of the new home environment more positive than those of the old residence?*

In support of our hypothesis an initial decline was observed in perceptions of the home environment; however, over the 12-month transition period positive perceptions of the home environment came to exceed those of the original residence. However, this effect was moderated by pressure to move, such that those individuals who were pressured to move reported more negative perceptions of the home environment immediately following relocation (1-month), and subsequently poorer perceptions of the home across the follow-up period. Although the results should be interpreted with caution, there was some evidence to suggest personality characteristics neuroticism and conscientiousness also moderated perceptions over time. Persons high in neuroticism or conscientiousness reported less of a decline in positive perceptions immediately following relocation (1-month). Change in perceptions of the home environment was not moderated by physical health.

The hypothesis that change (improvement) in the home environment would be associated with increased SWB was partially supported. The observed change in perceptions of the home environment was not associated with any overall change in positive or negative social exchanges, friend or family social networks, perceived loneliness, engagement, or positive and negative affect. However, increased perceptions of the home following relocation were associated with increased neighbour networks and overall satisfaction with life.

The hypothesis that early movers would have less interaction with other residents in the early stages of their transition, in comparison to those moving once the village life is established, was largely unsupported. Adjustment for the stage of village

development at which residents relocated revealed little effect on changes in social networks, SWB or engagement. The only significant effect was for positive exchanges such that persons moving later in the development and occupancy of the village reported more positive exchanges with others immediately following relocation in comparison to the villages' first residents, but then reported a greater decline between the 1- and 6-month assessments.

While perceived pressure to move appeared to influence initial perceptions of the home environment, in contrast to our hypotheses, it was not identified as a significant moderator of social networks, subjective well-being or engagement in life over time.

15.1.6 The moderating effect of physical health.

Physical health moderated change in PA and life satisfaction over the transition period. The results indicated that those participants who were healthier prior to relocation were also experiencing greater PA, and therefore reported less change from the baseline to 1-month assessment than those in average or poor physical health. Moreover, poor physical health was associated with a decease in life satisfaction 6-12 months post relocation. In comparison, healthier participants reported increased life satisfaction during this time. The hypothesis that greater positive physical health would be associated with higher engagement being maintained throughout the transition process was not supported.

15.1.7 The moderating effect of personality.

The hypotheses that 1) individuals high in extraversion and agreeableness would report larger social networks greater social exchanges; 2) that those high in neuroticism would report less positive exchanges and smaller social networks; 3) high extraversion, agreeableness and conscientiousness would be associated with more positive SWB; 4) high neuroticism would be associated with greater distress (low PA and life satisfaction,

high NA); and 5) high extraversion and lower neuroticism would promote engagement in life, were only partially supported. Personality characteristics were found to have a moderating effect on loneliness and life satisfaction over time. Agreeableness and conscientiousness moderated perceived loneliness over time. Persons high in agreeableness or low in conscientiousness reported initial increases in loneliness post relocation; whereas persons low in agreeableness or high in conscientiousness reported consistent declines. Openness to experience moderated change in life satisfaction such that persons reporting high openness reported initial declines in life satisfaction (1-month post move) and increases from 6- to 12-months.

Some evidence was also provided for personality influencing negative social exchanges and NA; however, these effects were not significant in the final models. Changes in friend, neighbour, and family social networks, positive social exchanges, PA, or engagement in life, were not moderated by personality characteristics.

15.1.8 The impact of change in perceived control.

The hypothesis that positive change in perceived control would be associated with positive well-being was supported. Participants who perceived there to have been a reduction in their level of control over areas of their life (increased constraints) reported an overall decline in PA and life satisfaction, and an increase in NA. Specifically, increases in perceived constraints between the 6- and 12-month assessments were associated with decreases in PA during this period.

15.1.9 The impact of a change in social networks and exchanges.

Mixed support was provided in the present study for the hypothesis that larger social networks and the report of greater frequency of contact and more positive exchanges would be associated with greater SWB. The social networks and supports of participants prior to moving (friends, family, neighbours) did not moderate change in SWB or

engagement over time. The observed change in friend and neighbour social networks over the transition period was also not associated with the change in positive and negative social exchanges. However, for participants who reported increases in friend networks between the baseline and 1-month assessment, decreases in loneliness were observed during this period.

The observed change in friend and neighbour social networks were not associated with any overall change in affect or life satisfaction. However, analyses indicated that for those residents experiencing an initial increase in friend networks (1-month post relocation), NA increased. Increased contact with friends between the 1- and 6-month assessment was associated with an increase in life satisfaction.

Overall, an increase in positive exchanges was associated with an increase in PA. Moreover, an increase in negative exchanges from baseline to 1-month was associated with a decline in PA. An overall increase in negative exchanges was associated with an increase in NA. However, post hoc analyses indicated that while initial increases in negative exchanges 1-month post relocation were associated with an increase in NA, an increase in negative exchanges between the 6- and 12-month assessments was associated with a small decrease in NA. Change in positive or negative social exchanges was not associated with life satisfaction over time.

The hypothesis that positive change in social networks would facilitate a positive change in engagement in life was not supported. Change in engagement was not associated with changes in social networks or exchanges.

15.2 Establishing the characteristics of relocating older adults.

The first aim of the present study was to examine the characteristics of older adults relocating to the retirement village and determine if the differed from their peers

residing in the community in socio-demographic, health, well-being or environmental characteristics. The decisions that adults make about their future housing needs may involve a complex range of factors. Principally, research has identified declining health and needs for continuing care, perceived social isolation and loneliness, financial pressures and security, as common motives for relocation (Bekhet et al., 2009; Gardner, 1996; Piggot & Sane, 2007; Stimson & McCrea, 2004). Moreover, it has been identified that retired persons, those aged 55-64 years, and persons reporting sufficient financial resources, poorer physical health and poorer current neighbourhood cohesion are most likely to have considered future relocation (Crisp et al., 2012a). However, considering that the majority of older Australians remain living in the community despite support service needs (ABS, 2004; 2005) further investigation of the idiosyncratic characteristics that distinguish individuals who relocate to retirement villages and those who do not was required.

Initial investigation into the differences between relocating and community-dwelling older adults in the present study revealed few distinctive characteristics differentiating those individuals who choose to relocate to a retirement village from those who do not. On average, those relocating to the retirement village were older (approximately 10 years), more likely to be retired, and were more likely to be widowed. They were also more likely to report some financial stability in having enough money to meet their needs, but reported less control (greater constraints) in their life. They also appeared to be less physical activity in comparison to their community-dwelling counterparts. However, our hypotheses that participants in the relocation sample would be characterised by poorer health and report poor perceptions of the home environment were not supported. There were also no substantial differences observed between the groups in their mental health (e.g., depression, anxiety and stress), trait affect or satisfaction with life, engagement in life, or in education levels, home

ownership status or time they have resided in their current residence, at the commencement of the study.

15.2.1 Demographic differences

The demographic differences between community dwelling and relocating older adults found in the present study are consistent with past research (Stimson & McCrea, 2004). While not a direct motive for relocation, age differences in relocation research are prominent. Although our recent examination of the community-dwelling older adults found the younger age group (55-64 years olds) most likely to have considered relocation (Crisp et al., 2012a), it is often accepted that older adults are most likely to move (e.g., Bradsher et al., 1992). Indeed, older adults are more likely to have experienced declines in health and functionality, and the loss of a partner, both of which reflect principle motives for relocation (Bradsher et al., 1992; Choi, 1996; Stimson et al., 2002; Stimson & McCrea, 2004). Moreover, it is logical to expect that those relocating to the retirement village are more likely to be retired as they identify with the prospect of living in a 'retirement community' centered on the needs of retirees. Indeed, retirees are found to be more likely to have considered relocation to a retirement village relative to their peers in the labour force (Crisp et al., 2012a).

Finally, evidence was provided that financial stability may play some part in decisions to relocate. While the majority of people (95%) across the present study indicated they had enough money to meet their needs, a significant difference was observed in that all prospective residents reported this stability at baseline. This is also consistent with findings related to 'considered relocation'. While the majority of the community sample indicated having adequate financial resources to meet their needs, previous investigation has identified those who did not as significantly less likely to have considered relocation (Crisp et al., 2012a), and over 50% reported the expense of retirement villages as a factor discouraging future relocation (Crisp, Windsor, Anstey,

& Butterworth, 2012b). Certainly issues of the affordability of retirement village units are also noted as an important barrier for some older adults in past research (Finn et al., 2011; Gardner et al., 2005; Krout et al., 2002). While issues and community opinions relating to affordability of retirement villages, particularly within an Australian context, have largely not been addressed within the literature, and are outside the scope of this thesis, our finding supports research (e.g., Gardner et al., 2005; Krout et al., 2002) suggesting that real or perceived costs associated with attaining a residence within a village complex may be an important barrier for some older adults.

15.2.2 Differences in perceived control

The relocation group reported experiencing greater constraints (lower perceived control) prior to moving compared to the community sample, which may be a function of the nature of this transition. Although the relocation group did not appear to display a high degree of pressure to move, suggesting that in many cases the decision to relocate was largely their own, the nature of this transition remains a challenging and stressful experience. Research has demonstrated that the task of downsizing the home, consolidating a life-time of belongings, and leaving a familiar environment, can produce feelings of grief, insecurity, and a loss of identity and control (Morgan et al., 1997). On average, participants in the present study were captured 11 weeks prior to their official moving date, and having placed a deposit, had begun the process of organising their relocation. A substantial proportion (28%) reported downsizing as a concern at this time. While the magnitude and pressure felt surrounding this task is unknown, it is hypothesised as a reasonable cause for the greater constraints that were reported. Alternatively, dissatisfaction with current life circumstances, and a desire to maximise personal control and independence, has been identified in past research as a frequent motive for relocation (e.g., Butler, et al., 1998; Gardner, et al., 2005; Grant, 2006). Therefore, this finding may also reflect motivation to relocate as a strategy for reducing

some of the perceived constraints (e.g., over finances, their residence, the activities they engage in, or their life in general) that exist in one's life. Further research is required to extrapolate exactly where the greater perceived constraints originate.

15.2.3 Physical health

In contrast to expectations, participants in the relocation group were not characterised by poorer health when compared to their community-dwelling counterparts. Although poor physical health has been associated with a greater likelihood of having considered relocation to a retirement village (Crisp et al., 2012a), and is the most commonly cited motive for relocation (Bekhet et al., 2009; Gardner, 1996; Piggot & Sane, 2007; Stimson & McCrea, 2004), poorer health did not characterise relocating older adults in the present study. This is not to say that none of the residents moving to the village in question relocated for health concerns, but rather on average the physical health of this cohort was not poorer in comparison to others in their age group.

Indeed, other studies have also found non-significant differences between the health status of movers and non-movers (e.g., Choi, 1996). This suggests that other factors in conjunction with declining health may sometimes supersede this motive for relocation. For instance, rather than current health concerns, anticipation of future health decline and assistance needs may be an important influence on relocation decisions.

Alternatively, the present findings may be a reflection of the preference to age-in-place in the family home and the resistance by many older adults, despite having care needs, to move into communities that can provide daily assistance (ABS, 2004; 2005). The relocation sample may in fact been motivated due to a level of declining health or functionality, choosing the retirement village as an adaptive compensatory strategy, which others resist. That is, while the longitudinal data is not available for the present sample to confirm health decline, it may be that older adults in both the relocation and

community groups have begun to experience health declines but that it remains only a small proportion of people that chose to relocate as a way of compensating.

The difference between the groups in physical activity at baseline is an interesting case. The indication that the community group were engaging in a greater level of physical activity than those relocating to the retirement village, prior to moving, may indicate that while overall self-perceived physical health was not reportedly lower, limitations in mobility were present. However, other factors including neighbourhood characteristics, perceptions of safety, and social networks facilitate engagement in physical activity outside the home (e.g., Butler et al., 1998; Rojo Perez et al., 2001). This provided a basis for the adjustment of physical activity in analyses comparing change over time between the two groups.

15.2.4 Social connection and the environment

Feelings of social isolation accompanying changes to social networks in later life and the community friendly design of many retirement villages also represent significant push-pull factors potentially influencing relocation decisions (Graham & Tuffin, 2004; Sergeant & Ekerdt, 2008). Older adults reporting less social support from family, friend, and neighbour networks are more likely to consider relocation based on perceptions of retirement villages as communities where social interactions and engagement are encouraged (Graham & Tuffin, 2004). As such it was anticipated that prior to moving the relocation group would display less support and smaller social networks or greater perceived loneliness when compared to their non-moving counterparts. However, despite the effect found for marital status (widowhood) this hypothesis was not supported. Compared to the community sample, participants in the relocation sample did not indicate any significant difference in social networks, exchanges or perceive loneliness. Feelings of social isolation reported to accompany relocation decisions are often prompted by the loss of a spouse, relocation of friends or the desire to be closer to

family (Sergeant & Ekerdt, 2008). As the present sample indicated relatively high social network contact and high proportion of people in a married or de-facto relationship, a lack of variability in network deficit between respondents may be the cause of this null finding.

Perceived inadequacies of one's current residence or neighbourhood environment relating to affordability (Krout et al., 2002) and safety (Fonad et al., 2006; Sergeant & Ekerdt, 2008) can also prompt relocation. Moreover, less favourable perceptions of the neighbourhood environment, or lack of person-environment fit, have been associated with considered relocation (Bekhet et al., 2009; Crisp et al., 2012a). Therefore, it was predicted that the home and neighbourhood environment would be perceived as less desirable amongst participants in the process of planning relocation. This was not supported. Participants in the relocation group were not any less satisfied with their current home, and they did not report any less neighbourhood cohesion or greater neighbourhood disorder than the community sample. While research with the community sample (Crisp et al., 2012b) suggested planning relocation to a retirement village may reflect an important adaptive or compensatory strategy for maintaining health and well-being in later life if the current environment ceases to be appropriate (lack of social cohesion), this did not appear to characterise those people who actually decided to move.

While the relocation group did not report any significant differences in social support compared to the community sample, it also does not negate that they may have been attracted to the reirement village for the prospect of increasing social engagement. Indeed, examininig the benefits prospective residents anticipated prior to moving highlights increased social connection was an important influence. Further investigation is required in determining the motives and decision process preceding

relocation to a retirement village in order to descern any important characteristics relevant to those embarking on this transition.

15.2.5 Personality characteristics

It was considered that decisions to relocate to a retirement village may be a function of other idiosyncratic characteristics, namely personality. Applying an understanding of how personality characteristics influence an individual's adjustment to change in later life was proposed to indicate why some older adults are more open to the idea of retirement village living than others. Specifically, individuals high in extraversion, often characterised by assertiveness, and engagement in social activities (Costa & McCrea, 1992a; McCrea & John, 1992), were hypothesized to be attracted to the social opportunities offered by retirement villages. In addition, as those high in agreeableness, and conscientiousness are reported to adapt relatively well to different life events and new environments (Bardi & Ryff, 2007), and individuals high in openness seek challenging and novel experiences (Koenig & Cunningham, 2001b), it was hypothesised they would be more likely to consider relocation. However, this was also not supported in the present study. Participants in the relocation sample did not display any distinctive personality characteristics.

15.2.6 In summary.

These results suggest that motives for relocation do involve a complex interplay of circumstances, personal resources, and opinions and preferences for different housing options for the future. As such, relocation may reflect either a coping mechanism or prevention plan for dealing with stressors or other life events. People who make the decision to relocate to retirement village style accommodation may, for example, not be in any poorer health than their peers who continue to reside in the community. Rather, they may represent planners (as identified by Gardner, 1996) who indeed identify with

the commonly cited motives for relocation and anticipate for future rather than current needs. Furthermore, the decision may reflect the proposals of the SOC framework (Baltes, 1987) and represent an adaptive stragegy to maximise and maintain independence through downsizing. Through relocation to a retirement community individuals are able to downsize their living environment. By also utilising facilities that assist with general home maintenance and health care services, the retirement village offers a less demanding physical environment to assist individuals to maintain independence while investing their time and resources in activities they find enjoyable. In discussing motives for relocation and the transition made to Independent Living Units in particular, it may then be that, pull factors (Bogue, 1969) representing desirable characteristics associated with the new location, are substantially more meaningful in underatanding relocation, in contrast to push factors (stressors or circumstnce) that necessitiate a move.

15.3 The experience of relocation: Expectations and experiences.

The personal reactions of participants regarding their expectations prior to moving and their experiences 1-month following relocation provides valuable insight into the transition experience and impact of relocation to a retirement village on the well-being of older adults. The present study examined both the expectations of residents prior to moving and the benefits and difficulties reported by residents in the initial stage of transitions.

15.3.1 Expectations

From the beginning it was clear that the prospective residents of our retirement village were anticipating the upcoming transition as a positive new experience, holding promising benefits for their future. All respondents anticipated benefits associated with moving into their new residence. Most commonly these expectations reflected an anticipated reduction in stress associated with maintaining a large household and garden, an increase in social contacts, the provision of healthcare and support in the case of future need, and security. All of which closely echo motives often cited for late life relocation (Buys, 2001; Krout et al., 2002; Sergeant & Ekerdt, 2008; Stimson & McCrea, 2004).

Prior to moving, negative expectations in the form of concerns were also reported. At least one third of respondents also expected to experience some difficulties as a consequence of their move. These concerns primarily related to the task of downsizing, but were also held in relation to the work involved in relocating and adapting to the new environment. Even when it represents a positive change, downsizing and the relocation experience is physically and emotionally demanding and the stress associated with the consolidation and loss of possessions that have been accumulated over one's lifespan can be substantial (Marcoux, 2001; Morgan et al., 1997; Sergeant & Ekerdt, 2008). With the stability and familiarity of the home environment also holds important significance for older adults in relation to security and independence (Kendig & Bridge, 2007), the prospect of adapting to a new environment is likely to be daunting. It is therefore not surprising that prospective residents report these concerns. While little may be done to minimise the stress due the nature of this transition, it is important that service providers understand the significance of this event in the lives of their residents. Particularly in the early stages from deciding to move and initiating relocation through to completion; support, understanding and patience are required. Moreover, the wider

community being the support networks of older adults (whether family, friends, neighbours), should also not forget the challenges faced by the older members of our community when undergoing any residential relocation.

15.3.2 Experiences

Consistent with findings from Grant (2006), two thirds of respondents in the present study were able to identify benefits resulting from the move soon after relocating (1 month). These benefits primarily reflected reduced maintenance and gardening hassles, new home furnishings and appliances, feeling secure in the new environment and an increase in social contacts. All of which importantly mirror sample expectations and wider motives for relocation.

In addition, improved health was also anticipated by residents; however, one month post move is not a substantial enough time frame to expect improved health reported as a benefit, particularly in light of the apparent good health of the relocating sample. Of concern, is that future healthcare and support was anticipated by almost half of the residents prior to moving and this benefit may never come to fruition. While a residential care facility which provides for continuing care needs operates within the retirement village studied, and requests can be made to move within the complex to this facility, this service is not guaranteed. If relocation is driven by the desire to plan for future healthcare needs, and when the time comes these needs can not be met within the complex, questions remain surrounding the resultant impact on the individuals health and well-being. Indeed, this distinction between resident expectations and service provision is one which has been highlighted in past research (e.g., Buys, 2000).

Despite the benefits that were reported, not surprisingly, approximately two-thirds of residents did find the move to be stressful. Difficulties associated with adjustment to living in a new environment, and the hassles resulting from maintenance issues and delays in the completion of their new home were primarily reported. While issues such

as privacy have previously been found to be of major importance and concern to both current and prospective residents (Crisp et al., 2012b; Graham & Tuffin, 2004), due to the close proximity of residences, concerns of this type were not raised by participants at this time point. However, it is again noted that one month, in the context of a newly completed and not yet fully occupied village is likely to be insufficient time for this issue to develop.

The problems identified as associated with adjustment to the new environment are not unexpected. As noted earlier, the process of downsizing, and relocation in general, is a challenging and stressful experience, one which does not cease on the day one moves. Moreover, adjustment to living in any new environment is likely to present numerous challenges from navigating local services and facilities, to adjusting to a smaller space and the displacement of belongings. In fact, these difficulties are not dissimilar to challenges faced in any experience of relocation.

Those reported hassles associated with maintenance issues and delays in the completion of the new residence, while likely to have increased the stress associated with the transition, are largely unique to moving into a newly constructed village. As such, they should not be considered the typical experience and are likely to have only a short transitory effect on adjustment to the move.

15.4 The impact of relocation.

15.4.1 Neighbours, Friends and Family networks.

The desire to increase social networks and reduce perceived loneliness are primary motives for relocation (e.g., Gardner, 1996; Sergeant & Ekerdt, 2008). Therefore, to be established as a positive experience, relocation to a retirement village should be accompanied by the establishment of new social contacts, whilst largely maintaining

existing networks. The maintenance of existing networks is particularly important as relocation to a retirement village should not be observed as segregation from the wider community. In consideration of the nature of relocation as likely to result in some initial disruption to social contact it was hypothesised that initial declines in social networks and exchanges measured immediately following relocation may be observed; however, over time positive increases would be observed. Results of the current study support this indicator of successful transition. Within the present sample a consistent increase in neighbour networks was observed over the 12-months following relocation, in clear contrast to the stability of networks reported by the comparison group of community-dwelling participants. However, more importantly, family networks did not change over the study period, and while a decline was observed in friend networks prior to adjusting for the amount of time one had resided in their original residence and in contrast to community dwelling residents at 12-months, this effect was not significant after adjusting for other covariates.

The possibility of expanding one's social network is a fundamental characteristic of retirement village life that attracts many residents to this style of housing. As such, an increase in neighbour networks may be the best indicator (in the present study) of whether the retirement village delivers on one of its principle advantages. The substantial increase in neighbour networks found in the present study, especially when compared to the community comparison sample, validates this claim and corroborates reports from both past studies (e.g., Percival, 2001) and reflections of residents in the present study, that the friendliness of residents and contact with neighbours is a significant benefit of relocation.

An increased proportion of neighbours comprising one's social network may then provide significant benefits in other areas of health and well-being to the advantage of the retirement village residents beyond their community-dwelling counterparts. With

neighbours suggested to be central to the social networks of the over 60 age group (Bauma et al., 2000; McDonald, 1996), the close proximity of aged peers within a retirement village is likely to be particularly strong with 'neighbouring' activities such as 'curtain signalling' enhancing one's sense of security.

Turning the focus to friend networks, any decline over time is a concern. One of the principle fears discouraging relocation to a retirement village concerns becoming socially isolated and losing contact with the community and one's current friends and neighbours (Crisp et al., 2012b; Fisher, 1990; Grant, 2006; Sabia, 2008). Therefore, while establishing new networks is important, a decline in existing networks may be of detriment to many residents. Although the decline observed over time in friend networks in the adjusted model became non-significant, the comparison with the community-dwelling residents at 12-months indicates some disparity.

The effect of controlling for embeddedness in the community neighbourhood prior to relocation on friend network over time is not surprising. Individuals who have resided in the same neighbourhood for a significant period of time are likely to have developed relationships with neighbours that are characterised as friends. In this case relocation inevitably then results in a decline in the degree of contact with some network members. However, while frequency of contact is reduced, it is possible that the relationship is maintained.

Past research examining changes in the nature of social networks following relocation to a retirement village suggests that life-long friendships are maintained in conjunction with new friendships by the majority of residents (e.g., McDonald, 1996). Certainly, the reports of residents 1-month post relocation indicated that the majority (67.5%) of residents had maintained their social ties with friends and neighbours they had prior to moving, with a further 7% expecting to in the future. The contrast between these personal reports and the LSNS measure of network size and contact may reflect

the nature of the contact measured. While residents may have experience a reduction in contact with friend networks the sense of being connected remains strong and friendships are retained.

Alternatively, it may be considered that a decline in existing friend networks in the 12-months following relocation is reflective of the consolidation processes proposed by the SST (Carstensen, 1993; 1995). If in general a decline in network size is expected in later life, as older adults become more selective in their social exchanges to favour quality over quantity of network members, the relocation transition may represent an opportunity for the re-evaluation of one's social network (Lang et al., 1998). Decreasing contact with peripheral members of one's social network in particular can be viewed as an adaptive response to later life which maximizes social attachment, support and positive well-being (Bossé, et al., 1993). Therefore the decline in friend networks may reflect a positive outcome whereby participants have chosen, in the light of moving to a new environment, to take the opportunity to refocus their attention and energies on those people that are most meaningful to them.

As many older adults have lifelong friends who may be equally, if not more, important than family in providing emotional support, any changes to friendship networks may represent a significant challenge. Further detailed investigation is required to establish the nature of any friendships lost as a result of relocation and determine if friend-based network change is a function of a re-evaluation and selection of only those important sustainable networks; or if the nature of relocating to an age-segregated community has had a negative impact on the ability to maintain important pre-move networks.

Moreover, an inability to clearly delineate the construction of social networks constitutes a limitation of much of the research in this area. In much the same way that subjectivity may exist in the classification of long-standing neighbours as friends, there

is also uncertainty in the classification of new acquaintances as neighbours. Certainly, feedback obtained from participants in the present study concerning social network questions asked at 1-month indicated that difficulties arise in the initial period of adjustment to a new environment in the categorisation of new contacts as 'neighbours' and the assessment of contact or support they provide. In future research alternative measures of social networks which offer more prescriptive or defined indicators of different network groups may prevent some of the ambiguity and confusion experienced.

In considering the impact of relocation it is finally important to note that as participants were largely relocating within the same city, a desire for closer proximity to family was unlikely to be the motive for relocation. Therefore, the consistency in family support network observed over the course of the study is reflective of a successful transition. While research has indicated that family networks largely exist independent of geographic location (Heisler et al., 2003), a concern associated with the impact of retirement villages on family networks surrounds the provision instrumental support by village services that may have previously been filled by family (Buys et al., 2006). If this is to occur it may result in reduced involvement and contact with family members. The present study may move to alleviate this concern as family contact appears to have remained stable across the transition. However, further long-term follow-up is required.

15.4.2 Positive and negative social exchanges

Research has suggested that rather than social network size, the quality of social networks and social exchanges may relate most strongly to health and well-being in later life (Antonucci, 2001; Pressman et al., 2005). This is a particular pertinent point in examining the social relationships of older adults which characteristically decline with age (Fung et al., 2001; Litwin, 1996). Importantly, in late life, social networks can be associated with stronger feelings of social embeddedness and support (Lang &

Carstensen, 1994), as an adaptive strategy to maintaining positive well-being (Bossé et al., 1993). In the present study, an examination of changes in the quality of social exchanges (positive and negative) over the transition period found mixed evidence for successful adjustment. Both positive and negative social exchanges declined over the 12 month period. While a decline in negative exchanges may seem indicative of successful adjustment, the differences observed at 12 months did not characterise a significant decrease when compared to the community sample. Furthermore, the decline in positive social exchanges coupled (but not associated with) the changes observed in friends and neighbour networks, suggest that this transition period may be characterised by more neutral social interactions not captured by the PANSE scale. As residents further establish themselves in the village and build relationships with their neighbours, and other residents, the quality of social exchanges, and their nature as either positive or negative, may evolve to provide a more accurate indication of the nature of social exchanges in a retirement village environment. In time, contacts (neighbours) made in the retirement village may develop, whereby the closer proximity of residents results in the formation of relationships that provide the most significant exchange of social and emotion support received.

15.4.3 Loneliness

Drawing from both positive network change and social interactions, reductions in perceived loneliness following relocation is an important motive for relocation (Gardner, 1996; Sergeant & Ekerdt, 2008) and represents a significant indicator of positive transition. Although not observed in the present sample as a significant difference at 1-month, a consistent decline was observed in perceived loneliness across the study period. However, in contrast to expectations, this decline in loneliness was not associated with the increase in neighbour networks. Rather, consistent with the convoy model, a reduction in loneliness may be a function of the incidental contact between

residents that is often reported to be more prevalent in retirement communities than other neighbourhood environments partially as a result of community spaces (Percival, 2001; Sugihara & Evans, 2000). Furthermore, it may be that the wider increase in social networks and acquaintances comprised of village staff, may buffer feelings of social isolation beyond the neighbour contacts identified. Finally, it is possible that the adjustment period, as characterised by downsizing, familiarising one's self with a new environment, and engagement in new activities, results in individuals being too busy to feel lonely.

15.4.4 Subjective well-being

The examination of SWB as an indicator of an individual's evaluation of their mood and satisfaction with life following a significant life event provides an important marker of adjustment. Previous research documenting the reports of retirement village residents suggests that life satisfaction is improved as a result of relocation (e.g., Gardner et al., 2005). However, in the present study no substantial change was observed in affect or satisfaction with life. Only temporary fluctuations were observed in PA, represented as an immediate increase at 1-month and return to base levels by 6-months post-move.

These findings support that SWB is largely stable over time and that although reported as stressful by 42% of participants, relocation had seemingly little negative impact in SWB. Instead, the only fluctuation in well-being appeared as an increase in PA in the initial period of adjustment. It may be that residents initially report increases in SWB as a function of the excitement and anticipation around the benefits of the new environment, and as the novelty wanes, adaptation is observed. Although a lasting improvement in well-being would have provided strong evidence for relocation to a retirement village being a positive life change; the stability may also be viewed as indicative of a smooth and successful transition. This is also consistent with suggestions

advanced by the DET (Headey & Wearing, 1989; Headey & Wearing, 1992) which support the relative stability of SWB and research indicating that even significant life transitions may not result in more than temporary short-term changes in reported well-being (e.g., Eid & Diener, 2004; Suh et al., 1996).

15.4.5 Engagement in Life following transition

Engagement in life in the present study referred to purpose in life and the extent to which an individual feels engaged in activities from which they derive meaning and purpose. Supporting our prediction that at a minimum, levels of engagement in life would be maintained 12-months following relocation, the relocation group showed no significant change in engagement in life over the 12-month period, displaying equivalent level to that of the community comparison. While it may be idealistic to suggest that successful adjustment to retirement village life may be reflected in an increase purpose in life as an individual becomes part of the new community; the absence of a decline in perceived value and meaning in one's life may be a more important indicator of adjustment. It is accepted that maintaining engagement may be particularly difficult in the face of a stressful life event, especially if independence is threatened. Stability in engagement in life then suggests that any loss in independence, or changes (loses; e.g., a loss of gardening responsibilities or workshop space indicated by some participants as an unfortunate consequence of moving) which may have occurred as a result of the move have been re-established or are being compensated for. Although the present study did not assess levels of activity participation in the same manner as Cutchin, et al. (2010), this finding is consistent with the suggestion that although the nature of activities engaged in may change, perceived meaning, purpose and value derived from engagement in these activities, is largely not disrupted as a consequence of relocation.

What may be concerning; however, is that despite no significant difference observed in the short-term follow-up provided in the present study; there is suggestion of a trend of declining engagement over the 12-month period in comparison to the community sample. Maintaining engagement has important implications for physical health, cognition and well-being. It plays an important function in helping older adults to cope with age-related challenges and may have a protective effect in reducing the risk of mortality (Boyle et al., 2009; Greenfield & Marks, 2004; Ryff et al., 2004). Therefore, if retirement village life was found to dampen purpose in life over the long-term, it would pose a significant concern for the constructed environment. Therefore, consistent with past research (e.g., Grant, 2006), this highlights a need for continued monitoring and investigation of longer term outcomes.

15.5 Factors influencing adjustment

Findings from the present study suggest that relocation to a retirement village is overall a positive experience. However, considerable variability has been noted in the reactions of older adults to the transition. This has led to suggestions that the impact and relocation experience is associated with a range of determinants such as environmental characteristics, social supports and psychological resources (Armer, 1996; Rossen & Knafl, 2003; Smider et al., 1996). The present study provided a unique opportunity to investigate a range of proposed factors influencing adjustment. The following section considers the role of perceptions of the home environment, contextual factors associated with the move, socio-demographic characteristics, physical health, control, personality and social supports. Conclusions are formulated in an understanding of under which conditions older adults may adjust best to retirement village living and provide support for the framework proposed in chapter 1.

15.5.1 Perceptions of the home environment

Perceptions of the home environment, as assessed in the present study, incorporated affordability, aesthetics, design and long-term suitability. As such, this measure provided a broad evaluation of whether after a short period the retirement village was observed as a positive change. The investigation of change in perception of the home environment is important if the home has implications of health and well-being in late life and can facilitate adjustment to other late life challenges (e.g., Butler et al., 1998; Gilleard et al., 2007). In the present study, an initial decline in positive evaluations of home was observed immediately following relocation (1-month post-move). However, in any experience of relocation, adjustment and feeling a sense of home require time. Indeed, an improvement in positive perceptions of home was observed at the 6-month assessment, and perceptions of home at 12-months were reported as a significant improvement over those of the initial residence. Moreover, 12-months post-relocation perceptions of home amongst the relocation group were significantly more positive than those of the community sample. This supports the hypothesis while initial declines may be observed (stemming from the unfamiliar); perceptions of the home environment following relocation should show an improvement in comparison to one's original residence.

In light of the appropriateness of the home environment and the provision of services and facilities provided by retirement villages often driving relocation decisions (e.g., Graham & Tuffin, 2004); and the home environment being central in facilitating feelings of identity, control and independence in late life (e.g., Butler et al., 1998; Chaudhury & Rowles, 2005); this is a promising indicator of the decision to relocate as a positive life change. Regardless of precise motives initiating a move, it undoubtedly involves a desire for improvement. Moreover, satisfaction and comfort within any living environment is important for adjustment to any new residence. Therefore, this is a

particularly important finding as the ability for a resident to develop this investment in their new residence may function to facilitate adaptation to this transition (Gitlin et al., 2002; Young, 1998).

Following the observed improvement in perceptions of home, our study provides some support for person-environment fit and a sense of home as important in facilitating other positive outcomes following retirement village relocation. Specifically, it was hypothesized that improvement in perceptions of the home would be associated with improved SWB. This was partially supported. The observed change in perceptions of the home environment was not associated with any change in positive or negative social exchanges, friend or family social networks, perceived loneliness, or engagement in life. However, the improvement in perceptions of the home over time was associated with the increase in neighbour networks. However, it is acknowledged that this may reflect the role neighbours play in the structure and evaluation of the home and neighbourhood environment. Moreover, while the initial decline in perceptions of home did not influence participant well-being; the increase in perceptions of home between the 6 and 12-month assessment was associated with an increase in satisfaction with life. This finding is particularly pertinent to understanding the nature of the role environment plays in well-being. It may be expected that SWB would decline with the perception of a poor environment. However, in the context of relocation the initial decrease post-relocation is more likely associated with an unfamiliarity with the new environment, rather than negative evaluations, and as such does not impact personal evaluations of well-being. Importantly, as the new residence began to be evaluated for its positive attributes, these appear to have been transferred into positive well-being (positive change in perceptions of home was associated with increased life satisfaction). Indeed, it is recognized that people who move have a substantial psychological investment in 'making it work' which is likely to influence post-move satisfaction. Of interest in

further follow-up investigation would be an examination of long-term evaluations of the home environment, to examine if adaptation occurs or this environment is perceived as an optimal environment compared to other types of community living in the long-term. In addition, future research may be served by an investigation into different aspects of the home environment (i.e., affordability, aesthetics) associated with long-term health and well-being.

15.5.2 Contextual factors associated with the move

An often overlooked impact on adjustment, previous studies have highlighted the importance of investigating contextual factors (e.g., pressure to move, and relocation difficulties) on post-move outcomes. In the present study, village development, a measure of time from first relocating resident; pressure to move; and time in residence, prior to moving; were taken into consideration in examining the impact of relocation. However, this investigation indicated contextual factors to have little influence on moderating social exchanges or well-being over time.

15.5.2.1 Village development

Considering the unique challenges that may be experienced as a result of relocating to a retirement village still under construction; it was anticipated that the first residents to transition may have a different experience to those moving to an established complex. Specifically, it was hypothesised that early movers would have less opportunity for interaction with other residents, particularly in the early stages of the transition, which would impact social support outcomes. However, adjustment for the stage of village development at which residents relocated revealed little effect on changes to social networks. The only indicator was a small significant effect for positive exchanges. Following a trend that late moving residents reported a greater degree of positive exchanges in comparison to the villages' first residents (at 1-month), a greater decline was then observed between the 1- and 6-month assessments. However, this effect was

very small and is considered with caution. The 1-month assessment captured residents during a period likely dominated by a lot of social interactions; therefore, the substantial difference between early and late movers is likely reflecting opportunities for social interaction. In comparison, the 6-month assessment and beyond is more likely to reflect daily encounters. Moreover, this effect was not significant after adjusting for social network composition (friend, family, neighbours). This null finding across the broader outcome measure is important. While relocating to a new village may be a unique experience, it is important that within established villages, new residents are also not disadvantaged in their opportunities to integrate into the new community.

15.5.2.2 Pressure to move

Perceived pressure to move has the potential to significantly impact the relocation transition and the willingness and ability of an individual to make new social connections and become embedded in a new environment. However, in the present study, pressure to move produced little influence on the transition outcomes. Specifically, it was hypothesised that SWB over the transition would be moderated by pressure to move such that those perceiving a high degree of external pressure associated with their relocation would be less likely to experience positive SWB outcomes following transition. What is promising is that despite pressure to move perceived as likely to influence and be reflected in feelings of personal control (Schulz & Brenner, 1977; Smider et al., 1996); this hypothesis was not supported. Indeed, many of the older adults in the present sample did not report high levels of pressure to move, indicating the decision to relocate was largely voluntary, therefore further research may be required to investigate the impact of pressure to move adequately. That is, specific research needs to be conducted on older adults who have reported perceiving substantial pressure to move into a retirement village to examine the impact that this pressure has on the experience, long-term adjustment and well-being.

15.5.2.3 Time in residence

The amount of time (in years) participants had resided in their home prior to relocating had no effect on SWB and engagement outcomes and little effect on social networks and support. The only significant effects were indicated for friend networks at baseline; such that those who had resided in their community residence for longer had slightly larger friend networks prior to moving. While this constituted a small effect and is considered with caution, the finding is not surprising. It is likely that the greater period of time an individual has resided in a neighbourhood, the more friends they identify and the greater contact and availability of networks they report. However, while this then leads to potential implications for the magnitude of the impact of relocation on change, change in friend networks over time did not vary as a function of time in residence. In the present study, 'relocators' had resided anywhere from a few months to 59 years in their residence prior to moving. However, time in residence was not associated with any of our other indicators of adjustment over time. Therefore, this finding provides strong evidence to alleviate fears that those older adults strongly embedded in their home or neighbourhood environment, having spent the majority of their live in the one place, find the experience any more challenging than those who have moved residence on a more regular basis.

15.5.3 Socio-demographic differences

Although gender differences in social networks may fade with advancing age (McLaughlin et al., 2010), the present study provides some support that sociodemographic factors further contribute (albeit modestly) to the complexity of social networks. Supporting Fingermann et al.'s (2004) proposal that older adults become more positive regarding their social exchanges through engagement in strategies aligned with avoiding or minimising negative contact, older adults reported less negative social exchanges. In the present study, marital status was associated with

family networks such that persons who were never married reported smaller family networks, likely a result of not having children and lacking the extended family associated with a significant relationship (or marriage). Significant gender differences were not identified in friend, family or neighbour social networks; however, consistent with research suggesting women seek out positive social exchanges more frequently that men as a coping strategy when under stress (Thoits, 1995); females did report more positive social exchanges than males. Finally, a greater level of education was associated with less negative social exchanges and less perceived loneliness. Sociodemographic characteristics were not implicated as explaining individual differences in engagement in life or any of the indicators of SWB.

15.5.4 Physical health and adjustment to the retirement village

If relocation is largely considered to be an adaptive coping strategy for maintaining independence and reducing social isolation in late life, physical health should play a considerable role in its success as such. In line with the SOC framework, it was anticipated that consistent with motives for relocation, the transition may differentially benefit older adults in either good or poor physical health. The relationship of SWB to health has traditionally been complex; however, the present study supports previous research that subjective health can influence SWB. Under the assumption that the change in environment and the services provided within the village can maximise independence and control leading to positive well-being, it was expected that poorer health may be associated with more positive change in SWB outcomes. However, while a moderating effect was found, the hypothesis was only partially supported. Consistent with expectations, baseline health moderated change in PA such that while better health was associated with greater PA prior to moving, individuals in poor health prior to moving reported the greatest improvement in their positivity from baseline to 1-month. However, while individuals in poorer health also experienced a steady increase in life

satisfaction from baseline to 6-months post-move; a significant moderation effect was found such that poor physical health was associated with decreases in life satisfaction from 6-12 months. Consistent with strong support for life satisfaction as a stable trait and largely unaffected by life events (Diener & Lucas, 1999; Ryff, 1989), at 12-months early evidence of adaptation (return to set-point) were observed for this sample. That is, different patterns of adaptation are observed depending on health status. Persons in poor physical health experienced initial positive increases in life satisfaction post-move, followed by adaptation (after 12 months). Those in good physical health experienced some decline in satisfaction with life post move, but also indicated adaptation after 12-months.

In contrast, it was anticipated that better physical health may be associated with greater benefits in domains of social engagement due to functional capacity extending the opportunities for these to be immediate benefits. However, changes in loneliness, social networks (friend, family or neighbour), or positive or negative social exchanges were not moderated by physical health in the present study.

Some studies have also indicated that older adults with poor health may have functional limitations creating barriers to participation in various activities which may then have resultant negative implications for a sense of purpose in life (e.g., Bennett, 2005b; Pinquart, 2002). However, physical health did not moderate engagement in life over time within the present study. Although cross-sectional correlations between physical health and engagement did suggest that higher engagement was associated with better physical health; it should be considered that it is engagement influencing subjective physical health, in light of the self report measure employed in the present study. An objective assessment may produce different results. As participant physical health status did not change across the study period (largely a function of the short follow-up time), it is not surprising that a moderating effect for physical health was not

found. Longer follow-up would be required to establish if declines in physical health result in a reduced sense of purpose within retirement village residents.

15.5.5 The role of perceived control in subjective well-being change

Control beliefs pay an important role in indicators of successful ageing including health and SWB (Kunzmann, Little, & Smith, 2002; Lachman & Weaver, 1998a; Lachman & Weaver, 1998b; Rowe & Kahn, 1997). Personal control can be strongly influence by one's home environment, particularly in later life (Butler et al., 1998). Implementing the SOC model (Baltes, 1987), relocation to a retirement village can be considered an important adaptive strategy to maintain control over one's life (Armer, 1996). Moreover, personal control has been highlighted as an important element in establishing relocation to a retirement village as an adaptive process to maintaining one's well-being. However, in the context of person-environment fit, the ability to generate control over the environment has been associated with increased feelings of competence and positive well-being. With the experience of relocation to a retirement village characteristed by downsizing, producing feelings of loss of control, and may involve the potential restriction of control in light of the regulations surrounding residence (Kampfe, 1999), the investigation of change in control and subsequent impact on adjustment to this transition highlighted an important consideration. As perceived control, irrespective of actual control, may be one of the most significant facilitator of age-related challenges and new environments (Skinner, 1996), it was hypothesised that greater perceived control would be associated with greater positive well-being. This was partially supported by the present study.

Perceived control was associated with PA such that an overall increase in constraints (reduced control) was associated with a decline in PA. While this supports that promoting control is an important for successful ageing outcomes, further research is required to investigate changes to perceived control following relocation. Following

this, investigation is required to gain an understanding of the specific aspects of the retirement village environment or relocation experience that may promote or inhibit perceived control, or the individual characteristics of those individuals who experienced increases or declines in control beliefs. For example, the rules and regulations governing the village are important in respect to understanding the circumstances and environment in which residents find themselves, and the concessions they may have had to make in relocating. Importantly, any imposed restrictions may play a significant role in the level of perceived control and independence residents identify, and their long-term well-being in the new environment.

15.5.6 The role of personality in moderating positive outcomes

The way in which individuals deal with stressors and adjust to major life events is suggested to be closely linked to personality characteristics (Bolger & Zuckerman, 1995; Schmutte & Ryff, 1997; Suls et al., 1996). In particular, each of the Big Five characteristics (Costa & McCrea, 1992b) were proposed to make a distinct contribution to health, well-being and social engagement throughout life. Consistent with existing cross-sectional and life-span research (e.g., Isaacowitz & Smith, 2003; Russell et al., 1997); the present study found that at baseline, high extraversion was associated with greater life satisfaction and engagement in life, and less perceived loneliness. High neuroticism was associated with greater loneliness and lower engagement. High agreeableness was associated with greater PA; while conscientiousness was associated with greater satisfaction in life. However, a number of unexpected results were found.

The hypothesis that individuals high in extraversion and agreeableness would report larger social networks and greater social exchanges was not supported. Although some research has indicated that high extraversion is associated with larger social networks and greater perceived support as a function of their propensity toward seeking social engagement and interaction (Digman, 1990; Russell et al., 1997), extraversion

was not associated with family, friend and neighbour supports in the present study. While greater extraversion was associated with lower perceptions of loneliness, persons high in extraversion also did not report more positive or negative social exchanges. Indeed, loneliness is independent of network size and research has indicated that while older adults in general may report smaller social networks and reduced social support, they are also less likely to report being lonely (Stevens & Van Tilburg, 2011). Therefore, rather than facilitating the availability of supports through increased social contacts and interactions, older adults reporting traits consistent with high extraversion (talkative, energetic, assertive, outgoing and sociable), may derive a greater sense of companionship from engagement in social activities, and as such perceive themselves to be less isolated. However, research is limited in respect to a direct examination of the size and composition of support systems in relation to personality, particularly in older adults, and as such this highlights a further avenue for future investigation.

High neuroticism has largely been associated with a less sociable disposition and smaller social networks (Kalish & Robins, 2006; Russell et al., 1997). In the present study persons high in neuroticism did indicate greater negative social exchanges as hypohesised; however, they also reported greater availability of neighbour networks at baseline in comparison to those low in neuroticism. Indeed, the greater negative exchanges with others may be a function of contact with neighbours. As a result, this type of conflict may signify a motive for relocation.

Finally, in investigating the role of the secondary (instrumental) characteristics, conscientiousness and openness to experience did not display any differentiation in social networks prior to relocation. Although agreeableness, reflecting characteristics such as trust, friendliness and generosity, was suggested to associated with increased social support (Bardi & Ryff, 2007), this was not supported by the present study. However, there was some evidence to suggest agreeableness was associated with less

negative social exchanges following relocation. While based on Bardi and Ryff (2007) it was expected that agreeableness would be associated with increased experience of social supports following relocation; instead, characteristics associated with agreeableness may better reflect a temperament and traits of submissiveness and consideration, which facilitate avoidance of conflicts during stressful transitions.

In addition, there was some evidence to suggest that personality characteristics agreeableness and conscientiousness moderated perceived loneliness over time. Persons high in agreeableness or low in conscientiousness reported initial increases in loneliness 1-month post relocation. It may be that the initial adjustment period, characteristically a busy period of time for new residents, where relationships with neighbours have not been established, a significant negative impact (increased loneliness) is most strongly felt by those persons who thrive on greater social contact. Importantly though, progressing through this initial period of adjustment, persons high in agreeableness report a consistent decline in loneliness, equating that of other individuals at 12-months.

In a similar manner, persons low in conscientiousness reported initial increases in loneliness following relocation. While conscientiousness is often associated with holding responsibility and control over an event, persons low in conscientiousness have a tendency to be more easygoing. It may be that these individuals feel lonelier because they are not consumed by initiating engagement in the new social environment of the village. Taking a more reserved approach to the new environment, persons low in conscientiousness may feel lonelier as they have not actively sought new social interactions. However, despite this initial difficulty, longer-term follow-up suggests that their perceived loneliness does also decline, albeit not as consistently as persons high in conscientiousness that more actively take control of the experience.

Throughout the results it is not surprising that personality was not associated with family networks, and that in fact little beyond marital status was indicated as significant. Certainly, you can not choose your family. Interestingly; however, change in friend and neighbour social networks was also not moderated by personality characteristics. Therefore while personality may influence perceived loneliness over the relocation experience, it does not appear to largely influence change in perceived availability of social networks or perceptions of social interactions (positive and negative). Perhaps as suggested by Roberts et al. (2008), a lack of association with likely personality characteristics is due to a complex interaction of demographic characteristics that form subcategories of persons influenced by personality, rather than any constant association. To date, little research had explored change in social networks over time as a function of personality characteristics, particularly in older adults. While the present study attempted to extend the literature to investigate the way in which personality influences change in networks over time in the context of major life events; further investigation is required to examine classes of older adults that display a stronger affinity for this type of housing.

Increasingly research has also attempted to explore the extent to which the impact of life-events on SWB is a function of personality (e.g., Diener et al., 2006). Extending the present examination to explore the role of personality in SWB following late life relocation, it was hypothesised that change in SWB would be moderated by personality characteristics such that high extraversion, agreeableness and conscientiousness would be associated with more positive outcomes. Moreover, it was anticipated that high neuroticism would be predictive of greater distress (low PA and life satisfaction and high NA). This was only partially supported. Although supporting their independent nature (Diener, 2000; Headey & Wearing, 1992), contrary to expectations extraversion was not associated with PA or NA. However, consistent with the findings of Isaacowitz

and Smith (2003), high extraversion was indicative of greater satisfaction with life. Past research highlights neuroticism (along with negative social exchanges) as one of the strongest predictors of NA (e.g., DeNeve & Cooper, 1998). In the present sample, neuroticism was associated with higher NA. However, support was not provided for neuroticism moderating NA over the transition.

It has been suggested that through initiating new experiences the characteristics agreeableness, conscientiousness and openness help facilitate adaptation to different life events and environments (Bardi & Ryff, 2007; Koenig & Cunningham, 2001a). In line with characteristics reflecting a desire for control and engagement in goal directed behaviour, conscientiousness has been identified as a strong positive correlate of life satisfaction (DeNeve & Cooper, 1998). This was supported in the present study. However, while it was logical to conceive that these individuals would also demonstrate higher life satisfaction over the transition period, as a function of taking control over their future relocation needs, a moderating effect was not found. Rather, openness moderated satisfaction with life such that differences in openness reflect difference trajectories of adaptation. Whereas high openness was associated with initial decreases post-move, low openness was largely characterised by greater life satisfaction over time. However, this effect resulted in equivalent levels of satisfaction (adaptation) at 12-months.

Based on Parslow, et al. (2006), the present study also predicted that engagement in life would be associated with personality characteristics neuroticism and extraversion such that higher extraversion and lower neuroticism would promote life engagement over the transition. While a moderating effect was not supported; the present study found high neuroticism was associated with low engagement prior to moving. While these results do not allow us the opportunity to identify characteristics of those persons who may best maintain engagement throughout major life transitions or that may be

most affected by the transition (either positively or negatively), it does confirm the findings of Paslow and colleagues that people high in neuroticism may be less likely to engage in personally meaningful activities in general.

15.5.7 The impact of social network change

Overall, the way in which participant social networks have been impacted through the relocation transition period supports the flexible structure of one's social network proposed by the convoy model (Kahn & Antonucci, 1980). Immediate family offer stability, while changes to the wider social network occur as a consequence of the relocation transition. Social network indicators not only provide an important marker of adjustment to the retirement village, but should also function to facilitate other positive outcomes; namely, SWB and engagement. Principally, the stress-buffering hypothesis (Cohen & Wills, 1985; Wheaton, 1985) suggested that social supports buffer against negative outcomes during major life events or transition outcomes and help people cope more effectively with the stress. It was proposed that in the presence of a stressful event (i.e., relocation) greater support should be associated with more successful adjustment (Cohen & Wills, 1985). However, consistent with recent research (e.g., Burton et al., 2004; Zimmerman et al., 2000), the present study provided no evidence of this effect. Friend, family and neighbour networks existing prior to moving did not moderate change in SWB or engagement over time.

In investigating the impact of social networks, it was anticipated that reductions in loneliness following relocation would be a function of the change in friend and neighbour networks that occurred post-move. However, this was also not supported. Change in friend and neighbour networks occurring over the transition period was not associated with changes in loneliness. Rather, reductions in feelings of social isolation (and loneliness) may result from the community feel of the environment. Rather than the specific contact with new neighbours, incidental contact with residents and staff

may be driving reductions in loneliness. Moreover, it is possible that the reductions in perceived loneliness may be a function of the significance of the transition, and during at least the initial adjustment phase, residents are too busy. In a similar manner, the degree to which respondents reported positive and negative exchanges was not substantially impacted by changes in networks following relocation.

Based on previous research it was also considered that social network change may be the most significant mechanism by which retirement village living is associated with positive change in well-being. However, the observed change in friend and neighbour networks in the present study was not associated with overall change in affect or life satisfaction. This does however support the idea that while neighbour networks increased, in the short-term adjustment period following relocation, these relationships may lack sufficient intimacy and connectedness to result in significant implications for well-being. Rather, the overall quality of social exchanges was indicated as more important. An increase in positive exchanges was associated with an increase in PA, an increase in negative social exchanges associated with increased NA.

Finally, it was predicted that positive change (increases) in social networks following relocation would facilitate positive change in engagement following relocation. This was not supported. Engagement did not change as a function of increased social networks. However, it is often considered that social relationships which are maintained in later life are most important in maintaining purpose in engagement by functioning to reinforce one's identity and usefulness (e.g., Pinquart, 2002). In the present study, greater friend networks pre-move and less negative social exchanges were both associated with higher engagement. Again, it is likely that the 12-month follow-up period was too short to establish any long-term effect of retirement village living and social networks development on one's sense of purpose. While the increase in neighbour social networks in the retirement village may increase

opportunities for participation in a range of activities, it is close social ties which provide the greatest benefits to well-being in later life (Pin et al., 2005; Pressman et al., 2005). As time passes, stronger friendships and supports may develop within the retirement village which may enhance well-being.

15.5.8 Overall factors influencing adjustment: Support for the proposed framework

The impact of relocation to a retirement village is complex. Successful transition involves an intricate interplay of different characteristics and conditions. Figure 15.1 depicts the propose framework presented in chapter 1 for exploring and understanding late life relocation, adjusted to highlight the findings obtained in the present study and those factors supported as facilitating or inhibiting adjustment. In constructing this design, key elements of the SOC, DET and stress buffering models provided a basis for understanding relocation in later life and its impact on the individual.

The SOC model (Baltes, 1987) provided a framework for understanding the motives and decision process behind relocation. The present study proposed that relocation could be considered an adaptive strategy for maintaining independence control and a positive quality of life as one ages, and that the decision to relocate to a less demanding environment reflected an act of compensation or selection. The strongest of our findings support relocation as a positive experience which can meet this goal. In respect to the proposed indicators of adjustment, the present study found new residents reported an overall increase in social networks comprised of neighbours, and a reduction in perceived loneliness.

The DET (Headey & Wearing, 1989; 1992) then provided a conceptual basis for predicting adaptation to the relocation transition as indicated by SWB. The DET proposes that individuals have a base level of SWB which under normal circumstances remains relatively stable. Although significant life events can result in short-term

change, it is suggested that this change is only temporary in most cases due to the influence of underlying stable personality traits. While past research has found some events to demonstrate permanent change (e.g. divorce; Lucas, 2005); it appears from the present study that late life relocation research is not such an event. Relocation had seemingly little impact on SWB and life engagement. Temporary increases were observed in individuals positivity (PA) immediately following relocation; however, adaptation was observed to have occurred within the following 6-months. It is suggested that residents initially report increased excitement around the benefits of the new environment, but as the novelty wanes, adaptation is observed.

Finally, the stress buffering model (Cohen & Willis, 1985; Wheaton, 1985) was incorporated to reflect the potential role of social supports as 'buffers' in helping guard against some of the stress associated with relocation and supporting positive outcomes in facilitating adjustment to the new environment. However, this component of the model was not supported. While an overall increase in social networks and reduction in loneliness was observed, the social networks of participants existing prior to moving did not appear to moderate relocation outcomes.

Building from these theories, the proposed framework for the study of relocation in later life was further constructed to demonstrate the complex interaction of factors that may facilitate, inhibit, and indicate adjustment. In addition to proposing a moderating effect of social supports, the potential impact of: contextual factors such as pressure to move; physical health; personality characteristics; change in perceived control; change in social networks; and change in perceptions of the home during the course of the transition, was also proposed.

As highlighted previously, investigation of the mechanisms underlying adjustment highlighted the complexity of the transition. A somewhat positive finding for the further generalisation of results, the present study found contextual factors associated with the

move to have little impact on the relocation experience. Firstly, there appeared to be no effect on adjustment as a function of time in residence prior to moving. The experience did not appear to be more challenging for people who had moved from their life-long home. Little evidence was also provided for the impact of pressure to move on outcomes. However, presumably as a result of greater opportunities for social interactions with other residents, and in support of a welcoming environment provided by retirement communities, it was found residents moving later in the development of the village experienced more positive social exchanges than those who formed the first intakes of residents.

Consistent with the SOC model, the present study supported clear initial benefits to relocation for those older adults in poorer physical health. Residents who, prior to moving, reported poor health, demonstrated clear improvements in positivity (PA) and life satisfaction immediately following relocation. Although adaptation did occur by 12 months, this may reflect the particular benefits and optimism for the future which surround such a change in the face of decline. In fact, residents who experienced an increase in positive social exchanges, a reduction in constraints, or who were experiencing poorer physical health prior to moving, experienced greater increases in their positive affect (mood) immediately following relocation.

Individuals possessing those personality characteristics most aligned with social dispositions (agreeableness and extraversion) appeared to experience initial negative impacts in loneliness, as did those low in conscientiousness. This suggests that those individuals who most thrive on social contact or who have an easy going attitude to change are most negatively affected (experience the greatest loneliness) by the initial disconnect from their normal environment which occurs as a result of relocation. However, further investigation into the inter-related nature of personality characteristics is required. Moreover, while being aware of this can provide an opportunity for

ensuring support is provided during this time, longer-term it is suggested that this sense of loneliness does decline.

Although significant improvements were reported in perceptions of the home environment following relocation, the present study did not find evidence for this as a significant moderator of other outcomes. While undoubtedly being satisfied with your home environment and perceiving it to be a safe and comfortable space is important, it does not appe or overall li

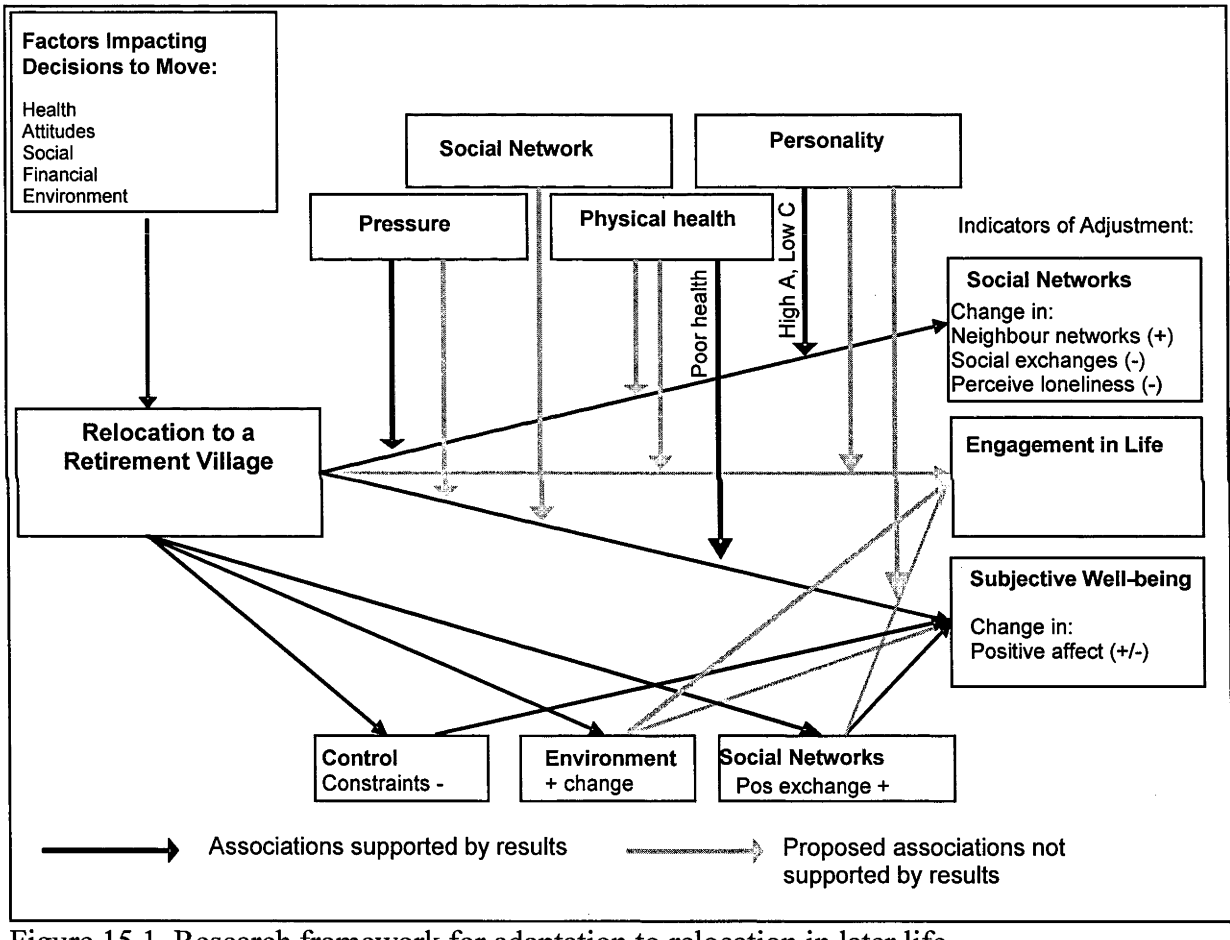

Figure 15.1. Research framework for adaptation to relocation in later life

15.6 Limitations and future directions

While this longitudinal investigation of the transition from community living to a retirement village provides a much needed comprehensive investigation of immediate and short-term outcomes following relocation, and the mechanisms underlying

adjustment, the results of the present study should be interpreted in the context of several limitations. Our study was restricted to a single, newly established, retirement village in the ACT and relocation to this village is therefore recognised as a somewhat different experience to that of many older adults moving to a vacancy in an established retirement complex. Moreover, our sample in general was restricted to residents of the ACT, who are considered to display greater socioeconomic homogeneity in comparison to the populations of other capital cities (Howe, 2006). Therefore, the applicability of options for late life accommodations may be different to those in other metropolitan or regional areas. In particular, financial resources as a barrier to relocation may be a more significant concern when applied to other community populations. Further research needs to explore similar relocation in a broader population and address cultural differences and experiences of older adults in rural and remote areas.

In addition, although consistent with observed declines in survey participation rates over the past 10 years (Galea & Tracy, 2007); our response rate may be considered low. The reasons for non-response to mail surveys are difficult to ascertain. However, for the community sample it may be a function of the increasing amount of research conducted with community samples and the significance of the research topic to the individual (Galea & Tracy, 2007). For those not in a position to consider relocation, the present study may have lacked the salience required to commit to the study. For our prospective retirement village residents, the magnitude and stress of the transition may have left some residents feeling they could not commit to participating in a research study at this time. However, as previously noted, the overall sample obtained adequately represented the target population.

As a variety of accommodation options may exist for older adults, the literature has also presented some debate concerning definitions used for retirement-based migration and measurement issues (Sergeant, Ekerdt, & Chapin, 2008). While this is

acknowledged in comparisons made with the current study, and it is understood that older adults may experience different types of residential relocation, the present research clearly identifies individuals making the transition to be those specifically relocating to Independent Living Units in a single established retirement community.

Highlighting the benefits offered by the village under investigation, overall evaluations of one's environment have appeared to demonstrate significant improvements as a consequence of moving. However, future research needs to explore more specific neighbourhood characteristics perceived as desirable or undesirable; and identify the characteristics that are most important in precipitating positive outcomes in general and subsequent larger benefits to health and well-being. This may then allow findings to be used to guide the development of new retirement villages, and inform the improvement of existing complexes. It is also important to investigate the longer-term evaluations of home to ensure these benefits are maintained after the novelty of the environment has waned.

In addition, other methodological and conceptual limitations should be acknowledged. First, any longitudinal study comparing the well-being of people at different points in time has potential to be confounded by other life events occurring during the observed time period. Indeed, it is recognised that relocation is often accompanied by a number of other major life transition. These may include significant events such as the cessation of driving, or the loss of a partner. In considering the impact of relocation in the present study these factors constitute part of the experience and transition being examined. In investigating the impact of relocation, it is not an investigation of the impact of the single act of moving but more broadly an examination of this transition. However, future research would benefit from obtaining an indicator of other major life events occurring within this transition period. In a similar manner, maturation effects should also be recognised as potential confounds on the results.

However, while it is recognised that social networks decline with age and positive evaluations of social relationships increase, these changes do not occur rapidly. Therefore, we can be confident that any substantial change occurring over the 12-15mth follow-up period of the present study is likely to have been influenced by the relocation transition (Frederick & Loewenstein, 1999).

Secondly, the measurement of social networks is a limitation extending to much of the research in this area. Highlighted explicitly in our study, individuals can find the delineation of social networks in different domains (friends and neighbours) challenging. In the present study it was considered necessary to withdraw the assessment of neighbour networks at the 1-month assessment as a result of participants' uncertainty in their classification of new residents as neighbours. Future research may address this through less subjective measurement techniques for domain-specific assessments of network composition. The use of alternative measures of social networks which offer more prescriptive or defined indicators of different network groups may prevent some of the ambiguity and confusion experienced.

Finally, the use of SWB as an outcome variable may also raise limitations. It is widely accepted that one's own evaluation of life satisfaction and feeling relatively more PA and less NA points to psychological wellness (Ryan & Deci, 2001). However, it is recognised that concerns have been noted regarding the fallible nature of SWB as an indicator of healthy living (Ryan & Deci, 2001; Ryff & Singer, 1998). Issues associated with the measurement of SWB have been increasingly noted as important for consideration as research into the area has expanded. While the multi-factor instruments (such as those used in the present study) have reduced concerns over the validity and reliability of measurements; other strategies which involve repeated sampling of an individuals experiences and validation obtained from informant reports from family and friends can provide a more comprehensive picture (Pavot & Diener, 2004). In light of

such concerns it is important that this study is considered as an initial investigation into the impact of this transition. Future research is required to examine changes to other indicators of health and well-being (e.g., physical and mental health, physical activity, psychological well-being) as a consequence of relocation; enrich self-report data with observations from family, friend and staff informants; and make comparisons with the evaluations and examine more long-term effects of relocation. Although limited in the detail of responses provided by residents; the qualitative data presented in the present study does provide a broader context for evaluating the experience of relocation as constructed by the participant.

In consideration for the design of the study and conclusions drawn regarding adaptation, the time frame for the measurement of "pre-move or baseline" status must be considered. While on average this measurement was obtained as soon as relocation could be confirmed (on average 11 weeks prior to relocation), in some cases this assessment occurred only 1-month before the move. The concern here is whether this time frame is adequate to obtain an equilibrium measure to which people should revert following transition, in light of the physical and mental preparation that is likely to commence well in advance of actual relocation. Therefore baseline measurements may have in part reflected a state of transition rather than pre-move status.

Finally, it is acknowledged that the large number of statistical analyses undertaken increased the probability of Type I errors. Therefore, effects significant at the $p < .05$ have been interpreted with caution.

15.7 Conclusions

Overall, the results of the present study are consistent with the notion that relocation in late life to a retirement village represents a complex transition. Importantly, the findings support that in the short-term the decision to relocate may be considered a positive

choice for successful ageing. The significant increase in neighbour social networks and the reduction in perceived loneliness over the 12 month period should be promoted. More importantly it is anticipated that the relationships formed with other residents may continue to develop into stronger friendships offering even greater benefits to health and well-being. Future research is required to investigate long-term adaptation to the new home and the development of neighbours into friends to provide even more supportive networks. Examination of long-term benefits to health and the impact of the retirement village environment in the experience of declining health will also provide an evaluation of the capacity of the retirement village complex to fulfill its promoted benefits and the expectations of many current and prospective residents.

An investigation of mechanisms underlying successful transition, highlight the complexity of this major life event. Characteristics of those older adults likely to adapt best to living in a retirement village were dependent largely on the outcome investigated (i.e., social networks, subjective well-being, engagement in life). Physical health, personality characteristics and perceived control each contributed to adjustment. In particular the study highlights that relocation may hold specific important benefits when used by older adults as an adaptive strategy for maintaining independence in the experience or anticipation of functional decline. From this study, older adults reporting poor health demonstrated clear improvements in their positivity (PA) and life satisfaction immediately following relocation, above that of healthy older adults.

A further important finding warranting emphasis was that contextual factors associated with the move have little impact on relocation outcomes. While relocation may be seen as a major transition, it was not found to be more challenging for those older adults who were making the transition from their family home (as compared to those who had previously relocated or downsized).

Finally, this study highlights that it is a diverse group of older adults which decide to relocate to Independent Living Units within a retirement village. While motives for relocation suggest that residents may be those older members of the community who are most socially isolated, or in need of assistance for declining health, there are few actual differences between those who relocate and their peers residing in the community. With many negative perceptions and stereotypes reflecting an idea that retirement village relocation signifies dependence or incompetence, this finding may further move to dispel some of the fears older adults have about this housing option, that can have detrimental effects on their self-esteem should they need to consider relocation (O'Connor & Rigby, 1996).

This investigation of the characteristics of those older adults choosing to relocate to a retirement village and the impact of relocation to a retirement village on the social networks and well-being of older adults provides an important contribution to our understanding of the needs and experiences of our ageing community. Both government policy and aged care providers should benefit from the monitoring and continued improvement of housing options for older adults. This study provides an important contribution by providing a comprehensive empirical evaluation of the experience of relocation to an Australian retirement village which has not previously been conducted. While this study supports a positive and quality service being delivered, the industry does need more wide-spread longitudinal evaluation. Through continued identification of the needs and experiences of our older population, along with the factors characterizing successful transition, we can strive to ensue that relocation performed either out of preference or necessity is a positive experience and a step toward continued healthy ageing.

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