Assessing the Effect of Relocation Control on the Psychological Well-being of Assisted Living Residents

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DEDICATION

I dedicate this dissertation to my husband, Mike, and my son, Phillip. You always believed in me and seemed to know I would get to this point, even when I was not certain. Your support and encouragement has made me want to be a better writer and teacher every day. I carry you in my heart always.

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ABSTRACT

Recent evidence and prior research document that increasing numbers of older adults are experiencing relocation to an assisted living facility (ALF), and that involuntary ALF relocatees face a great risk of psychological distress because of the numerous stressors associated with this relocation. However, little empirical research has clearly investigated the interrelationship among major factors and their effects on the psychological well-being of AL residents: relocation control, mediators of stress (e.g., social support, self-reported health, and functional impairment), and psychological well-being.

This study had two aims: (a) to investigate the relationship between relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction) among assisted living (ALF) residents, controlling for demographic factors; and (b) to evaluate whether social support from family and friends, self-reported health, and functional impairment (e.g., ADLs and IADLs) mediate the relationship between the perceived relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction).

Guided by the stress process perspective, this cross-sectional study examined the hypothesized relationships of 336 relocated individuals age 65 and older who were purposefully sampled from 19 assisted living facilities in eastern Tennessee. Structural equation modeling analyses revealed that greater resident involvement over relocation was associated with lower levels of depression and higher levels of life satisfaction, whereas resident control over relocation was not associated with anxiety before or after relocation, controlling for demographic factors. The second critical finding from this study was the statistically significant mediation results of a trend for social support to be a mechanism through which relocation control affected psychological well-being (e.g., depression and life satisfaction). However, an indirect linkage of

relocation control and anxiety via social support was not statistically significant. Surprisingly, the hypothesis that the mediation relationship from relocation control to self-reported health to psychological well-being (e.g., depression, anxiety, and life satisfaction) was not demonstrated. Furthermore, functional impairment mediated the association between relocation control and psychological well-being (e.g., anxiety and life satisfaction). Functional impairment did not act as a mediator between relocation control and depression. Limitations, implications from the study findings for social work practice, policy, and future directions were also presented.

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CHAPTER 1: INTRODUCTION

Studies have consistently documented that moving to a new residence late in life can place elderly people at increased risk for emotional and mental health problems (Anthony, Proctor, Silverman, & Murphy, 1987; Dube, 1982; Johnson, 1996; Thomas, 1979; Thomasma, Yeaworth, & McCabe, 1990). Although early studies reported that elderly individuals moving into long-term care homes were expected to experience emotional distress because of the loss of former environment, social support from the neighborhood, and independence (Harkulich & Brugler, 1991), little is known of the actual transition experience and its effect on elderly individuals' psychological well-being (Tracy & DeYoung, 2004).

Assisted living facilities (ALFs) are the most rapidly growing nationwide residential care choice for older adults who need help with daily activities but do not need to enter nursing homes (Assisted Living Federation of America, 2012a). To date, one area that lacks attention is the influence that the control over the decision to relocate has on an assisted living resident's psychological well-being. In general, assisted living residents do not have control over relocation decisions for themselves; it is the family members, physicians, home health nurses, and discharge planners that serve as the decision makers (Reinardy & Kane, 2003).

This study investigated the relationship between relocation control, mediators of stress (e.g., social support, self-reported health, and functional impairment), and psychological well-being of ALF residents, and a causal ordering of these constructs. In this chapter, the problem statement, purpose of the study, significance of the study, and organization of the dissertation are described.

Problem Statement

Demographic trends in the United States reflect the rapid growth of the aging population. In 2010, 40 million Americans were estimated to be over 65 years old, and by 2020 the senior population is expected to reach 55 million, and 72.1 million by 2030. The oldest seniors (those over 85) are the fastest-growing age group (expected to total nearly 6.6 million by 2020) (Administration on Aging, 2011). Chronic health conditions such as high blood pressure, diabetes, and cancer are common among older adults (Centers for Disease Control and Prevention and The Merck Company Foundation, 2007). Older adults are experiencing one (80%) or more (50%) chronic conditions (National Center for Chronic Disease Prevention and Health Promotion, 2009). As a result, the number of older adults living in ALFs is increasing as well. ALF is currently the most preferred and fastest-growing area of long-term care for older adults (Stevenson & Grabowski, 2010). People who need assistance in performing activities such as bathing, eating, or dressing prefer to receive supportive services in the least institutional and most homelike setting possible (Brodie & Blendon, 2001). ALFs offer dining, housekeeping, communal activities, 24-hour supervision, assistance with activities of daily living (ADLs), administration of medications, access to transportation, and health-related services (National Center for Assisted Living, 2012a). A typical ALF resident is a woman (74%) whose mean age is 86.9 years and who needs assistance with an average of 1.6 activities of daily living (ADLs), most commonly bathing, dressing, or toileting (National Center for Assisted Living, 2012b).

As of 2010, there were approximately 31,100 licensed ALFs in the United States with more than 733,400 residents (National Center for Assisted Living, 2012c). Therefore, more recently researchers have recognized the importance of examining late-life transition (Hertz, Rosseti, Koren, & Roberston, 2007). Studies are inconsistent in their findings regarding the

effects of relocation on older adults' psychological health. Regardless, many researchers reported that relocation has negative consequences for older adults, such as a sense of devaluated self and poor self-rated health, including increased depression and anxiety levels (Rossen, 2007; Rossen & Knafl, 2003, 2007). Other researchers, however, have failed to find negative and debilitating effects attributable to relocation (Bekhet, Zauszniewski, & Nakhla, 2009; Reed & Payton, 1996; Rossen, 2007).

Schultz and Brenner (1977) identified voluntary and involuntary aspects of relocation and provided insightful lenses to examine the differences in the relocation literature. Schultz and Brenner, for instance, postulated that voluntary relocatees might experience better outcomes than involuntary relocatees. Also, according to Schultz and Brenner, "The controllability variable maps directly onto the voluntary-involuntary dimension in the relocation literature" (p. 324). Relocation control, which refers to the degree of personal control a person can exercise over the move (Lutgendorf, Vittaliano, Reimer, Harvey, & Lubaroff, 1999; Tesch, Nehrke, & Whitbourne, 1989) and the ability to manipulate environmental aspects (Schultz & Brenner, 1977), has been conceptualized as a significant factor in transition. Researchers have been investigating the effect of involuntary relocation to nursing homes for more than 40 years, with much of the early work focused on mortality and morbidity (Danermark & Ekstrom, 1990). However, little is currently known about the effect of relocation control on the psychological well-being of older adults moving from their own home to an ALF.

The effect of relocation control on the psychological well-being of ALF residents is of particular interest in this study. Previous research in this area has sometimes shown mixed results, and consequently, the pathways through which this relationship develops are not clearly understood. First, some researchers suggested that relocation control was a significantly

influential factor and was associated with positive or negative psychological outcomes of older adults. For instance, elderly individuals who have been forced to move have generally been found to have elevated levels of psychological distress (Chen, Zimmerman, Sloane, & Barrick, 2007; Chentiz, 1983; Dimond, McCance, & King, 1987; Johnson, 1996; Johnson & Hlava, 1994; Thomasma, Yeaworth, & McCabe, 1990), as compared with those who move voluntarily (Armer, 1993, 1996; Capezuti, Boltz, Renz, Hoffman, & Norman, 2006; Chentiz, 1983; Deborah, Rutman, & Jonathan, 1988; Johnson & Hlava, 1994; Porter & Clinton, 1992; Rossen & Knafl, 2007). Prior literature also suggests that older adults not involved in the decision to relocate face a greater risk of depression and anxiety (Kasl & Rosenfield, 1980) and declines in life satisfaction (Brand & Smith, 1974). Chentiz (1983) also found that if elders have little or no input in the decision-making process, they may feel hurt, abandoned, frustrated, or angry, or feel as though they were being punished or dumped. Furthermore, in a study conducted by Rossen and Knafl (2007), the person′s perception about choice to move and preparation are the most important determinants of a successful adjustment and positive physical, emotional, and social well-being.

On the other hand, other researchers produced conflicting results regarding the overall effects of relocation control. It seems unclear whether low relocation control is a predictor of higher distress as shown above, or whether there might be no potential effect of a relocation control variable affecting an increase in psychological distress among older adults. For example, Bowsher and Gerlach (1990) reported negative effects of control in older adults who had control but lacked the ability to exercise it. For instance, an older woman who has always relied on her family to make important decisions may feel distress if they are to make a decision on her future living arrangement. Similarly, research suggested that effects associated with involuntary relocation among older adults did not show significant changes in mortality rate among hospital

patients (Harwood & Ebrahim, 1992), degree of dependency among residential home residents (Hallewell, Morris, & Jolley, 1993), or functional activities among nursing home residents (Rogers, Stuart, Sheffield, Swee, & Formica, 1990). Findings also indicated no significant changes in behavioral functioning (Storandt & Wittels, 1975) or mortality rate (Lawton & Yaffe, 1970; Wittels & Botwinick, 1974) between healthy voluntary elderly movers as compared with nonmovers.

Despite the contributions made by existing studies, little research has been conducted with residents of ALFs, including research on the relocation decision-making process to enter into ALFs (Ball, Perkins, Hollingsworth, Whittington, & King, 2009). Moreover, there is a paucity of research related to the emotional effects of relocation (Krout & Wethington, 2003). Previous research literature has primarily focused on control over the decision to relocate to predict postadmission outcomes in the long-term care environment such as adjustment within the congregate housing (Armer, 1993), satisfaction with nursing home services (Chenitz, 1983), psychological discomfort (Shapiro, Schwartz, & Astin, 1996), anxiety (Thomasma, Yeaworth & McCabe, 1990), morbidity within the senior care facility (Rodin, 1986), and life satisfaction within a retirement home and a retirement-type village (Wolk & Telleen, 1976).

Limited research, however, has focused on effects of mediators (e.g., social support, self-reported health, and functional impairment) on their relationships with relocation control. The influence of a resource (e.g., social support, self-reported health, and functional impairment) after admission rests first on its function as an independent predictor of psychological well-being and second as a mediating factor that captures significant variance between relocation control and psychological well-being. No examination has been made to identify whether social support, self-reported health, and functional impairment are mediators and elucidate the mechanism

underlying the established relationship between relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction). Understanding the context of relocation control that influences psychological well-being among ALF residents throughout the course of adjustment in ALFs will extend the knowledge of important needs among ALF relocatees, thereby helping to inform the development of effective ALF relocation support programs that strengthen the ALF residents' ties to emotional and practical staff supports during transition, as well as improving psychological well-being (e.g., depression, anxiety, and life satisfaction) after admission.

Study Purpose

Drawing on the studies of psychological well-being associated with relocation control among older adults, this study examined (a) the effect of relocation control on psychological well-being (e.g., depression, anxiety, and life satisfaction) among aging adults living in ALFs, and (b) whether social support from family and friends, self-reported health, and functional impairment mediate the relationship between the relocation control and psychological well-being (e.g. depression, anxiety, and life satisfaction). A cross-sectional design was chosen to address these research questions.

Significance of the Study

Older Americans prefer to stay in their home as they age (Bayer, & Harper, 2000). The transition out of one's home and into a long-term care setting is recognized as a stressful experience (Schultz & Brenner, 1977), with the most severe stress occurring immediately after the move (Brook, 1989; Mikhail, 1992). The pre-institutional stage involves the loss of their residence and belongings, and these older adults are generally susceptible to the feelings of loss, grief, depression, and powerlessness (Kao, Travis & Acton, 2004). More older adults enter long-

term care upon experiencing impaired functioning, a chronic health problem (e.g., stroke), death of a spouse or caregiver, and cognitive decline (e.g., dementia) (Jones, 2002). The increasing numbers of the elderly and the growing psychological distress facing many older relocatees have profound implications for extending preparation and control over ALF relocation before a move.

ALF staff members and administrators working with residents and their family members need to address the needs and complex challenges confronting potential ALF residents and their families. To effectively help these residents, a clear understanding of the stressors, resources, and outcomes experienced in the process of ALF relocation is necessary. The current study of older adults moving from home into an institutional setting can contribute to enhancing the lives of ALF residents and their families in several ways. First, the current study expands the body of knowledge about the effects of voluntary or involuntary relocation by using recently collected data from a study that to date is the largest of its kind in the Southeastern United States. Also, this study allows the effect of relocation to be credibly investigated for ALF residents of different ages, genders, education, income, marital status, and length of residence.

Second, this study holds implications for health care policy. Given the absence of health care legislation and lack of attention to the effect of resident involvement in relocation on the psychological well-being of relocated ALF residents, the results from this study can be used to determine the degree to which ALF relocation preparation support programs before and after a move are necessary. The findings from this study may provide the evidence needed to initiate policy legislation.

Third, the results can be used to better understand the ALF residents' relocation context and the psychological effects of a stressor associated with resident involvement and preparation before an ALF move. Depression, anxiety, and life satisfaction can affect the quality of life for

older adults and their families, as well as the continuity and quality of care provided to the ALF residents.

Finally, the study may contribute to improving the lives of older adults by suggesting social work practice that will more effectively meet the needs of ALF residents and their family members. For example, if the study findings confirm that relocation control is a significant stressor among ALF residents, ALF programs could be aimed at relocation support programs that focus on care for ALF relocatees with psychological distress and counseling services for both residents and their family members. If a social support system is found to be a significant mediator of stress in this population, additional intervention programs could be aimed at alleviating emotional distress by facilitating the availability of social support from other ALF residents or families, or providing comprehensive information on ALF activity program options, and helping them obtain a higher quality of relationships with the members of their network.

Organization of the Dissertation

This dissertation is made up of six chapters. Chapter 1 begins with the problem statement, objectives of the study, and significance of the study. In Chapter 2, the theoretical framework that builds this study, the Stress Process Model (SPM) (Pearlin, 1999), is described. Chapter 2 also provides a review of the literature on key variables including assisted living, relocation stress syndrome, relocation control, psychological well-being, social support, self-rated health, and functional impairment among long-term care residents. Chapter 3 provides statements of two research aims and related hypotheses. Chapter 4 provides the statistical methods of the study. It describes the study design, the sample used in the study, data collection methods, measures of variables, and analytical strategies. Chapter 5 describes the results of the study, and consists of two sections: (a) description of the sample and treatment of missing data, and (b) hypothesis-

testing results. The results are interpreted based on the results of Structural Equation Modeling (SEM) with regard to measurement model and structural model. Chapter 6 concludes with a discussion of the major findings and the limitations of this dissertation study. It also presents implications for social work practice and policy and suggestions for future areas of research.

CHAPTER 2: LITERATURE REVIEW

Assisted Living Facilities

In the mid-1980s and early 1990s, assisted living became popular among older adults and politicians in the United States, partly as the result of the publication of *The Regulation of Board and Care Homes* (Hawes, Wildfire, & Lux, 1991), which was based on a national study of this population (Wilson, 2007). Oregon was the first state to license ALFs, beginning in 1990 (Kane, Chan, & Kane, 2007). In principle their core philosophy is to promote autonomy, privacy, dignity, and independence (ALFA, 2012b). In addition, for some people with less intensive care needs, it may be possible to purchase assisted living care at half the price of nursing home care. One industry survey (Genworth Financial, 2009) estimated the average annual ALF cost for residents at $34,000 (a private room) compared with $74,000 (a shared room) for nursing home residents in 2009.

ALFs are regulated and licensed by the states (Kane & Mach, 2007; Park, Zimmerman, Sloane, Gruber-Baldini, & Eckert, 2006) and vary with regard to names, services, and settings within and between states (Zimmerman & Sloane, 2007). For instance, ALFs are referred to as residential care, boarding homes, enriched housing programs, homes for the aged, personal care homes, and others (Polzer, 2010). The average resident-to-staff ratio in ALFs is 14:1, and ALF staff members help with state-regulated personal care (e.g., medication administration, vital checks, checking range of motion, and glucometer checks) (Hawes, Phillips, & Rose, 2000; Munroe, 2003). This care is delivered most often by ALF care staff (unlicensed assistive personnel) on a daily basis, and the ALF nurses supervise the practice (Mitty et al., 2010). The average length of stay is 28.3 months, with most people entering from their own homes (70%) and leaving to go to a nursing facility (59%) or because of death (33%) (NCAL, 2012b). ALF

residents are vulnerable to mental illness. It is estimated that between 13% and 24% of ALF residents have depression (Chapin, Reed, & Dobbs, 2004; Watson et al., 2003; Watson et al., 2006). Rao et al. (2008) has found that ALF residents have anxiety (26%) and sleep disturbances (59%). Rates of mild to moderate dementia among ALF residents are estimated at 68% (Boustani, et al., 2005; Rosenblatt et al., 2004). Researchers (Gruber-Baldini, Boustani, Sloane, & Zimmerman, 2004) have found that 56% of ALF residents with dementia experience behavioral symptoms (Gruber-Baldini et al., 2004).

In a study of 198 residents of ALFs in central Maryland, two thirds were found to have dementia, 69% of which was Alzheimer's disease (Rosenblatt et al., 2004). Wagenaar et al. (2003) found that the most prevalent mental health symptoms recognized by 94 ALF administrators in Michigan were dementia (56 facilities), depression (24 facilities), hallucinations or delusions (4 facilities), anxiety (3 facilities), and alcohol abuse (1 facility). About 30% of ALF residents perceived their overall health condition as poor or fair (Jang, Bergman, Schonfeld, & Molinari, 2006). AL residents experience declines in functional health over time (Golant, 2004; Resnick & Jung, 2006; Zimmerman et al., 2005), and they are one of the least physically active groups (Resnick, Galik, Gruber-Baldini, & Zimmerman, 2009). Nationally, public programs that provide funding for ALFs are scarce, and so, coupled with a short supply of affordable ALFs, low- and moderate-income older adults have minimal access to assisted living (Hernandez & Newcomer, 2007). The average number of units in each ALF is 54 (NCAL, 2012a). The most representative housing types of ALFs are single rooms (57%) or apartments (43%). Private bathrooms are included in 42% of the single rooms, and 41% of the apartments were one-bedroom apartments (Hawes, Phillips, Rose, Holan, & Sherman, 2003).

Hawes, Phillips, and Rose (2000) reported that about 80% of ALF residents moved into ALFs from their own homes. The simultaneous experiences of moving from an independent setting to an institution and losing independence could compound the stress of relocation among ALF residents (Tracy & DeYoung, 2004). However, it was unclear if the relocation itself was a primary factor of stress, or if there might be factors other than relocation causing the negative effects of moves. For instance, Borup (1983) reported that mortality following relocation was determined by prior physical health status not by relocation. Furthermore, Rossen and Knafl (2007) reported that negative consequences of relocation were likely to have been offset by adequate preparation prior to the move and the degree of control older adults had over their relocation.

Relocation Stress Syndrome

Relocation stress syndrome (RSS) is defined as "a state in which an individual experiences psychological disturbances as a result of a transfer from one environment to another" (Carpenito, 2000, p. 715). The North American Nursing Diagnostic Association (NANDA) formally approved relocation stress syndrome (RSS) as a new nursing diagnosis in 1992 (NANDA, 2007). The literature has tended to refer to stress associated with relocation in many ways, such as "relocation stress," "transplantation shock," "transfer trauma," "pure relocation effect," and "admission stress" (Castle, 2001; Mitchell, 1999; Smith & Crome, 2000). Reported major consequences of RSS include anxiety, depression, apprehension, loneliness, and increased confusion. Of those affected, 50% to 70% are believed to exhibit sad affect, withdrawal, sleep disturbances, weight loss, and gastrointestinal upsets (Jackson, Swanson, Hicks, Prokop, & Laufhlin, 2000). Relocated individuals are at greater risk of suffering many of the psychological symptoms listed above after relocation. Older involuntary institutional relocatees are more likely

to experience the most negative consequences (Mikhail, 1992). Characteristics of RSS are described in Table 1 (Manion & Rantz, 1995).

The Relocation Process

Kao et al. (2004) posited that relocation is a process consisting of three distinct stages, each with its own dynamics: (a) pre-institutionalization (before relocation), (b) transition (the first three months), (c) post-institutionalization (the first year). The first step in the process should be to identify the most appropriate long-term care services, legal decisions, and power of attorney appointment based on the older adults' needs. The difficulties that potential residents and family members experience before placement in long-term care—depression, powerlessness, grief, feeling overwhelmed, and a sense of loss—have been described by Melrose (2004). Once older adults select the preferred long-term care setting, they face increased vulnerability to RSS up to 3 months in the transitional period. Melrose (2004) highlighted the importance of staff members in acknowledging and dealing with residents' emotional reactions (e.g., helplessness, abandonment, vulnerability, anger, and sense of injustice) and working with family members to facilitate problem solving. In the post-institutionalization stage, Melrose (2004) suggested helping residents create a sense of control over the new environment, facilitating family communication, and drawing upon family members' knowledge and expertise in planning and implementing care for the residents.

Studies have specifically found that the presence of relocation stress syndrome varies with older adults being relocated into nursing homes (Mikhail, 1992). For example, Chenitz (1983) identified two different types of residents with psychological distress associated with nursing home transfer: "resigned resistors," and "forced resistors." "Resigned resistors" experienced mild distress such as withdrawal, crying, and sadness to more profound expressions

of hopelessness and helplessness. “Forced resistors” demonstrated anger, distrust, noncompliance, aggressiveness, and physical or verbal abuse of staff.

Table 1.
Defining characteristics of relocation stress syndrome (Manion & Rantz, 1995)

Characteristics	Specific responses
Major characteristics *(occurring 80% to 100% of cases)*	Anxiety, apprehension, increased confusion, depression, loneliness
Minor characteristics *(occurring 50% to 79% of cases)*	Verbalization of unwillingness to relocate, change in former sleep patterns, restlessness, change in former eating habits, sad affect, demonstration of dependency, vigilance, gastrointestinal disturbances, weight change, increased verbalization of needs, withdrawal demonstration of insecurity, demonstration of lack of trust, unfavorable comparison of post to pretransfer staff, verbalization of being concerned/upset about transfer.

Outcomes of Relocation Stress

A frequently reported outcome measure of relocation is mortality rate. Some investigators have found no change in mortality among older adults after relocation (Lawton & Yaffe, 1970; Nirenberg, 1983), or decrease in mortality following relocation (Thorson & Davis, 2000). However, Castle (2001) found a death rate of 0% to 43% following transfer. It has also been shown that relocation disrupts friendships and autonomy (Castle, 2001), which may cause increased risk of depression (Cummings, 2002; Cummings & Cockerham, 2004; Fiori, Antonucci, & Cortina, 2006; Gurung, Taylor, & Seeman, 2003), self-harm (Dennis, Wakefield, Molloy, Andrews, & Friedman, 2005), and cognitive decline (Lyyra & Heikkinen, 2006) in older

adults. Generally, the stress from the relocation process resulted in depression, decreased social support, decreased sense of coherence, and poor self-reported health (Johnson, 2006).

Practical Recommendations for Relocation Stress

Studies have provided information and useful suggestions for minimizing the stress associated with relocation. Voluntary relocation was associated with no difference in mortality among older mentally ill patients (Meehan, Robertson, Stedman, & Byrne, 2004), and Thorson & Davis (2000) reported no changes in mortality, particularly if the nursing home resident had preparation for the relocation. Practical recommendations for successful relocation to a nursing home included arranging orientation programs for residents and their families, fostering communication between staff members and the families, modifying the environment to assist adjustment, understanding the resident's history (e.g., health and functioning), desires, and preferences (Kao et al., 2004).

Control Over Relocation

Control involves "the ability to manipulate some aspect of the environment" (Schultz & Brenner, 1977, p. 324). For the purposes of this study relocation control is defined as residents' control over their choice and decision in the process of the move (Lutgendorf, Vitaliano, Reimer, Harvey, & Lubaroff, 1999; Tesch et al., 1989). The term "control" has often been used to describe involuntary and/or voluntary aspects of a move in relocation literature (Schultz & Brenner, 1977). Studies find that ALF residents vary in the extent to which they think they had relocation control; for example, Hawes et al. (2000) found that 52% felt like they had control, and 25% felt that they had little or no influence over the relocation. Those elderly residents who had alternate choices available and could predict the new environment experienced better outcomes (Armor, 1993; Schulz & Brenner, 1977).

Effects of Involuntary Relocation on Psychological Well-being

Prior research suggests that perceived control in relocation influences the outcomes of nursing home residents following transition (Davidson & O′Connor, 1990; Nay, 1995; Renardy, 1992, 1995). Only a handful of studies have reported that relocation control has a positive effect on psychological well-being (depression, anxiety, and life satisfaction) among long-term care residents. Three studies demonstrated the positive effects of decisional control. Chen, Zimmerman, Sloane, and Barrick (2007), for example, concluded that the more AL residents were involved in the decision-making process for programs, policies, meal plans, family visits, interior design, and selection of new residents and staff members, the fewer depressive symptoms were found among them. In a study by Kampfe (1999), results showed that older adults who experienced positive relocation and had control (over relocation and current living situation) demonstrated higher levels of life satisfaction in comparison with their counterparts. Harel and Noelker (1982) studied 125 nursing home residents for 2 years. Their findings indicated that the more choice a resident has about being relocated prior to admission, the higher the satisfaction with treatment and life satisfaction the resident had.

In addition, three studies have demonstrated that involuntary relocation tended to have a negative effect on psychological functioning. Thomasma et al. (1990) reported an increase in anxiety among elderly people who were involuntarily relocated to a dependent residential care facility. One qualitative study conducted by Johnson (1996) described the experiences of 12 nuns who were involuntarily moved from a retirement facility to a newly renovated assisted living facility. He found that those who had not been involved in the relocation process and found their new living arrangement unpredictable expressed feelings of loneliness, isolation, powerlessness, and anxiety. In this regard, some prior studies reported that lack of control over relocation was

associated with depression, anger, withdrawal, and aggression toward the family or staff (Chen et al., 2007; Chentiz, 1983).

Relocation Control and Social Support

Little empirical research is available regarding how ALF residents' perception of relocation control is related to the degree of social support from family, friends, and neighbors, but three previous studies reported consistent results.

Johnson, Popejoy, and Radina (2010) studied a group of 16 older adults aged 60 and older newly moved into a nursing home using mixed methods and descriptive design. The findings indicated that nursing home residents who were fully engaged in relocation decision making were more likely to report having strong social support.

Another study by Earle (1980) was conducted on 750 retired South Australian older adults living in cottage flats, their own homes, or other accommodations. The purpose of that study was to learn whether there would be changes in social interaction following involuntary housing relocation. The author concluded that involuntary relocatees demonstrated a lack of social interaction, loneliness, and increased use of electronic devices (e.g., television) to overcome social isolation from reliable family and peers.

Similarly, Jones (1991) conducted a prospective study to examine changes in behavior and mortality following unexpected interhospital transfer. The author studied 24 displaced chronic psychiatric patients in one psychiatric hospital that closed on short notice. Patients were moved to a similar psychiatric hospital, and the transfer was based on the patients' residential proximity rather than choice or clinical condition. The results indicated that there was a decrease in social functioning at 6 months, but no differences in mortality.

In one of the few qualitative studies on the effect of relocation control, Rossen and Knafl (2003) used a case study approach in a sample of 31 female congregate living facility (CLF) residents. The researchers noted that CLF residents who had experienced voluntary relocation reported a higher level of perceived competence (e.g., adjusting to a new circumstance), social competence (e.g., activity participation), connections (e.g., social support), and residential satisfaction than those who were forced or were less voluntarily moved.

Relocation Control and Self-reported Health

To date, there are no published ALF studies of self-reported health in relation to relocation control. While a few studies have reported only general health perception to describe ALF sample characteristics, little research has used self-reported health as an outcome variable. One exception was the study by Dimond et al. (1987), who investigated the effect of forced community relocation that was due to a mining company expansion on the physical and emotional well-being in a sample of 37 elders in Utah. Results indicated that involuntary relocation was associated with poorer physical functioning, poorer self-rated health, higher levels of depression, and poor life satisfaction. This lends support to the notion that relocation control is related to self-reported health and deserves further attention. Furthermore, no studies that address relocation control (e.g., voluntary vs. involuntary) as a predictor of self-reported health could be found. Armer (1993), for example, reported that perceived choice in relocation may have mediated the relationship between self-reported health and adjustment after relocation among congregate housing residents.

Relocation Control and Functional Impairment

Some studies have identified the effects of relocation control on functional impairment (ability to perform ADLs). In prior literature, limited and inconsistent research findings exist on

how the voluntary or involuntary nature of the move determines functional outcomes among older adults. Generally, functional impairment is referred to both as a cause and an effect of relocation control. As Kadushin and Kulys (1994) noted in their study of hospital patients, physical impairment leads to a low level of involvement in discharge planning. Some researchers have reported that the involuntary nature of the move is the important determinant of a negative health outcome among community residents (Danermark & Ekstrom, 1990; Ferraro, 1982). Heisler, Evans, and Moen (2004) also found that those who were more involved in the process of congregate housing relocation reported less health decline and a higher level of well-being and adjustment compared with those who did not. These findings support the value of relocation control. However, other reviewed studies demonstrated no change in functional impairment in relation to relocation control. Findings from four studies showed no changes over time for older relocatees.

Castle and Engberg (2011) used a control model to investigate the effects that relocation following Hurricane Katrina would have on the physical and mental health functioning of nursing home residents. They studied 439 residents who were relocated because of Hurricane Katrina and 31,414 other residents in the southern region of the United States, matched for similar physical health, psychological health, and demographic characteristics. The researchers reported an increase in mortality among relocated residents compared with nonrelocated residents. However, they found no differences in the degree of ADL, depression, falls, walking independence, or behavioral health issues among relocated residents.

Capezuti et al. (2006) conducted a longitudinal, prospective, quasi-experimental, and qualitative study to examine changes in physical and mental health. They studied 120 residents in one nursing home. Residents were discharged to 23 different institutions involuntarily. They

found an increase in fall incidents during post-relocation (76.9%) compared with the pre-relocation (51.2%), but no differences in the degree of physical or mental health status 3 months following involuntary relocation when compared with their pre-relocation status.

Reinardy (1992) investigated the effects of deciding and wanting to make the move on the well-being and adjustment of 512 skilled nursing facility residents who were relocated. The researcher measured physical, social, and psychological functioning; social interaction; activity; satisfaction with services; and discharge within 4 weeks of admission, and then 3 and 12 months following baseline. Findings indicated that perceived relocation control appeared to influence ADLs (i.e. bathing, toileting, feeding, dressing, continence, transferring, and moving in bed) at 3 months after relocation but did not affect ADLs significantly in the long term.

Chen and Wilmoth (2004) examined the effect residential relocation had on the functioning of 7,512 community residents aged 70 and older. The group included movers and nonmovers matched for demographic, social support, health status, and social integration characteristics. The researchers investigated outcomes related to ADL and IADL, and their findings indicated that ADL and IADL may decline over the relocation period or shortly thereafter, but then stabilizes over time. The researchers concluded that ADL and IADL among movers were not significantly different from that of nonmovers over the long term.

Social Support and Psychological Well-Being

Countless studies have reported the important role of social support systems in meeting psychological needs (e.g., life satisfaction and depression) among older adults, and the beneficial effects of social support with regard to life satisfaction has been well-documented for various types of social support from friendship networks (Aday, Kehoe, & Farney, 2006; Payne, Mowen, & Montoro-Rodriguez, 2006 ; Street, Burge, Quadagno, & Barrett, 2007), as well as from ALF

staff members (Cummings, 2002; Street et al., 2007). One of the insightful studies related to the benefits of social support among AL residents is the study by Port et al. (2005). In this study, individuals with supportive family caregivers who intervened on their behalf maintained more positive relationships with staff members and other residents, compared with residents more isolated from or lacking family support (Port et al., 2005).

Researchers have observed that individuals with greater social support from family, friends, and staff members are protected from developing symptoms of depression in ALFs. For example, in a study conducted by Cummings and Cockerham (2004), results indicated that ALF residents who lacked social interaction and were dissatisfied with their social support had higher levels of depression and decreased life satisfaction. Moreover, Lee, Besthorn, Bolin, and Jun (2012) found that strong social support and spirituality were important predictors in reducing depression and increasing life satisfaction among ALF residents. The findings of Watson et al. (2003) supported the proposition that socially isolated ALF residents were more likely to be depressed (12%) than socially active ALF residents (6%). In one of the few qualitative studies on ALF relocation, conducted by Saunders and Heliker (2008), findings indicated that continuous social support from family, friends, and AL residents was of particular importance in buffering a sense of loneliness. In a similar qualitative study, Armer (1996) reported that social interaction and perceived social support of family, neighbors, and friends correlated significantly with elders' relocation adjustment in the community. The state of the art in research on social support regarding ALF residents, unfortunately, is not sophisticated. Even further understudied, compared with research on the effect of social support on depression and life satisfaction, is the relationship of social support to anxiety in the samples of ALF residents. Two exceptional studies examined anxiety among community residents. Aday et al. (2006) and Besser and Priel

(2007), for example, found that poor social relations were significantly associated with increased risk of death anxiety among senior center participants. In addition, one ALF study found a significant mediating function of social support on the relationship between depression and life satisfaction (Cummings, 2002). To date, no study has examined social support as a mediator or moderator of the relationship between relocation control and psychological well-being.

Self-Reported Health and Psychological Well-Being

Research has consistently shown a significant relationship between health perception and psychological well-being among ALF residents (Cuijpers & Van Lammeren, 1999; Watson et al., 2003). For example, in a study conducted by Jang, Bergman, Schonfeld, and Molinari (2007), it was found that poor self-rated health exerted negative effects on depressive symptoms among ALF residents. Their finding is congruent with the literature suggesting that poor self-rated health is a strong predictor of depression (Cummings & Cockerham, 2004) and low levels of life satisfaction (Cummings, 2002 ; Cummings & Cockerham, 2004) among ALF residents. In addition, research examining the psychological well-being of elderly community residents has been relatively limited but consistent in documenting the link between low health perception and psychological distress among this population. Fair to poor self-rated health has been found to be a strong predictor of depressive symptoms among older emergency room patients (Raccio-Robak, Mcerlean, Fabacher, Milano, & Verdile, 2002). In contrast, other research has suggested that high self-esteem and positive perceptions of health status are significant in minimizing undesirable effects of relocating among community-dwelling elders (King, Dimond, & McCance, 1987).

Functional Impairment and Psychological Well-Being

Previous studies on residential care and assisted living have largely focused on general functional impairment (e.g., ADLs) (Kerse, Butler, Robinson, & Todd, 2004; Zimmerman et al., 2005). Relatively limited information has been available about the relationship between functional impairment and psychological well-being (e.g., depression, anxiety, and life satisfaction) among ALF residents, although much research has shown that functional impairment has been associated with increased anxiety (Strahan, 1990, 1991) and greater depressive symptoms among nursing home residents (Nanna, Lichtenberg, Buda-Abela, & Barth, 1997; Parmelee, Katz, & Lawton, 1992; Yu, Johnson, Kaltreider, Craighead, & Hu, 1993). Only a handful of studies provide evidence that functional disability is strongly associated with depression or life satisfaction. Jang et al. (2006, 2007) found that physical impairment predicted depression among older adults aged over 60 (mean age = 82.8). Cummings and Cockerham (2004) found that impairment of physical functioning was strongly related to depression and low life-satisfaction among ALF residents. Similarly, depressive symptoms were more strongly associated with physical disability than assisted living facility policies (Chen et al., 2007). It is noteworthy that little is known about how functional impairment affects anxiety or life satisfaction among ALF residents. This is a gap of knowledge in ALF research.

Summary

Consistent with the research literature, this study focuses on relocation control as a crucial factor in the psychological well-being of elderly individuals in ALFs. Research examining the effects of involuntary relocation has been relatively inconsistent in documenting the detrimental effects related to psychological distress among older adults. In addition, little has been written about the mediating role that social support, self-reported health, or functional

impairment play in the psychological well-being of ALF residents. The results from this study can be used to better understand the effect of involuntary relocation on psychological health among ALF residents.

CHAPTER 3: THEORETICAL FRAMEWORK

Among various conceptual frameworks that could be useful in studying the psychological effect of relocation control on older adults, this study uses the stress-process model (SPM) (Pearlin, 1999). This model provides a particularly useful tool for understanding the processes of relocation control, mediators of stress (e.g., social support, functional impairment, and self-reported health), and psychological well-being, while also taking into account larger contextual factors (e.g., age, gender, education, income, marital status, length of residence), and ultimately informing the central hypotheses.

The Stress Process Model

Main Concepts and Assumptions

The SPM describes eventful or chronic stressors and daily life strains as a sequence of interrelated factors and examines the effects of such stresses on physical and mental health outcomes. Also central to this framework is the mediating role of coping capacities and social resources (e.g., mastery, social support, and self-esteem) in limiting the negative effects of stressors on psychological outcomes (Pearlin, 1999). The SPM (Pearlin, 1999) is based on the broader stress and coping literature (Cannon, 1932; Lazarus, 1970; Lazarus & Folkman, 1984; Selye, 1976). Hans Selye conceptualized stress in 1976 as “the nonspecific response of the body to any demand” (p.1). Regarding the inherent limitation of the theory, it has been criticized primarily because of its unidimensional focus on an individual’s physiological reaction to the stressors (Sharp, 1996). The link between psychological reaction and stressors had not been well established in Selye’s work (Leducq, 1996). One of the broadest definitions of stress is provided by Lazarus and Folkman (1984). They explain stress as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her

resources and endangering his or her well-being" (p. 19). This model focuses on physiological and psychological factors in affecting stressors (Byers & Smyth, 1997). This perspective also pays attention to the interplay between humans with the environment in affecting stressors (Leducq, 1996). Examples of its application in the social sciences include discussion of how unemployment is related to individual and family stress (Pearlin, Lieberman, Menaghan, & Mullan, 1981). In the 1990s, Pearlin and associates proposed the caregiver stress process model and applied it to the chronic caregiving stress associated with providing in-home care to elders with Alzheimer's disease (Pearlin, Mullan, Semple, & Skaff, 1990). The SPM includes four major components: (a) background and context of stress, (b) stressors, (c) the mediators of stress, and (d) the outcomes (Pearlin, 1999). By offering operationalization of the key constructs, the SPM provides a starting point for exploring the stress process of relocation control from the point of view of the AL residents. A brief description of each component is presented next.

Background and context of stress. Background and context of stress refers to sociodemographic characteristics (e.g., gender, age, race, ethnicity, marital status, health status, and living arrangement) that may either directly or indirectly influence the primary and secondary stressors, the mediators, or the outcome of individual stresses (Pearlin, 1999). A central point of this model is that stress is embedded in a larger personal, social, and economic structure of ALF residents. Pearlin, Mullan, Semple, and Skaff (1990) describe stress thus: "The kinds and intensities of stressors to which people are exposed, the personal and social resources available to deal with the stressors, and the way stress is expressed are all subject to the effects of these statuses" (p. 585).

Stressors. Stress results from two different kinds of stressors, primary and secondary. Primary stressors result directly from discrete events and relatively enduring problems or life

strains (e.g., chronic illness). Primary stressors include objective (e.g., medical diagnosis) or subjective (e.g., self-reported health) indicators. By contrast, secondary stressors are generated as a result of the primary stressors (e.g., job loss). They are termed “secondary” because they appear after the primary stressors. They do not imply less effect or importance than primary stressors (Pearlin, 1999).The notable aspect of stress process theory is that primary stressors contribute to secondary stressors and both stressors directly and indirectly influence outcomes (e.g., depression, and anxiety).

Mediators. The mediators of stress are the various social and personal resources (e.g., coping techniques, sense of mastery, and social support) that reduce or buffer the effects of the stressors on the outcomes (e.g., depression, anxiety). Various coping capacities and social resources help to reduce the effects of various stressors (Pearlin et al., 1990).

Outcomes. Manifestations of stress include multiple outcomes, which are affected by sources of stress and contextual factors (Pearlin, 1999). Outcomes of the stress process may include psychological symptoms such as depression, anxiety, and life satisfaction.

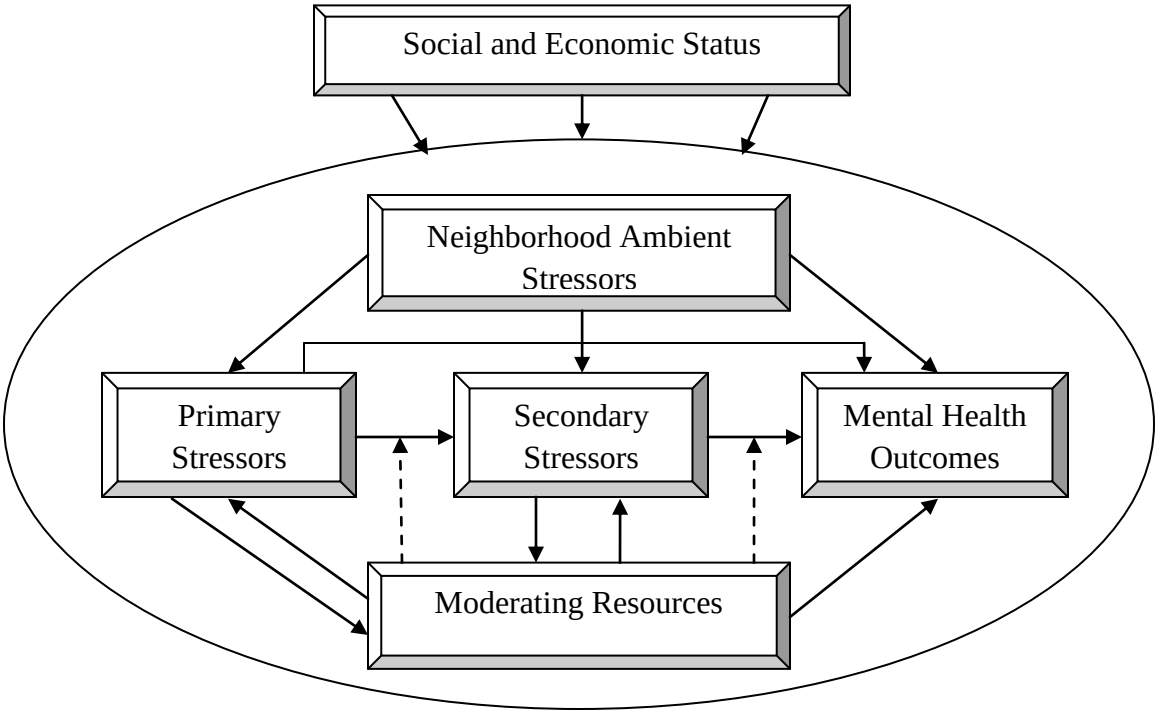

Figure 1. The stress process model

Although the original SPM has provided a theoretical basis for understanding stress process among family caregivers (Cohen, Auslander, & Chen, 2010; Dal Santo, Scharlach, Nielsen, & Fox, 2007; Gonyea, Paris, & De Saxe Zerden, 2008; Kramer & Vitaliano, 1994; Reid, Stajduhar, & Chappell, 2010; Waldrop, Kramer, Skretny, Milch, & Finn, 2005), more recent work has expanded the SPM to explain various caregiving experiences on bereavement outcomes among caregivers of lung cancer patients (Kramer, Kavanaugh, Trentham-dietz, Walsh, Yonker, 2010), and hospice caregivers (Burton et al., 2008), cognitive outcomes among older female caregivers (Bertrand, Mezzcappa, Ensrud, & Fredman, 2012), older caregivers of community residents with cognitive impairment (Blieszner & Roberto, 2009), and decision-making involvement of older adults with dementia (Menne & Whitlatch, 2007). Pearlin and colleagues (1990) suggested that the SPM can be modified and applied to examine similar life stressors,

psychosocial resources, and individual well-being. However, despite the breadth of the literature, very little has been reported about the effects of relocation control on psychological well-being among long-term care residents.

Relocation is a major life change for any individual (Armer, 1993). However, it has been considered particularly more stressful for the elderly, because they may lack coping capacities (Hertz, Koren, Rossetti, & Robertson, 2008), may experience loss of independence (Tracy & DeYoung, 2004), and have pre-existing stressors, such as the death of spouse or friends, decline in physical health, financial problems, loss of support systems, and psychological functioning (Biren, 1995; Brand & Smith, 1974; Mikhail, 1992; Nay, 1995). Killian (1970) notes that the involuntary and unexpected natures of the move are considered primary components of stress. Finally, depression, anger, withdrawal, and aggression toward family members or staff may be manifestations of the stress associated with involuntary relocation (Chen, Zimerman, Sloane, & Barrick, 2007; Chentiz, 1983). Finally, involuntary relocation has been associated with an increased risk of mortality (Laughlin, Parsons, Kosloski, & Bergman-Evans, 2007).

Concepts from the original model are adapted and simplified for use in the current research with a population of elders in ALFs (Figure 2). In this model, the sociodemographic variables (age, gender, education, income, marital status, and length of residence) are used to control for their effect on outcome variables. This study also integrates primary and secondary stressors into one source of stressor (relocation controllability) to avoid complicated associations in data analysis. In addition, social support from family and friends, self-reported health, and functional impairment present as mediators that modify the relationship between sources of stressors and psychological outcomes in this study. Finally, manifestation of stress encompasses

the psychological symptoms such as depression, anxiety, and life satisfaction among AL residents.

In summary, although previous studies have applied stress process theory to various research on caregiving and relocation among community-dwelling older adults (Bradley & Willigen, 2010), this study expands the body of knowledge to the effect of relocation control on the psychological well-being of ALF residents within a stress process conceptual framework. This study also builds on the model in ways that examine the mediating effect of social support, self-reported health, and functional impairment between relocation controllability and psychological outcomes among ALF residents.

Specific Aims and Hypotheses

The specific aims of the current study are as follows.

Research Aim 1

The first aim is to examine the relationship between relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction) among ALF residents, controlling for sociodemographic factors. Research hypotheses are as follows:

Hypothesis 1A: Higher levels of relocation control will be associated with lower levels of depres sion among ALF residents.

Hypothesis 1B: Higher levels of relocation control will be associated with lower levels of anxiet y among ALF residents.

Hypothesis 1C: Higher levels of relocation control will be associated with higher levels of life s

atisfaction among ALF residents.

Research Aim 2

The second aim is to evaluate whether social support from family and friends, self-reported health, and functional impairment (e.g., activities of daily living [ADLs] and instrumental activities of daily living [IADLs]) mediate the relationship between the perceived relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction). The research hypotheses are as follows:

Hypothesis 2A: Less relocation control leads to less social support, which leads to higher levels of depression, anxiety, and lower life satisfaction among ALF residents.

Hypothesis 2B: Less relocation control leads to more negative self-reported health, which leads to higher levels of depression, anxiety, and lower life satisfaction among ALF residents.

Hypothesis 2C: Less relocation control leads to lower functional impairment, which leads to higher levels of depression, anxiety, and lower life satisfaction among ALF residents.

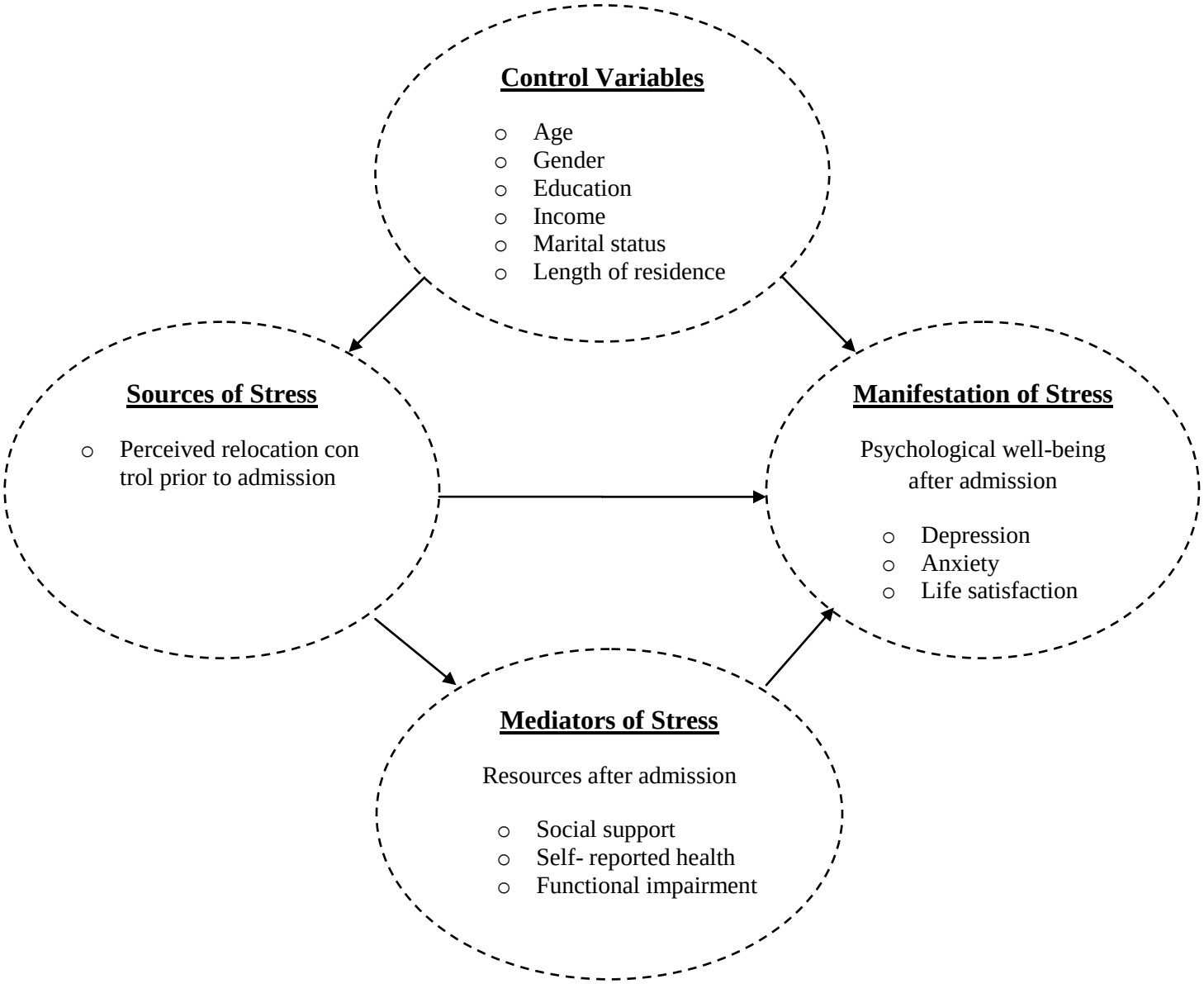

Figure 2. Stress-Process among ALF residents

CHAPTER 4: METHOD

Introduction

The purpose of the present study was to investigate the effects of relocation control on the psychological well-being of AL residents and to examine whether and how these effects are mediated by social support from family and friends, self-reported health, and functional impairment. This chapter provides a detailed description of the study design, sample, and measurements. It also discusses the procedures for data collection and statistical analyses.

Design and Sampling

Approval for this study was obtained from the University of Tennessee Institutional Review Board (IRB) and research personnel at each ALF. The study used a cross-sectional design, and all variables of interest were measured at one point in time. A nonprobability purposive sample yielded a total of 336 participants between April 2012 and July 2012. The total number of residents in 19 participating ALFs was 974. Of the 481 (49.4%) eligible residents, 68 were too ill to participate, 77 refused, and 336 participated, for a 69.9% response rate. Demographics of the sample can be found in chapter 5. The locations (e.g., county) of the participating ALFs are shown in Figure 3.

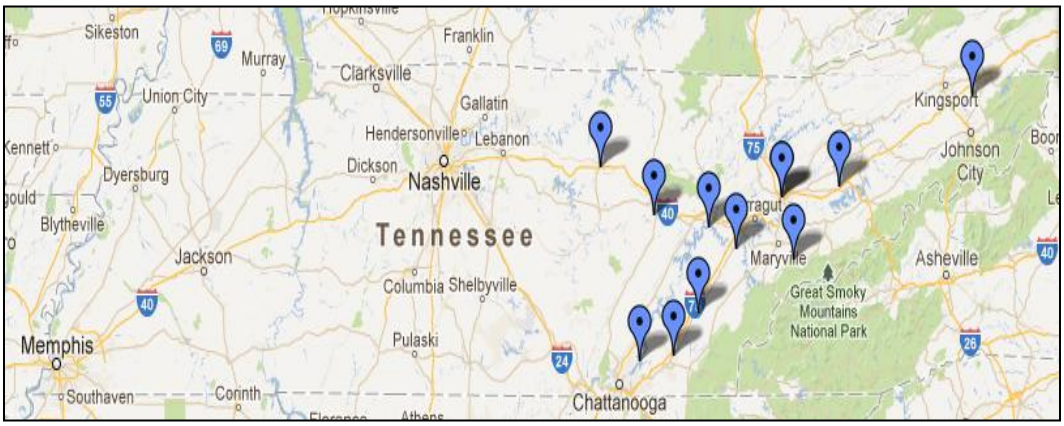

Figure 3. Locations of Participating ALFs (e.g., county)

Inclusion Criteria

Participants were included who met the following criteria by the ALF administrators' selection based upon their personal information (e.g., age, current address, and primary language) and medical diagnosis in the ALF record: (a) living in Tennessee; (b) 65 years or older; (c) English speaking; (d) no impaired cognitive functioning (e.g., no diagnosis of dementia); and (e) no significant communication problems (e.g., stroke, hearing impairment, or expressive aphasia). The ALF administrators informed the researcher via e-mail and telephone whether they were willing to participate. The researcher and the ALF administrators scheduled on-site meetings to discuss the purpose of the study, inclusion criteria, the research timeline, facility IRB, and recruitment procedure in detail. The researcher provided a copy of the University of Tennessee IRB document and a study packet (e.g., sample survey) to participating ALF administrators.

Sample Size Determination

To estimate the appropriate sample size for this study, a statistical power analysis was conducted with G*Power 3.1.5. software**.** Based on $1\text{-}\beta = .80$, $.\alpha = .05$, and $f^2 = .07$ (relatively small effect size), a sample of 115 subjects was deemed sufficient to address the research questions. Subjects were initially recruited from 14 ALFs in Knox County (N = 1,097). The capacity of each ALF ranges from 28 to 125 beds. The researcher was able to recruit 115 participants in 2 months. To ensure an adequate sample size and the external validity of the study, the researcher extended the interview sites from Knox County to 11 counties in eastern Tennessee, and the sample size was increased to 336.

Recruitment Methods

Participants were recruited from a potential pool of 83 licensed ALFs located in eastern Tennessee (TN) derived from the Tennessee Department of Health licensed facility list. The list

includes the ALFs' contact information, number of beds, licensure, and ownership. The researcher contacted 83 ALF administrators via e-mail and interest letter explaining the nature of the study and followed up via telephone and e-mail. The researcher asked administrators whether or not their facilities primarily cared for residents with dementia or Alzheimer's disease. The researcher screened out these facilities to eliminate diagnosed cases of AL residents with cognitive deficit. After facility screening, the researcher encouraged other administrators to allow their facilities to participate and sought letters of support (see Appendix A).

To maximize the sample number and variance, multiple recruitment methods were used. First, the ALF administrators were asked to screen out residents who did not meet the inclusion criteria and to identify the potential participants' room numbers. Second, the participating ALF administrators posted invitation fliers (see Appendix B) in their public areas (e.g., restaurants and community rooms). The invitation fliers explained the purpose and a brief description of the study procedures. Third, potential participants were given the study packet (e.g., informed consent form and copies of the survey questionnaire) (see Appendix C & D) individually by the ALF administrators 1 week prior to the data collection. ALF administrators explained to residents what the project was about and the incentives available through interview participation. The study packet was sent to help eligible residents decide whether they could commit to participating in the research and to help them better understand what their participation would entail. Fourth, the researcher and six trained graduate MSW students visited eligible ALF residents room by room and asked if they were willing to participate in a 25–60 minute face-to-face interview about their relocation experiences. The purpose of the study and the confidentiality procedure were explained to potential participants. Participants were assured that they could refuse to participate in the interviews and still receive services. If they agreed to an interview, the

research team collected signed consent forms (see Appendix B) and conducted the interviews at a time and location selected by the participant (e.g., his or her room at the ALF). Upon completion, participants were given a goodie bag worth $5 (e.g., sugar-free candies and a box of Kleenex tissues) as a token of appreciation for their contribution to the study.

Research Assistant Training

To minimize interrogator issues, six graduate MSW students attended a 3-hour training in the researcher's office when the researcher introduced the dissertation research project and explained the work plan, interviewing skills, confidentiality, informed consent, and safety. After reviewing all interview questionnaires, the research assistants received mock interview training. In addition, the interviewers and the researcher debriefed regarding their mock interviews and discussed possible challenges and mistakes they might face in actual interviews. The research assistants received $13 for each interview they completed over a 4-month span. All research assistants chosen had experience working with seniors (e.g., nursing homes) and/or conducting client assessment in a social work field placement; that is, these students could establish rapport with ALF residents, which is needed for questioning about sensitive issues such as involuntary relocation.

Data Collection

Data were collected through face-to-face interviews by the researcher and the six trained master's-level social work students at each ALF from April 2012 through July 2012. To ensure each participant's privacy, interviews were conducted in a private setting determined by the interviewee, in a participant's room or another place where the interviewee felt comfortable and where the researcher could be reasonably confident that the conversation would not be overheard. During the interview, the interviewers clearly explained and discussed the nature of the study

and reviewed the consent form with each AL resident to explain the purpose, procedure, risks, benefits, and confidentiality. The interview consisted of the completion of a demographic questionnaire; a measure of self-reported health; the Perceived Control Measure (PCM; Davidson & O'Connor, 1990); the Center for Epidemiological Study Depression (CES-D 20; Radloff, 1977); the Brief Symptom Inventory (BSI-6; Derogatis, 2000); the Life Satisfaction Index Z (LSI-Z 13; Wood, Wylie, & Sheafor, 1969); the Perceived Social Support Scale (Cutrona, Russell, & Rose, 1986); a modified measure of the Katz Index of Independence in Activities of Daily Living (Katz, Down, Cash, & Grotz, 1970); and the Instrumental Activities of Daily Living Scale (Lawton & Brody, 1969) (see Appendix D). The combined measures included a total of 85 questions, and took between 25 and 60 minutes to complete. In some cases, senior participants were too tired to complete all of the interview (n = 25). Participants who gave permission to reschedule the interviews were revisited by the same interviewers, at a time and location convenient to the participants, to complete the interviews. Also, some individuals found that discussing emotions and experiences regarding the relocation experience was upsetting. However, the likelihood of people feeling deeply distressed was small, and the researcher and six trained graduate MSW students provided emotional support at the time of the interview. Finally, incomplete surveys related to research assistants' mistakes (only the surveys with fewer than 1% of the answers missing were accepted) were sent back to the respondents to obtain complete surveys. All requirements for the protection of human subjects were followed throughout the research. All participants were fully informed of their rights, including confidentiality. Data were entered into a Statistical Package for Social Sciences (SPSS) 20 file by the researcher for the purpose of data analysis.

Measures

To examine the conceptual model as illustrated in Figure 1 of Chapter 3, this study used eight measures to assess key independent variables (relocation control), control variables (demographic information), dependent variables (depression, anxiety, life satisfaction), and mediating variables (perceived social support, self-reported health, and functional impairment). See Table 2 for measures used in the study.

Independent Variables

Relocation control. The Perceived Control Measure (PCM; Davidson & O'Connor, 1990) was used to measure relocation control. The measure consists of four items designed to examine the perception of an older adult regarding choice of an ALF and control over the transfer. Responses are rated on a 3-point scale, 1 = *no*, 2 = *decided with someone else*, and 3 = *yes* (for question 1); 1 = *not at all*, 2 = *a little bit*, 3 = *yes, quite a bit* (for question 2); 1 = *not at all*, 2 = *had some say*, 3 = *made the decision mostly on my own* (for question 3); and 1 = *none*, 1 = *a little bit*, 3 = *a great deal* (for question 4). The overall scores ranged from 4 to 12. Higher scores indicate greater levels of relocation control. The four questions include the following: Was it your decision to come live in an assisted living facility? Did others consult with you much about the decision to come stay in an assisted living facility? Did you feel that you influenced the decision to come to an assisted living facility? How much input would you say that you had in the decision to come live in an assisted living facility? The Perceived Control Measure has been tested with nursing home residents, and the internal consistency for the items on the PCM was $\alpha = .85$ (Davidson & O'Connor, 1990). Internal consistency reliability of the scale in this study was high ($\alpha = .80$).

Table 2.
Measures of Key Variables

Variables	Instruments	Item *(N)*	Total Score (Range)	Level of Instrument	Internal Consistency
Dependent variables: Psychological well-being after admission					
Depression	The Center for Epidemiological Study Depression (Radloff, 1977)	20	0-60	Continuous Scores	α = .80
Anxiety	The Brief Symptom Inventory (Derogatis, 2000)	6	0-24	Continuous Scores	α = .68
Life Satisfaction	The Life Satisfaction Index Z (Wood, Wylie, & Sheafor, 1969)	13	13-26	Continuous Scores	α = .72
Independent variable: Sources of stress prior to admission					
Relocation control	The Perceived Control Measure (Davidson & O'Connor, 1990)	4	4-12	Continuous Scores	α = .80
Mediating Variables: Resources after admission					
Social support	The Perceived Social Support Scale (Cutrona, Russell, & Rose, 1986)	20	0-20	Continuous Scores	α = .79
Self-reported health	Self-reported Health Scale	1	1-5	Continuous Scores	-
Functional impairment	A combination measure of • The Katz Index of Independence in Activities of Daily Living (Katz, Down, Cash, & Grotz, 1970) • Instrumental Activities of Daily Living Scale (Lawton & Brody, 1969)	14	0-14	Continuous Scores	α = .84
Control Variables: Demographic factors					
Demographics	Definition			Level of Instrument	
Age	The ALF resident's date of birth			Continuous variable	
Gender	Female and male			Categorical variable	
Race	Caucasian, African American, and other			Categorical variable	
Marital Status	Married, widowed, divorced, separated, single			Categorical variable	
Education	Years of school education			Continuous variable	
Income	AL resident's annual income, ranging from (1) <$10,000 (2) $10,000–24,999 (3) $25,000–$34,999 (4) $35,000–$49,999 (5) $50,000–74,999 (6) $75,000 and over			Continuous variable	
Length of Residence	Months			Continuous variable	

Control Variables

Demographic factors. A demographic questionnaire was used to collect demographic, health, and background characteristics. Table 2 shows a brief description of the demographic measure.

Dependent Variables

Depression. The Center for Epidemiological Study–Depression (CES-D 20; Radloff, 1977) was used. The 20-item (standard version) CES-D consists of self-report questions about emotional and behavioral symptoms of older adults experienced during the past week (Mahard, 1988). Each item is scored on a 4-point Likert scale. The total score ranged from 0 to 60, and higher scores indicate more severe symptoms. The cutoff point for the CES-D is 16. Scores 16 or greater suggest depression. The 20-item CES-D has an acceptable internal consistency (α = .77) from a study with AL residents (Cummings, 2002). In the present study, internal consistency of this instrument was acceptable (α = .80).

Anxiety. The anxiety scale from the Brief Symptom Inventory (BSI-6; Derogatis, 2000) was used. The BSI-18 is a brief measure used to measure depression (6 items), anxiety (6 items), and somatization (6 items). For the current study, the 6-item anxiety scale was used to assess how much in the past 7 days participants felt (1) nervous, (2) tense, (3) scared, (4) panicked, (5) restless, and (6) fearful. Each item was answered using a 5-point Likert scale (0 = *not at all* to *4* = *extremely*) and total scores ranged from 0 to 24. A higher score reflects a higher level of distress (Derogatis, 2000). There is an established internal consistency (alpha) of .81 for the anxiety scale (Gum et al., 2009). For this study, the internal consistency alpha of the scale was acceptable (α = .68).

Life satisfaction. The Life Satisfaction Index Z (LSI-Z 13; Wood et al., 1969) was used. The LSI-Z contains 13 dichotomous self-report items that are summed to yield a total life satisfaction score. The questions ask for respondents' perception of well-being and satisfaction in their lives. The original LSI-Z rating scale response categories are 0 = *not sure*, 1 = *disagree*, and 2 = *agree*. To avoid complexity of scoring, a dichotomous response format (1 = *disagree*, and 2 = *agree*) was used for this study. Total scores range from 13 to 26, and higher scores indicate higher levels of life satisfaction. Originally developed and validated with older persons, the established internal consistency of the instrument is acceptable (α = .79) (Wood, Wylie, & Sheafor, 1969). For the present study, the internal consistency of this scale was acceptable (α = .72).

Mediating Variables

Perceived social support. Data for this variable were collected using the Perceived Social Support Scale (Cutrona et al., 1986). A modified version of the Perceived Social Support Scale measures the degree to which an individual perceives that his or her social relationship and support needs are fulfilled by friends, family, neighbors, and community members. It is a 20-item scale consisting of five dimensions: attachment, social integration, reassurance of worth, reliable alliance, and guidance. Each subscale includes items rated on a yes/no response format. Total scores range from 0 to 20. Higher scores reflect greater social support. Reported coefficient alpha is .71 (Cummings & Cockerham, 2004). The internal consistency alpha was satisfactory in the present sample (α = .79).

Self-reported health. To assess the residents' subjective health conditions, a single item was used. Responses measured overall physical health during the past month and are rated on a 5-point Likert scale (1= *very bad*, 2 = *poor*, 3 = *fair*, 4 = *good*, and 5 = *excellent*).

Functional impairment. Data for this variable were collected using the Katz Index of Independence in Activities of Daily Living (Katz et al., 1970) and Instrumental Activities of Daily Living Scale (Lawton & Brody, 1969). A combined instrument of 14 items, from the Katz Index of Independence in Activities of Daily Living and Instrumental Activities of Daily Living Scale were administered to measure the level of functional impairment. Respondents were asked whether they were able to perform six ADLs (bathing, dressing, toileting, transferring, continence, and feeding) and eight IADLs (using the telephone, shopping, preparing meals, housework, laundry, getting to places out of walking distance, managing money, and taking medication). Response options include *yes* (0) and *no* (1). Responses were summed, creating a score that ranged from 0 to 14, and a higher score indicates being more independent. The Katz Index of Independence in Activities of Daily Living demonstrated good internal consistency (α = 0.87) (Ciesla, Shi, Stoskopf, & Samuels, 1993). High interrator reliability (α = .85) was reported to indicate strong internal reliability of Instrumental Activities of Daily Living Scale. Internal consistency reliability in the present sample was satisfactory (α = .84).

Pilot Study

A pilot test was performed prior to the actual interviews. Preliminary interviews were conducted to determine the feasibility of the survey items. Seventeen older assisted living residents were recruited from a local ALF. The language used in the surveys was tested to see whether it was understandable for the ALF residents. In addition, the average interview time was estimated. After the pretest, the font size of the surveys was enlarged from 12 to 14 points to ensure readability for the older adults. Finally, spelling errors were corrected in a few items and a few questions were rephrased in order to enhance intended meanings based on the pilot test.

Data Analysis

Preliminary data analysis, such as descriptive statistics, was conducted using SPSS 20 (SPSS Inc., 2011), and structural equation modeling analysis was done using the Analysis of Moment Structure (AMOS) program version 19 (Arbuckle, 2010). Structural equation modeling (SEM) was used for testing the hypothesized relationships among the variables in the present study. SEM is an appropriate statistical technique that has advantages over multiple regression as it combines confirmatory factor analysis and path analysis to reduce measurement error by having multiple indicators per latent variable. SEM can show the adequacy of a model, the strength of relationships among variables, the amount of variance accounted for by the independent variables when predicting the dependent variable, and the reliability of all measured variable scores (Lei & Wu, 2007). There are two submodels of SEM: a measurement model and a path model (Kline, 2005). A researcher tests a measurement model and examines the adequacy of individual items and variables as indicators for the measurement of latent variables. Because the measurement model evaluates whether all indicators reflect their intended factors, it is known as the best method for analyzing convergent validity. Based on established measurement models, a path model analysis is performed to determine the relationship among the latent variables by evaluating how and to what extent the observed data are consistent with a hypothesized model. The path model allows a researcher to evaluate structural relationships among latent factors and to specify a measurement model simultaneously. A path model carries research hypotheses. Maximum likelihood (ML) is used to estimate parameters of SEM models and three assumptions of SEM should be considered before proceeding to the maximum likelihood (ML) method: (a) large sample size, (b) multivariate normal distribution of the observed variables, and (c) validity of the hypothesized model (West, Finch, & Curran, 1995). When SEM model testing is done,

multiple fit indices are recommended for use so that overall goodness-of-fit in models can be assessed (Arbuckle, 2003; Kline, 2005). The following conventional recommendations were used in the present study in order to assess whether or not the hypothesized models fit the data: (a) higher value than .90 for Comparative Fit Index (CFI) and for Tucker-Lewis Index (TLI), (b) lower values than .08 for the Root Mean Square Error of Approximation (RMSEA), and (c) nonsignificant value for a chi-square test (Kline, 2010). However, a nonsignificant chi-square value is not actively interpreted, as it is ignored in a complicated model with a large sample.

For research aim 1, two regression models with latent variables were conducted for each dependent variable (depression, anxiety, and life satisfaction). The first regression model was a simple regression analysis, whereas the second regression model was the simple regression model with controlling for sociodemographic variables. For research aim 2, two mediational path models were tested for each dependent variable (depression, anxiety, and life satisfaction). The first path model had three theoretical latent variables that would represent a mediation hypothesis in research aim 2 (e.g., the effect of relocation control through social support to depression), whereas the second path model is the mediational path model with controlling for sociodemographic variables.

Mediation analysis is aimed at examining whether the presence of a third variable (e.g., mediator) affects the relationship between an independent and a dependent variable, and traditionally is conducted in four steps in line with the guidelines set forth by Baron and Kenny (1986) to test for mediation. The first step aims to examine the relationship between an independent and a dependent variable; the second step aims to examine the relationship between the independent and a mediator that is located between the independent and the dependent variable; the third step aims to examine the relationship between the mediator and the dependent

variable; the fourth step aims to examine the extent to which the mediator accounts for the effect of the independent on the dependent. If the effect of the independent on the dependent in the first step becomes zero when the mediator is introduced, then it is called "fully mediated." If the effect of the independent on the dependent in the first step is not zero when the mediator is introduced, then it is called "partially mediated."

Recently, the SEM technique has been used mainly for the mediation analysis as it enables one to test all the regressions in a mediation model simultaneously. For the presence of the mediation analysis, an indirect effect that is a combined effect of two path coefficients in a path from an independent variable through a mediator to a dependent variable should not be zero (e.g., should be statistically significant). Traditionally, a separate calculation such as Sobel's equation has been required in order to test the statistical significance of the indirect effect. However, current SEM software programs like AMOS can conduct the Sobel test for mediation-based indirect effects using the bootstrapping method. In the present study, the bootstrapping method in the AMOS program was used for testing a hypothesized mediational effect (e.g., the mediational effect of social support on the effect of relocation control on depression), while Sobel tests were separately conducted for the hypothesized mediational effect with controlling for sociodemographic variables because the bootstrapping method cannot be used in the AMOS program with missing data, which is the case in sociodemographic variables in the present study.

CHAPTER 5: RESULTS

Demographic Characteristics of the Sample

The sample included 336 assisted living residents from 19 ALFs across eastern Tennessee. Demographic data for the total sample are presented in Tables 3 and 4. The average age of participating residents was 86.32 years (*SD* = 6.97 years). Approximately 6.8% were aged 65–74 (the young-old), with 28.3% aged 75–84 (the old), and the remaining 64.9% 85 years and older (the oldest-old). All respondents identified as White/Caucasian. The majority were women (77.1 %) and widowed (72.6%). Of the participants, 14.9% were married, and the other (12.5%) were either divorced, separated, or single (never married). Income level was not available for all 336 cases on the grounds of "*don't know*," or "*refuse to answer*." However, in the vast majority of cases (71.7%) in which income level was reported, most of the older adults in this sample reported having adequate or more than enough income. Annual personal income fell predominantly in the $10, 000 to $49,999 range (73.4%). Only a small portion of the sample (12%) reported incomes of less than $10,000 per year and 14.6% reported incomes over $50,000 per year. It was generally an educated group. Approximately one third (31.3 %) were high school graduates, just over one quarter (26.5 %) of respondents had at least some college education, and almost one third (30.7 %) had a college or postgraduate degree. The average length of stay at the ALFs was 2.16 years (*SD* = 2.29) at the time of data collection.

Table 4 shows frequency statistics for key study variables. A majority (72.7%) rated their overall health status either fair or good (*M* = 3.5, *SD* = .95). Overall, the respondents reported moderate levels of functional independence (*M* = 9.98, *SD* = 3.28). Approximately half of the respondents in this sample rated dependent in IADLs such as shopping (58.6%), housekeeping (50.9%), using public transportation (49.7%), money management (41.7%), and cooking meals

(40.5%). Over one third of respondents also indicated some impairment in ADLs such as doing the laundry (37.8%), taking medications (32.7%), and bathing (31.3%). Respondents reported having sufficient social support, *M* = 18.94 (*SD* = 1.98). Very few residents (3.9%) indicated having a lack of social support (scores of ≤ 14), and the majority of residents (96.1%) perceived having ample social support (scores of >14).

Scores on the CESD indicated low levels of depression among respondents, *M* = 8.12 (*SD* = 7.18). Using a cutoff score of ≥ 16 (Radloff, 1977), just over 12.5% of the sample had probable major depression. Low levels of anxiety were exhibited on the BSI, *M* = 1.18 (*SD* = 2.27). More than half of the sample (60.7%) displayed none of the anxiety symptoms identified in the BSI. Overall, respondents also expressed significantly high levels of life satisfaction, *M* = 21.78 (*SD* = 2.56).

Treatment of Missing Data

Selective nonresponse causes biased results and decreases the statistical power of findings. To adequately control the effects of the possible selective nonresponses in the sample, a missing data analysis of the relocation control data was conducted before testing SEM. There were few missing item responses. A total of 27 out of 336 (12%) cases had missing values (MVs) on at least one variable. The variables of interest that included MVs in the datasets were income, education, and length of residence measured by demographic questionnaire; life satisfaction measured by LSI-Z 13 (Wood et al., 1969); depression measured by CES-D (CES-D 20; Radloff, 1977); and social support measured by the Perceived Social Support Scale (Cutrona et al., 1986). As there were just 0.1–2.2% of missing items across all the items in the three theoretical variables (life satisfaction, depression, and social support), these missing values in the items were replaced by their item means. The missingness in the demographic variables (income,

education, and length of residence) was handled using Full Information Maximum Likelihood Estimation in the Amos program, which allowed for inclusion of subjects with missing data in the estimation procedure.

Table 3.
Descriptive Statistics for Assisted Living Residents (N = 336)

Descriptive Statistics	N	%
Age		
65-74	23	6.8
75-84	95	28.3
85 <	218	64.9
Mean (years)	336	86.32
SD		6.97
Range		65-103
Gender		
Female	259	77.1
Male	77	22.9
Education		
< high school graduate	39	11.6
High school graduate	105	31.3
Some college	89	26.5
4-year college graduate	57	17
Postgraduate	46	13.7
Income		
<$10,000	29	8.6
$10,000-$24,999	73	21.7
$25,000-$34,999	56	16.7
$35,000-$49,999	48	14.3
$50,000-$74,999	17	5.1
$75,000 ≤	18	5.4
Missing	95	28.2
Marital Status		
Married	50	14.9
Widowed	244	72.6
Divorced	27	8.0
Separated	1	.3
Single(never married)	14	4.2
Length of residence (years)		
Mean	337	2.16
SD		2.29
Range		.02 - 24

Table 4.
Key Study Variables

Variables	*M*	*SD*	Range
Independent Variable			
Relocation control [a]	9.35	2.25	4 - 12
Mediator Variables			
Social support[b]	18.94	1.99	6 - 20
Self-reported health[c]	3.50	.95	1 - 5
Functional impairment	9.98	3.28	0 - 14
ADL(s)[d]	5.17	1.33	0 - 6
IADL(s)[e]	4.81	2.40	0 - 8
Dependent Variables			
Depression[f]	8.12	7.18	0 - 36
Anxiety[g]	1.18	2.27	0 - 16
Life Satisfaction [h]	21.78	2.56	13-26

[a]Total score range from 4 to 12 with higher scores reflecting greater levels of relocation control.
[b]Total score range from 0 to 20 with higher score reflecting greater social support.
[c]Rated on a 5-point Likert scale (1 = *very bad*, 2 = *poor*, 3 = *fair*, 4 = *good*, and 5 = *excellent*).
[d]Total score on the ADLs range from 0 to 6 with higher score reflecting higher independence
[e]Total score of the IADLs range from 0 to 8 with higher score reflecting higher independence
[f]Total score range from 0 to 60 with higher score reflecting more severe depressive symptoms.
[g]Total score range 0 to 24 with higher score reflecting increased anxiety.
[h]Total score range 13 to 26 with higher scores reflecting higher levels of life satisfaction.

Correlations

As shown in Table 5, a correlation analysis was performed to measure the strength or degree of linear association among control variables, sources of stress, mediators of stress, and manifestation of stress. The values of the Pearson correlation coefficients among dependent variables was .590 (depression and anxiety), −.263 (anxiety and life satisfaction), and −.542 (depression and life satisfaction), all indicating moderate correlations. Several demographic variables were significantly correlated with anxiety and life satisfaction but not with depression in this sample of AL residents. Education ($r = .136$, $p < .05$) and marital status ($r = .120$, $p < .05$) were positively correlated with anxiety. Age ($r = -.207$, $p < .01$) was also negatively associated with anxiety. Length of residence ($r = .103$, $p < .05$) showed a positive relationship with life satisfaction.

Regarding sources of stress, relocation control was associated with an increased level of psychological well-being among AL residents. Relocation control was negatively associated with depression ($r = -.152$, $p < .01$) and anxiety ($r = -.108$, $p < .05$). In addition, relocation control was significantly positively associated with life satisfaction ($r = .222$, $p < .01$).

Regarding proposed mediators and the measure of psychological well-being among the AL residents, social support ($r = -.152$, $p < .01$), self-reported health ($r = -.152$, $p < .01$), and functional impairment ($r = -.152$, $p < .01$) were negatively related to depression. Negative correlations were also found between both self-reported health ($r = -.152$, $p < .01$) and functional impairment ($r = -.152$, $p < .01$) and anxiety. On the other hand, statistically significant and positive correlations were found between life social support ($r = -.152$, $p < .01$), self-reported health ($r = -.152$, $p < .01$), and functional impairment ($r = -.152$, $p < .01$) and life satisfaction.

Regarding relocation control and demographic variables, a significant correlation was found for income alone. There was a positive correlation between income and relocation control ($r = .170$, $p < .01$). Findings suggested that ALF residents with higher income had more control over being relocated.

Finally, the two measures of proposed mediators had a statistically significant and positive relationship with relocation control. Relocation control was positively correlated with social support ($r = .356$, $p < .01$), indicating that AL residents with strong social support had more control over being relocated. Moreover, AL residents with more relocation control had less functional disability ($r = .107$, $p < .05$).

It should be noted that with the large number of correlations tested, the probability of at least one type I error among these tested correlations is extremely high, and in fact approaches 1.0.

Table 5.
*Means and Zero-Order Correlations among 13 Observed Variables (*N *= 336)*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Depression	1												
2. Anxiety	.590**	1											
3. Life satisfaction	-.542**	-.263**	1										
4. Social support	-.274**	-.012	.320**	1									
5. Self-reported health	-.301**	-.218**	.393**	.068	1								
6. Functional impairment	-.203**	-.242**	.258**	.053	.223**	1							
7. Relocation control	-.152**	-.108*	.222**	.356**	.034	.107*	1						
8. Age	-.099	-.207**	.075	.042	.080	-.030	.070	1					
9. Gender	.013	.080	.105	.145**	.114*	-.123*	.065	.120*	1				
10. Education	.055	.136*	-.004	.057	.050	.066	.061	-.076	-.115*	1			
11. Income	-.033	.009	-.070	-.057	.065	.080	.170**	-.116	-.195**	.325**	1		
12. Marital status	.059	.120*	.034	-.087	.042	.042	-.070	-.104	.125*	.070	-.140	1	
13. Length of residence	-.082	-.041	.103*	.072	.044	-.105	.036	.204**	.139*	-.041	-.042	.060	1

* $p < 0.05$ level (2-tailed), ** $p < 0.01$ level (2-tailed).

Hypothesis Testing

Hypothesis 1A: *Relationships between relocation control and depression*

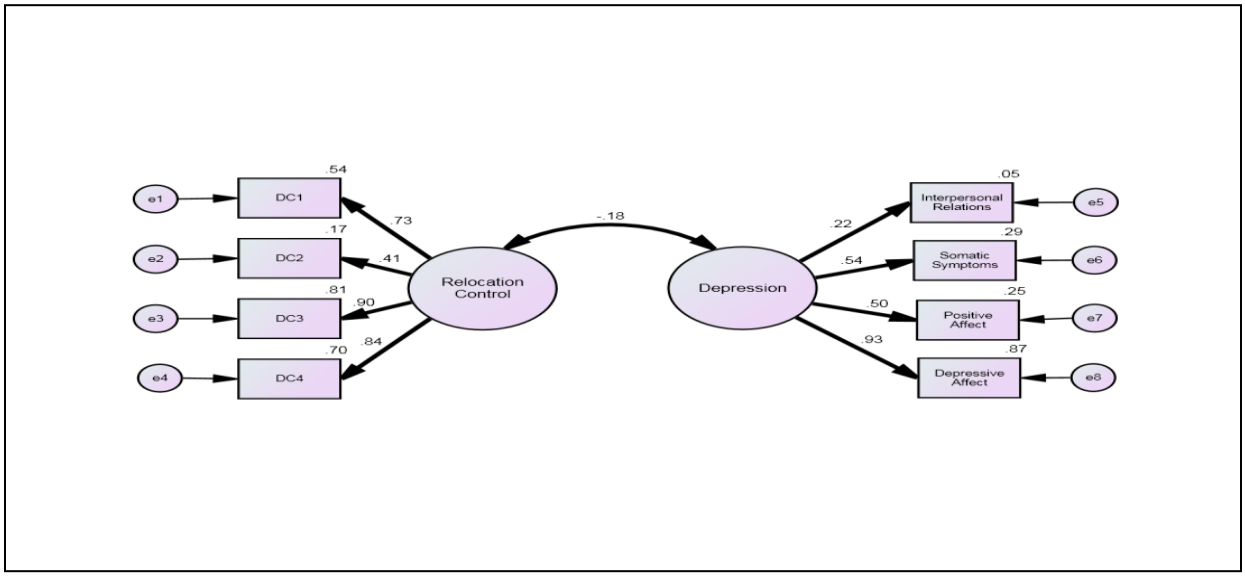

Figure 4. Estimated measurement model of testing the relationship between relocation control and depression. Model fit indices: χ^2 (19, N = 336) = 44.995, p =.001, RMSEA = .064, TLI = .950, and CFI =.966. Bold solid lines are statistically significant and all estimates are standardized.

Figure 4 presents a measurement model of relocation control and depression. The measurement model consists of two latent variables (Relocation Control and Depression) and eight measured variables (DC1, DC2, DC3, DC4, Interpersonal Relationship, Somatic Symptoms, Positive Affect, and Depressive Affect). A latent variable of relocation control is constructed by four measured variables (DC1, DC2, DC3, and DC4). DC1 is item 1 of the Perceived Control Measure (Davidson & O'Connor, 1990), which is the question "Was it your decision to come live in an assisted living facility?"; DC2 is item 2 of the Perceived Control Measure, which is the question "Did others consult with you much about the decision to come stay in an assisted living facility?"; DC3 is item 3 of the Perceived Control Measure, which is the question "Did you feel that you influenced the decision to come to an assisted living facility?"; DC4 is item 4 of the Perceived Control Measure, which is the question "How much input would you say that you had

in the decision to come live in an assisted living facility?" On the other hand, a latent variable of psychological well-being is constructed by four measured subdimensions following the four-factor model of the Center for Epidemiological Studies Depression Scale (CES-D 20; Radloff, 1977). The four subdimensions are Depressive Affect (sum score of seven items in CES-D), Positive Affect (sum score of four items), Somatic Symptoms (sum score of seven items), and Interpersonal Relationship (sum of scores of two items).

The measurement model was tested to evaluate the empirical validity of the two latent variables (relocation control and depression). It fits to the data very well (χ^2 (l9, N = 336) = 44.995, p =.001, RMSEA = .064, TLI = .950, and CFI =.966), and all the loadings of the measured variables on the latent variables were statistically significant ($p < .001$). These results support the use of the latent variables to test the study hypothesis 1A. All parameter estimates of the measurement model are presented in Table 6. A zero-order factor correlation between relocation control and depression was statistically significant ($r = -.184$, $p < .01$).

Table 6.
Parameter Estimates in the Measurement Model of Relocation Control and Depression

Latent variable	Observed variable	B	β	SE	C.R
Relocation control	DC1	.481	.732	.032	14.846***
	DC2	.317	.411	.043	7.431***
	DC3	.667	.901	.034	19.607***
	DC4	.571	.839	.032	17.751***
Depression	Interpersonal relations	.105	.222	.028	3.803***
	Somatic symptoms	1.888	.540	.217	8.709***
	Positive affect	1.157	.497	.142	8.135***
	Depressive affect	2.960	.934	.234	12.662***
Correlation among variables		*r*		SE	C.R.
Relocation control <---> depression		−.184		.061	−3.047**

** $p < .01$, ***$p < .001$

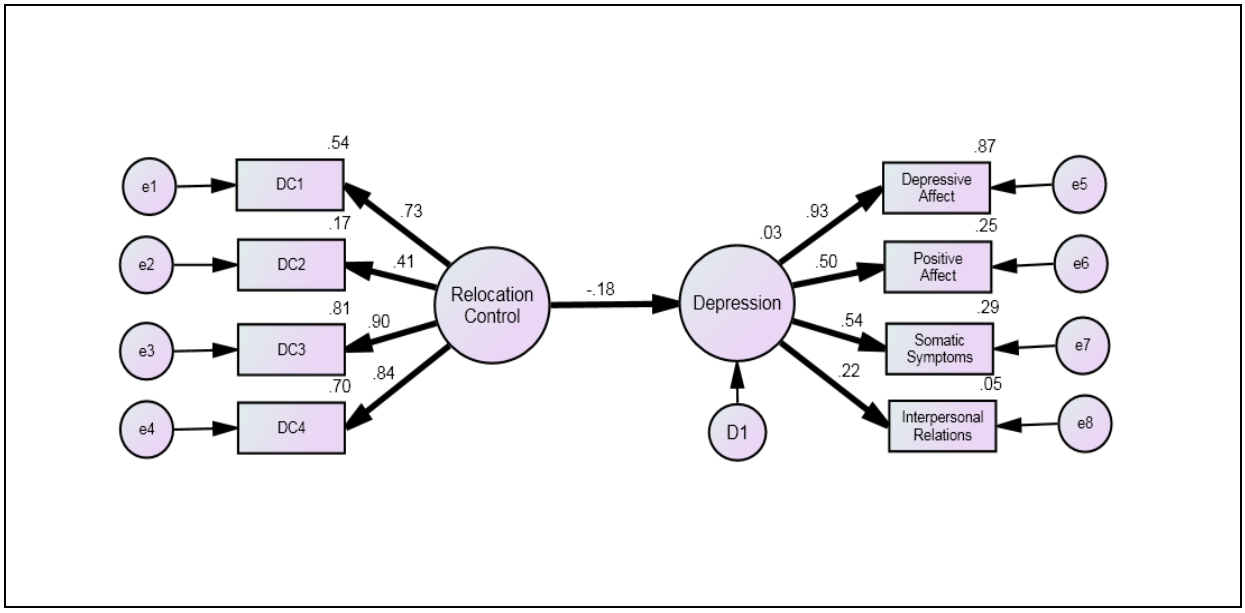

Figure 5. Structural model of testing the effect of relocation control on depression. Model fit indices: χ^2 (19, N = 336) = 44.995, p =.001, RMSEA = .064, TLI = .950, and CFI =.966. Bold solid lines are statistically significant and all estimates are standardized.

Figure 5 shows the results of testing a structural model of the study hypothesis 1A. The goodness-of-fit indices for the structural model was satisfied with acceptable levels (χ^2 (19) = 44.995, CFI = .966, NFI = .950, RMSEA = .064, TLI = .950). This model shows that relocation control is a significant predictor of depression among AL residents ($\beta = -.184$, p = .003), supporting the study hypothesis 1A. In the zero-order factor correlations between relocation control and depression in the measurement model, relocation control was expected to have negative effects on the depression. As expected, individuals who have a higher level of relocation control about entering an ALF were more likely to report lower levels of depression. The path coefficients and standard errors of the parameters, as well as the p values, are summarized in Table 7.

Table 7.
Parameter estimates in the structural model of the effect of relocation control on depression

Path	*B*	*β*	*S.E.*	*C.R.*
Relocation control	−.957	−.184	.317	−3.014**

** $p < .01$.
Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model.

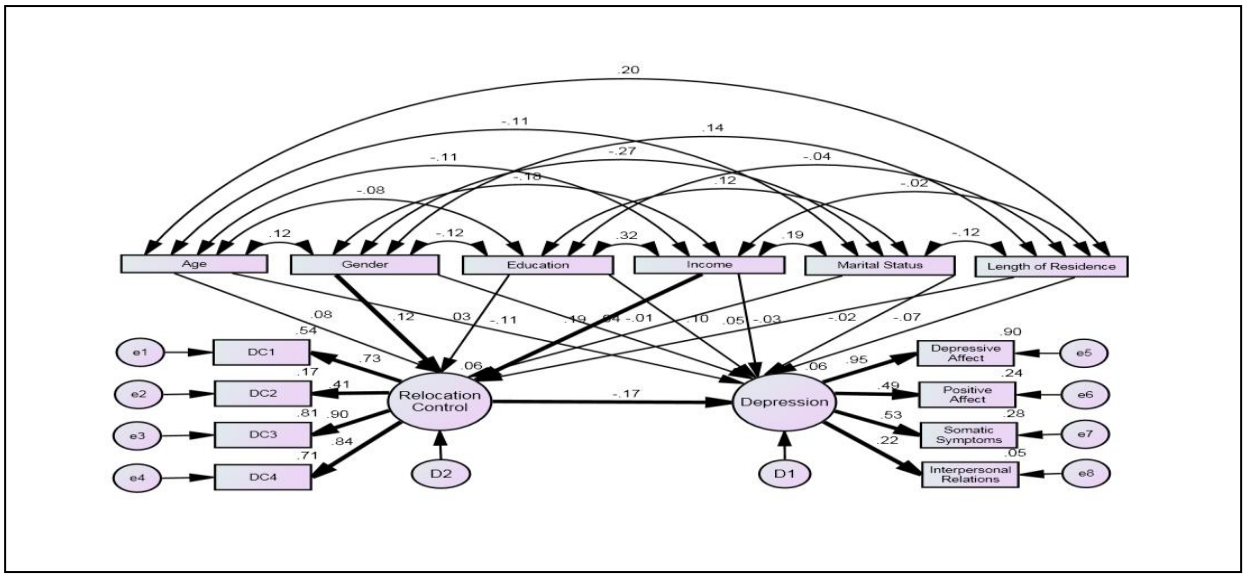

Figure 6. Structural model of testing the effect of relocation control on depression controlling for the sample's demographic characteristics. Model fit indices: $\chi^2 = 91.581(55, N = 336)$; $p = 001$; CFI = .958; RMSEA = .045; TLI = .919. Bold solid lines are statistically significant and all estimates are standardized.

The effect of relocation control on depression remained when controlling for demographic characteristics (age, gender, education, income, marital status, and length of residence). This controlled structural model is presented in Figure 6, and a path coefficient, standard error of the parameter estimate, the critical ratio, as well as the *p* value of the controlled model are presented in Table 8. As can be seen in Table 8, the significant path from relocation control on depression (β = −.173, *p* =.005) indicates that the study hypothesis is supported by the data. Only gender (β = .118, SE = .082, *p* =.05) and income (β = .187, SE = .030, *p* =.009) predict relocation control significantly, while no demographic characteristic variables predict depression to a statistically significant degree.

Table 8.
Parameter estimates in the controlled structural model of the effect of relocation control on depression.

Path	*B*	*β*	*S.E.*	*C.R.*
Relocation control → depression	−.912	−.173	.325	−2.808**

** $p < .01$.

Note. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interest.

Hypothesis 1B: *Relationships between relocation control and anxiety*

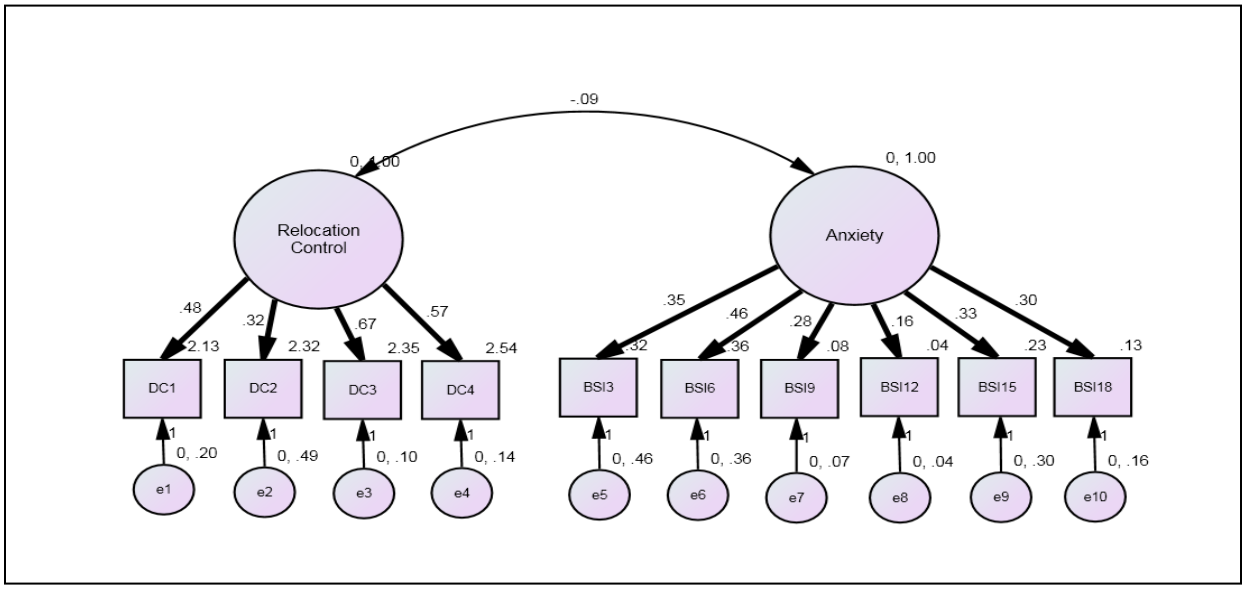

Figure 7. Estimated measurement model of testing the relationship between relocation control and anxiety. Model fit indices: χ^2 (34, N = 336) = 126.027, p =.000, RMSEA = .090, CFI =.911 and TLI = .882. Bold solid lines are statistically significant and all estimates are standardized.

Table 9.
Parameter Estimates in the Measurement Model of Relocation Control and Anxiety

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.480	.731	.032	14.813***
	DC2	.318	.413	.043	7.460***
	DC3	.666	.899	.034	19.536***
	DC4	.572	.841	.032	17.783***
Anxiety	BSI3	.350	.459	.045	7.833***
	BSI6	.461	.607	.043	10.806***
	BSI9	.283	.721	.021	13.259***
	BSI12	.165	.639	.014	11.475***
	BSI15	.334	.518	.037	8.987***
	BSI18	.297	.598	.028	10.611***
Correlations among variables		*r*		SE	C.R.
Relocation control <–> anxiety		−.089		−.065	−1.366

*** p < .01

Figure 7 presents a measurement model of relocation control and anxiety. The measurement model consists of two latent variables (Relocation Control and Anxiety) and 10 measured variables (DC1, DC2, DC3, DC4, BSI3, BSI6, BSI9, BSI12, BSI15, and BSI18). As described in a previous section, a latent variable of relocation control is constructed by four measured variables (see details in the section on Hypothesis 1A in Chapter 3). The latent variable of anxiety consists of six items in the Brief Symptom Inventory (BSI; Derogatis, 2000). BSI3 refers to nervousness; BSI6 refers to feeling tense; BSI9 refers to feeling scared; BSI12 refers to feeling panicked; BSI15 refers to feeling restless; and BSI18 refers to feeling fearful.

The measurement model in Figure 7 fits the data only marginally (χ^2 (34, N = 336) = 126.027, p =.000, RMSEA = .090, TLI = .882, and CFI =.911). All the loadings of the measured variables on the latent variables were statistically significant ($p < .001$), whereas a zero-order factor correlation between relocation control and anxiety was not statistically significant (r = −.089, p = .172). These results can be interpreted to support the use of the latent variables to test hypothesis 1B. All parameter estimates of the measurement model are presented in Table 9.

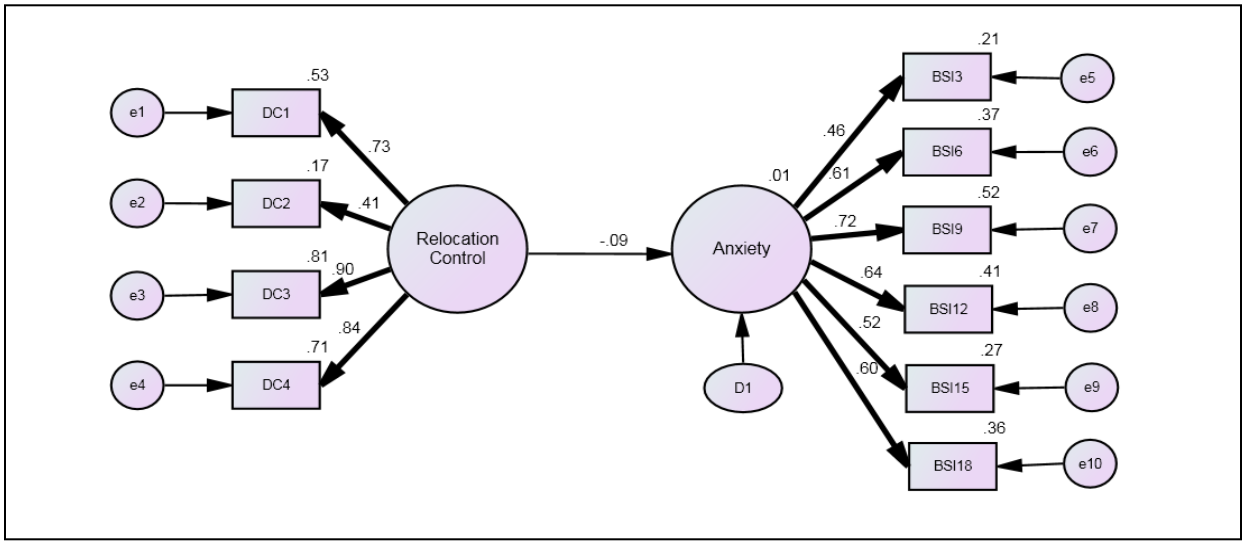

Figure 8. Structural model of testing the effect of relocation control on anxiety. Model fit indices: χ^2 (34, N = 336) = 126.027, p =.000, RMSEA = .090, TLI = .882, and CFI =.911. Bold solid lines are statistically significant and all estimates are standardized.

Figure 8 shows the results of testing a structural model of the study hypothesis 1B. The goodness-of-fit indices for the structural model fit the data marginally (χ^2 (34, N = 336) = 126.027, p =.000, RMSEA = .090, TLI = .882, and CFI =.911), and the path from relocation control to anxiety was not statistically significant (β = −.055, SE = .041, p =.179). In addition, the path from relocation control to anxiety was not statistically significant (β = −.095, SE = .042, p =.155) when controlling for the sample's demographic characteristics (Figure 9). These results indicate that the data do not support hypothesis 1B. The path coefficients and standard errors of the parameters, as well as the p values, are summarized in Table 10.

Gender, age, and education were significant predictors of anxiety in the controlled structural model presented in Figure 9. More specifically, female gender (β = .116, p =.040), younger age (β = −.211, p =.002), and more education (β =.156, p =.019) were significantly related with a higher level of anxiety. Female gender (β = .118, p =.050) was also significantly associated with a higher level of relocation control. However, these results should be carefully interpreted because the controlled structural model does not fit the data very well.

Table 10.
Parameter Estimates in the Structural Models of the Effect of Relocation Control on Anxiety

	Path	*B*	*β*	*S.E.*	*C.R.*
Structural model	Relocation control → anxiety	−.055	−.089	.041	−1.342
Controlled structural model	Relocation control → anxiety	−.060	−.095	.042	1.422

Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics are not presented because they are not of interest here.

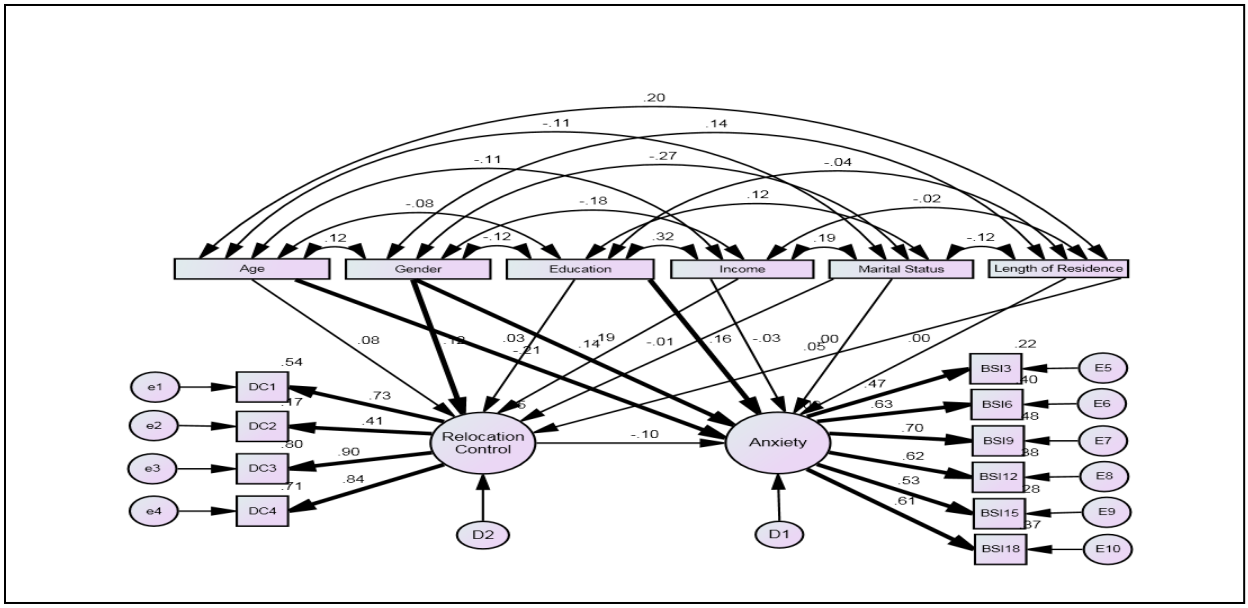

Figure 9. Structural model of testing the effect of relocation control on anxiety, controlling for the sample's demographic characteristics. Model fit indices: χ^2 = 218.207(82, *N* = 336); *p* = 000; CFI = .883; RMSEA = .070; TLI= .806. Bold solid lines are statistically significant and all estimates are standardized.

Hypothesis 1C: *Relationships between relocation control and life satisfaction*

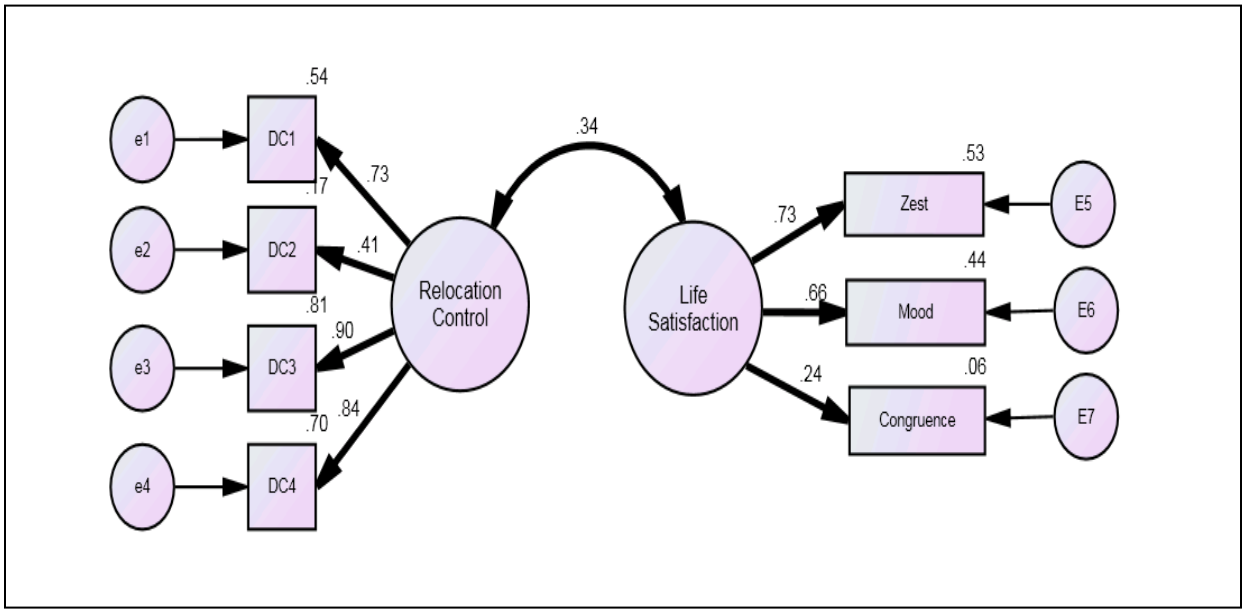

Figure 10. Estimated measurement model testing the relationship between relocation control and life satisfaction. Model fit indices: χ^2 (13, N = 336) = 32,690, p =.002, RMSEA = .067, TLI = .954, and CFI =.971. Bold solid lines are statistically significant and all estimates are standardized.

Table 11.
Parameter Estimates in the Measurement Model of Relocation Control and Life Satisfaction

Latent variable	*Observed variables*	*B*	*β*	*SE*	*C.R.*
Relocation control	DC1	.481	.733	.032	17.798***
	DC2	.314	.408	.034	19.668***
	DC3	.667	.901	.043	7.373***
	DC4	.571	.839	.032	17.798***
Life satisfaction	Zest	1.015	.527	.127	8.389***
	Mood	.850	.442	.102	8.072***
	Congruence	.825	.056	.062	3.591***
Correlations among variables		*r*		SE	C.R.
Relocation control <–> life satisfaction		.340		.066	5.183***

***p < .001

Figure 10 presents a measurement model of relocation control and life satisfaction. The measurement model consists of two latent variables (Relocation Control and Life Satisfaction) and seven measured variables (DC1, DC2, DC3, DC4, Zest, Mood, and Congruence). As described in a previous section, a latent variable of relocation control was constructed by four measured variables (see details in the section on Hypothesis 1A in Chapter 3). Another latent variable, life satisfaction, was constructed by three subdimensions following the three-factor model of the Life Satisfaction Index (Wood et al, 1969). The three subdimensions were Zest (sum score of 5 items), Mood (sum score of 4 items), and Congruence (sum score of 4 items).

The measurement model in Figure 10 was tested to evaluate the empirical validity of the two latent variables (relocation control and life satisfaction). It fits the data very well (χ^2 (13, N = 336) = 32,690, p =.002, RMSEA = .067, TLI = .954, and CFI =.971), and all the loadings of the measured variables on the latent variables were statistically significant ($p < .001$). These results support the use of the latent variables to test hypothesis 1C. All parameter estimates of the measurement models are presented in Table 11. A zero-order factor correlation between relocation control and life satisfaction was statistically significant ($r = -.340$, $p < .001$).

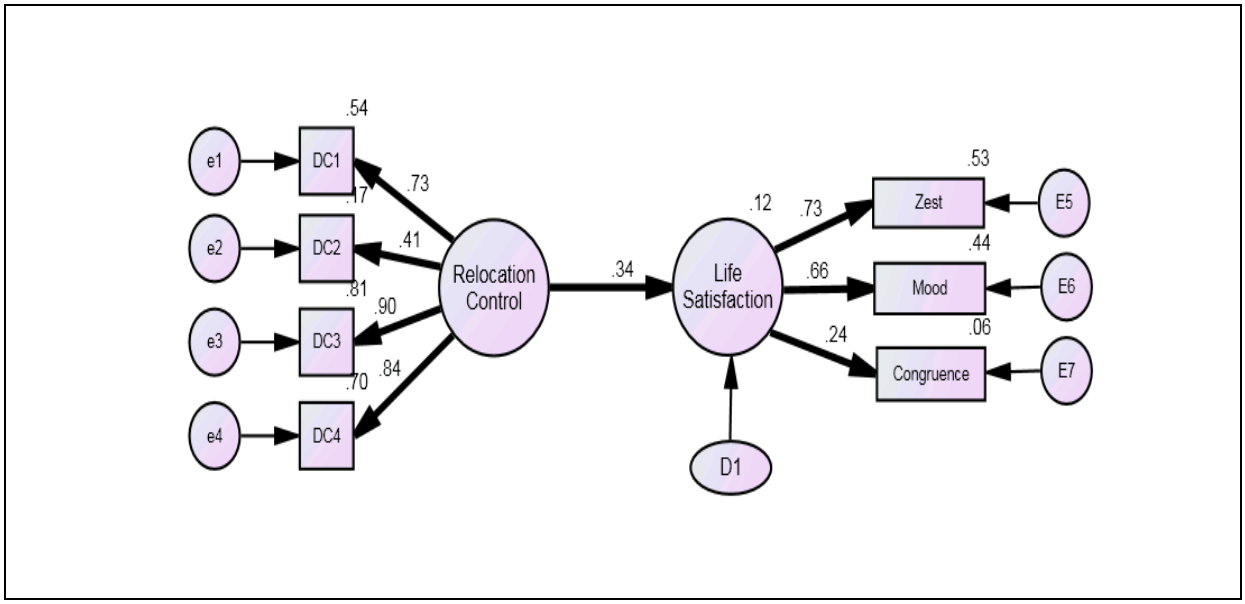

Figure 11. Structural model of testing the relationship between relocation control and life satisfaction. Model fit indices: χ^2 (13, N = 336) = 32.690, p =.002, RMSEA = .067, TLI = .954, and CFI =.971. Bold solid lines are statistically significant and all estimates are standardized.

Figure 11 shows the results of testing a structural model of the study hypothesis 1C. As hypothesized, relocation control was a significant predictor, contributing to the variance in life satisfaction being accounted for by the model. The overall goodness-of-fit indices of the structural model showed that the models fit the data well, with high values of the CFI, .971, and of the TLI, .954, and a low value of the RMSEA of .067. The squared multiple correlation (R^2_{smc}) of the model was .116. In other words, relocation control accounted for at least 11.6% of the variance in life satisfaction among AL residents. The path coefficients and standard errors of each parameter, as well as the p values, are summarized in Table 12.

The effect of relocation control on life satisfaction remained (β = .350, p < .001), when controlling for the sample's demographic characteristics (age, gender, education, income, marital status, and length of residence). This result indicates that the study hypothesis 1C is well supported by the data. The controlled structural model is presented in Figure 12, and the path coefficient, standard error of the parameter, critical ratio, and p value of the controlled model is

shown in Table 12. In the controlled structural model seen in Figure 12, only gender (β = .118, p =.05) and income (β = .187, p =.010) predict relocation control to a statistically significant degree, whereas no demographic variables predict life satisfaction to a statistically significant degree.

Table 12.
Parameter Estimates in the Structural Model of the Effect of Relocation Control on Life Satisfaction

	Path	*B*	*β*	*S.E.*	*C.R.*
Structural model	Relocation control → life satisfaction	.635	.340	.141	4.486***
Controlled structural model	Relocation control → life satisfaction	.651	.350	.142	4.575***

*** $p < .01$

Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics are not presented because they are not of interest here.

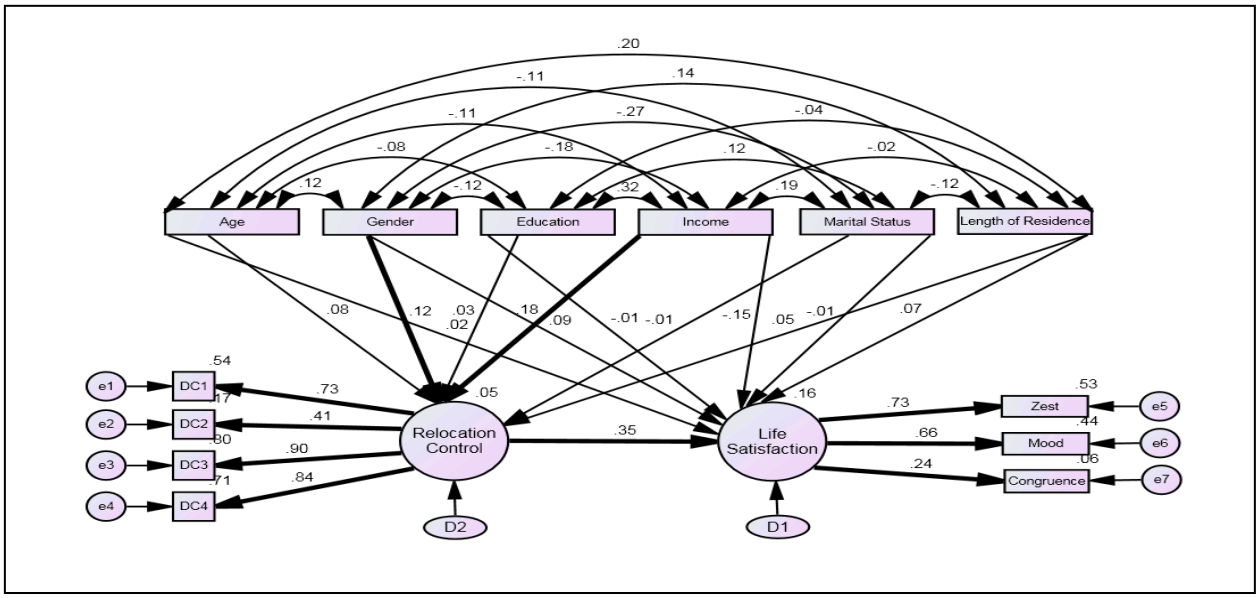

Figure 12. Structural model of testing the effect of relocation control on life satisfaction, controlling for the sample's demographic characteristics. Model fit indices: $\chi^2 = 77.686(43, N = 336)$; $p = 001$; CFI = .956; RMSEA = .049; TLI = .906. Bold solid lines are statistically significant and all estimates are standardized.

Hypothesis 2A: *Relationship between relocation control and psychological well-being (i.e. depression, anxiety, and life satisfaction) with mediation of social support*

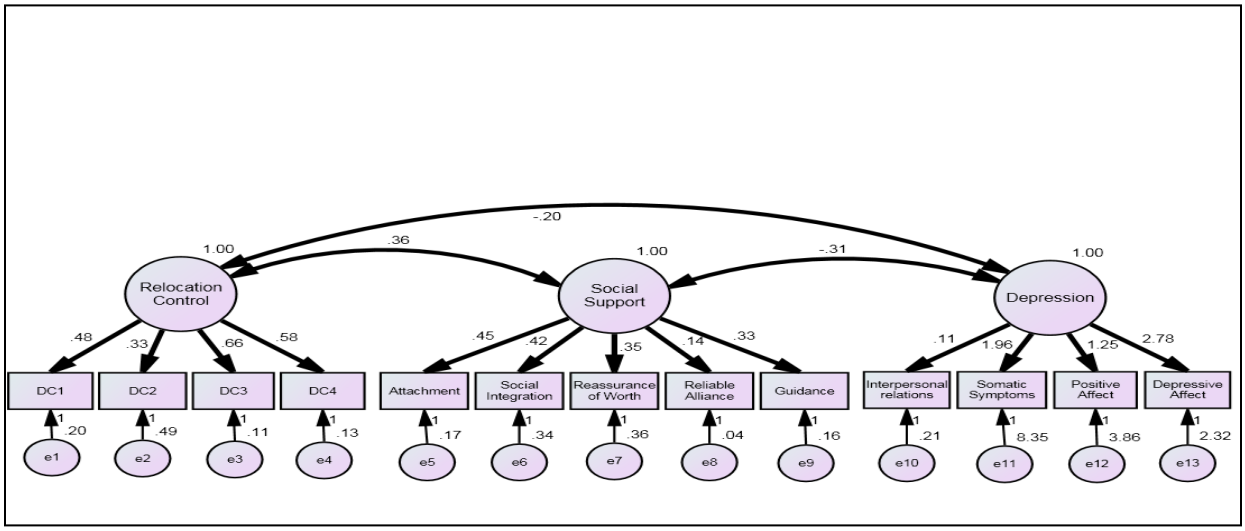

Figure 13. Estimated measurement model for testing the relationships among relocation control, social support, and depression. Model fit indices: χ^2 (62, N = 336) = 153.781, *p* =.000, RMSEA = .066, TLI = .904, and CFI =.924. Bold solid lines are statistically significant and all estimates are standardized.

1. Social support as mediator of the effect of relocation control on depression

Figure 13 presents a measurement model for relocation control, social support, and depression. The measurement model consists of three latent variables (Relocation Control, Social Support, and Depression) and 13 measured variables (DC1, DC2, DC3, DC4, Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, Guidance, Interpersonal Relationship, Somatic Symptoms, Positive Affect, and Depressive Affect). A latent variable of relocation control is constructed by four measured variables (DC1, DC2, DC3, DC4), whereas a latent variable of depression is constructed by four measured variables (Interpersonal Relationship, Somatic Symptoms, Positive Affect, and Depressive Affect), as described in a previous section (see detail in the section on Hypothesis 1A). On the other hand, a latent variable of social support is constructed by five summed variables which indicate the five sub-dimensions in a factor

model of the Perceived Social Support Scale (Cutrona, Russell, & Rose, 1986). The five sub-dimensions are Attachment (sum score of 4 items), Social Integration (sum score of 4 items), Reassurance of Worth (sum score of 4 items), Reliable Alliance (sum score of 4 items), and Guidance (sum score of 4 items).

The measurement model fits the data very well (χ^2 (62, N = 336) = 153.781, p =.000, RMSEA = .066, TLI = .904, and CFI =.924), and all the loadings of the measured variables on the latent variables are statistically significant and are presented in Table 13. These results support the use of the latent variables in the measurement model to test hypothesis 2A-1. All factor correlations among the three

latent variables are also statistically significant.

Table 13.
Parameter estimates from the measurement model of relocation control, social support, and depression.

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.479	.729	.032	14.762***
	DC2	.325	.422	.043	7.650***
	DC3	.661	.892	.034	19.413***
	DC4	.577	.848	.032	18.068***
Social support	Attachment	.448	.732	.033	13.396***
	Social integration	.421	.585	.041	10.287***
	Reassurance of worth	.348	.505	.040	8.681***
	Reliable Alliance	.145	.600	.014	10.600***
	Guidance	.330	.631	.029	11.250***
Depression	Interpersonal relations	.108	.229	.028	3.798***
	Somatic symptoms	1.965	.562	.211	9.321***
	Positive affect	1.246	.535	.140	8.915***
	Depressive affect	2.778	.877	.209	13.307***
Correlations among variables		*r*		SE	C.R
Relocation control<–>social support		.364		.059	6.134***
Relocation control<-->depression		−.198		.063	−3.159**
Social support<-->depression		−.308		.065	−4.708***

***p < .001

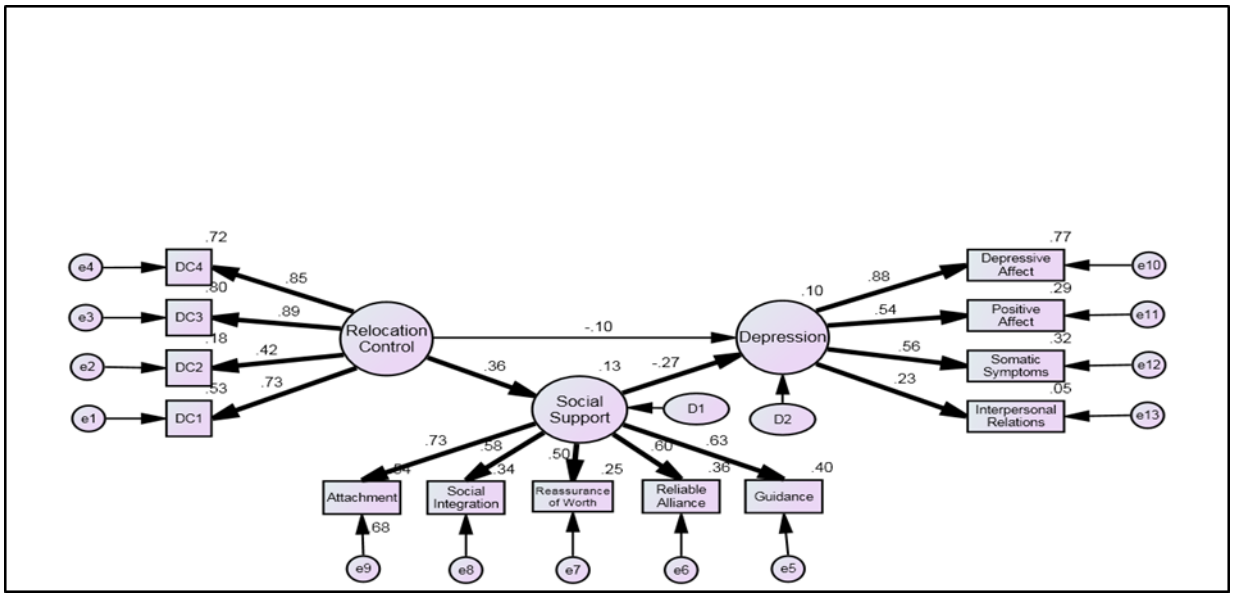

Figure 14. Social support as mediator of the effect of relocation control on depression. Model fit indices: χ^2 = 153.781 (62, *N* = 336), *p* = .000; CFI = .924; RMSEA = .066; TLI = .904. Bold solid lines are statistically significant and all estimates are standardized.

A mediation model for testing hypothesis 2A-1 (Figure 14) was tested, showing that the mediation model fit the data (χ^2 (62, *N* = 336) = 153.781, *p* = 000, CFI = .924, RMSEA = .066, TLI = .904). A direct path from relocation control to social support was statistically significant (β = .364, *p* < .001), and a direct path from social support to depression (β = −.272, *p* < .001) was also statistically significant. The results of a bootstrapping method using AMOS showed that the mediation effect (e.g., indirect effect from relocation control through social support to depression) was statistically significant (B = −.574 (β = −.099), SE= .252, *p* = .008), while the direct path from relocation control to depression was not statistically significant (β = −.099, *p* > .05), as can be expected when mediation is present. These results suggested that social support mediated the effect of relocation control on depression. The estimated path coefficients and their standard errors are presented as an “uncontrolled model” in Table 14.

Table 14. *Parameter estimates from the social support mediation model for the effect of relocation control on depression.*

Paths		*B*	*β*	*S.E.*	*C.R.*
Uncontrolled model	Relocation control → depression	−.577	−.099	.402	−1.436
	Relocation control → social support	.251	.364	.049	5.105***
	Social support → depression	−2.286	−.272	.649	−3.521***
Controlled model	Relocation control → depression	−.387	−.079	.345	−1.121
	Relocation control → social support	.210	.369.	.040	5.207***
	Social support → depression	−2.486	−.289	.682	−3.643***

*** $p < .001$

Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

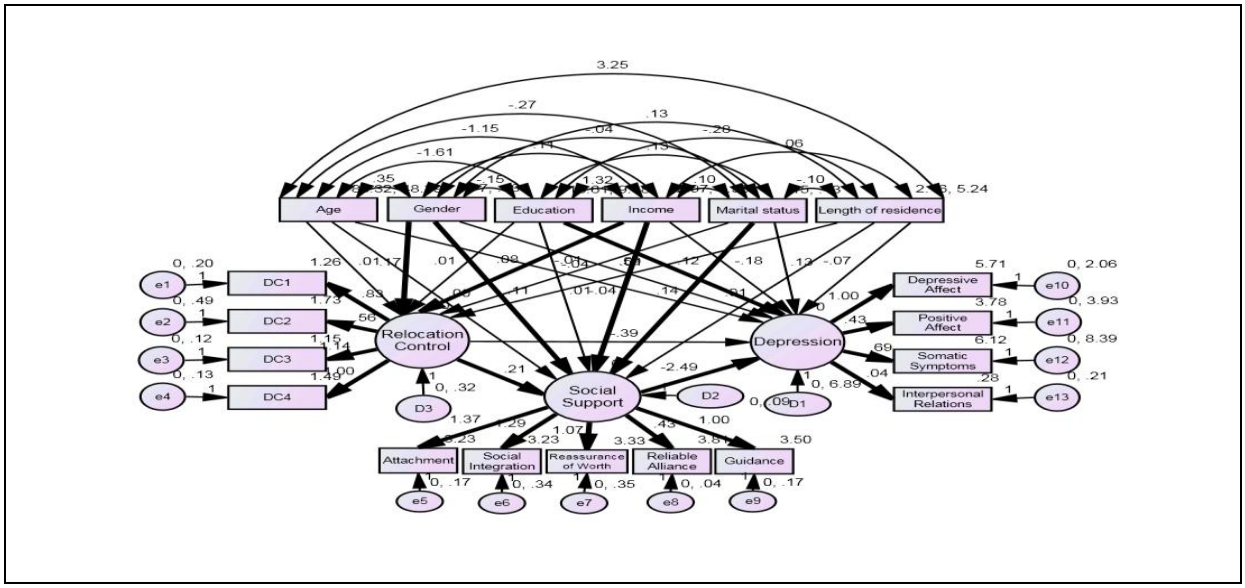

Figure 15. Social support as mediator of the effect of relocation control on depression with controlling for the sample's demographic characteristics. Model fit indices: χ^2 = 228.048(122, N = 336); p = 000; CFI = .919; TLI= .873; RMSEA = .051. Bold solid lines are statistically significant and all estimates are standardized.

Table 15.
Effect decomposition of the social support mediation model for the effect of relocation control on depression

Path	*Total effects*	*Direct effects*	*Indirect effects*
Relocation control → depression	−.198(−.186)**	− .099(−.079)**	−.099(−.107)**
Relocation control→ social support	.364(.369)**	.364(.369)**	-
Social support → depression	−.272(−.289)**	−.272(−.289)**	-

** $p < .01$
Note. Numbers in parentheses are estimates from the mediation model with controlling for the sample's demographic characteristics. *p* values are for parameters from uncontrolled model only. All estimates are standardized.

The significant mediation effect of social support on the relationship between relocation control and depression remained even when demographic characteristics (age, gender, education, income, marital status, and length of residence) were controlled for, as shown in Figure 15. This controlled social support mediation model fit the data (χ^2 = 228.048(122, *N* = 336); *p* = 000; CFI = .919; TLI= .873; RMSEA = .051), and the indirect effect from relocation control through social support to depression was statistically significant (B = −2.994, SE= .174, *p* = .002) based on Sobel's test. A direct path from relocation control to social support was statistically significant (β = .369, *p* < .001), and a direct path from social support to depression (β = −.289, p < .001) was also statistically significant, whereas the direct path from relocation control to depression was not statistically significant (β = −.079, *p* > .05). These results supported hypothesis 2A-1 that social support mediated the relationship between relocation control and depression. The estimated path coefficients and their standard errors are presented as a "controlled model" in Table 14. In addition, effect decomposition of the social support mediation model is presented in Table 15, showing that depression goes down by about .198 standard deviation when relocation control goes up by about 1 standard deviation due to both direct and indirect effects.

2. Social support as mediator of the effect of relocation control on anxiety

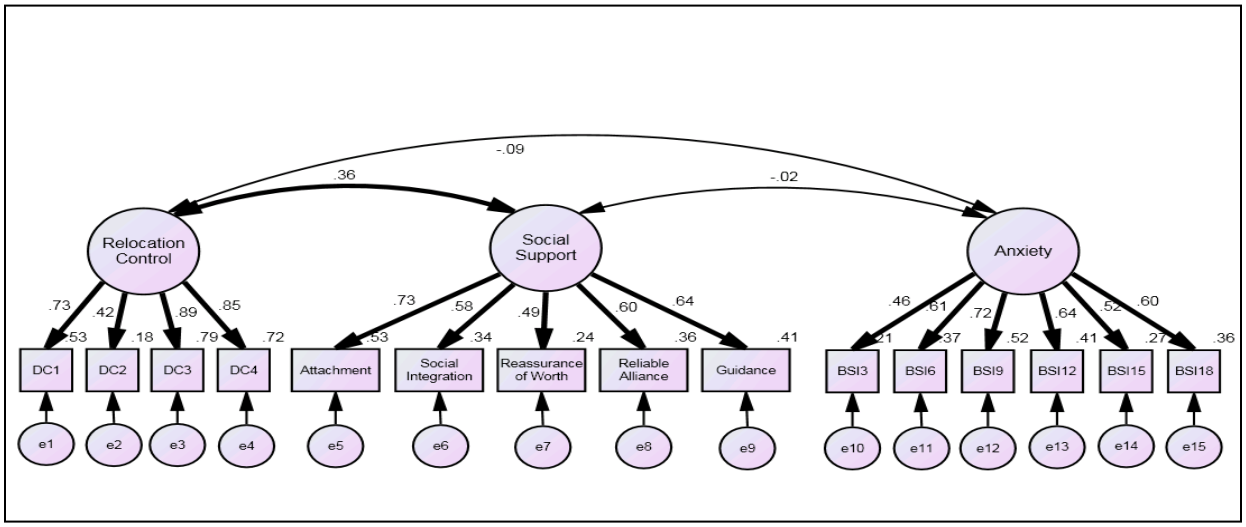

Figure 16. Estimated measurement model of testing the relationship among relocation control, social support, and anxiety. *N* = 336. Factor loadings on the latent variables as well as paths from the latent variables are standardized. Only significant paths are highlighted. χ^2 (87, *N* = 336) = 252.274, P =.000, RMSEA = .075, TLI = .863, and CFI =.887.

Figure 16 presents a measurement model of relocation control, social support, and anxiety. The measurement model consists of three latent variables (Relocation Control, Social Support, and Anxiety) and 15 measured variables (DC1, DC2, DC3, DC4, Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, Guidance, BSI3, BSI6, BSI9, BSI12, BSI15, and BSI18). The latent variable of relocation control is constructed by four measured variables (DC1, DC2, DC3, and DC4), as described in the section on Hypothesis 1A, whereas the latent variable of Anxiety is constructed by six measured variables (BSI3, BSI6, BSI9, BSI12, BSI15, and BSI18), as described in the section on Hypothesis 1B. The latent variable of Social Support is constructed by five summed variables (Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, and Guidance), as described in the previous section. The measurement model did not fit the data very well (χ^2 (87, *N* = 336) = 252.274; *p* =.000; RMSEA = .075; TLI = .863; CFI =.887). Only the RMSEA value meets the cut-off value of .80, whereas TLI and CFI

do not meet their cut-off value of .90. This misfit of the model might be due to nonsignificant factor correlations between relocation control and anxiety as well as social support and anxiety (as presented Table 16). However, all factor loadings from three latent variables to manifest variables are statistically significant.

Table 16.
Parameter estimates from the measurement model of relocation control, social support, and anxiety

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.478	.728	.032	14.736***
	DC2	.327	.425	.043	7.693***
	DC3	.659	.890	.034	19.335***
	DC4	.578	.850	.032	18.128***
Social support	Attachment	.447	.731	.034	13.296***
	Social integration	.419	.582	.041	10.197***
	Reassurance of worth	.341	.493	.040	8.445***
	Reliable Alliance	.146	.604	.014	10.647***
	Guidance	.335	.641	.029	11.409***
Anxiety	BSI3	.350	.459	.045	7.832***
	BSI6	.461	.607	.043	10.812***
	BSI9	.283	.720	.021	13.249***
	BSI12	.165	.639	.014	11.473***
	BSI15	.334	.518	.037	8.989***
	BSI18	.297	.598	.028	10.617***
Correlations among variables		*r*		SE	C.R
Relocation control<–>social support		.364		.059	6.127***
Relocation control<--> anxiety		−.091		.065	−1.401
Social support<--> anxiety		−.019		.071	−.272

***$p < .001$

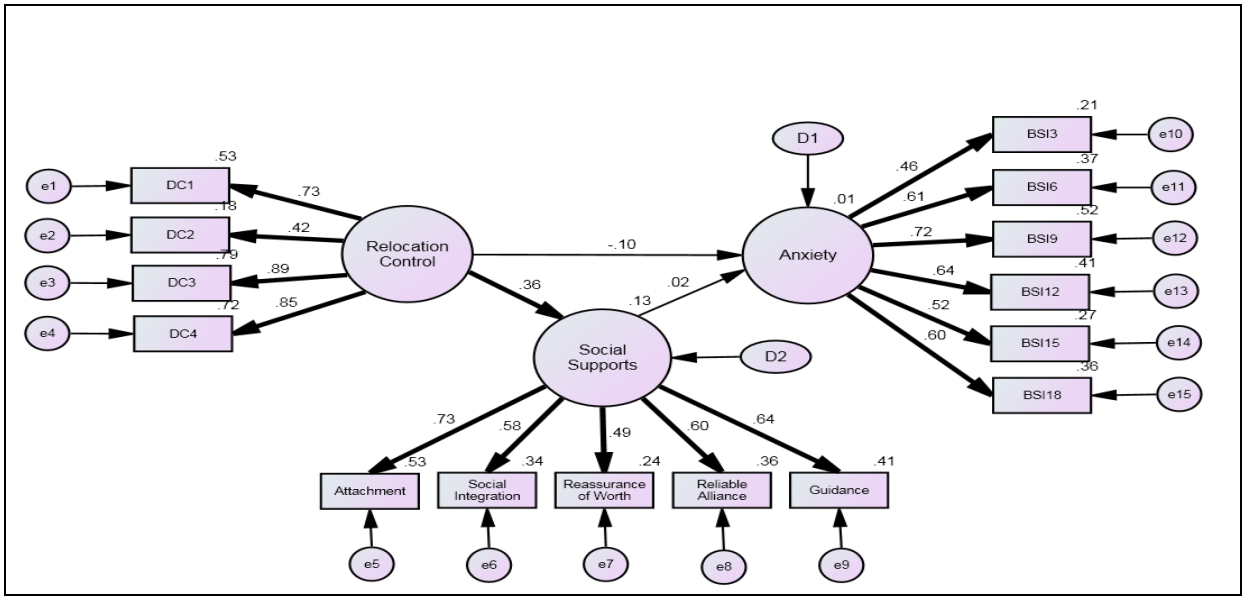

Figure 17. Social support as mediators of the effect of relocation control on anxiety. Model fit indices: χ^2 = 252.274(87, *N* = 336); *p* = 000; CFI = .887; RMSEA = .075; TLI = .863. Bold solid lines are statistically significant and all estimates are standardized.

Although the measurement model did not fit the data very well, a structural model (presented in Figure 17) was examined in order to test the mediation effect of social support on the relationship between relocation control and anxiety. The structural model also did not fit the data well (χ^2 = 252.274(87, *N* = 336), *p* = 000, CFI = .887, RMSEA = .075, TLI = .863). The direct path from relocation control to social support was statistically significant (β = .364, *p* < .001), but the direct path from social support to anxiety was not statistically significant (β = .016, *p* >.05). In addition, the mediation effect (e.g., indirect effect from relocation control through social support to anxiety) was not statistically significant (B = .004 (β = .006), SE= .016, *p* = .902). These results suggest that social support does not mediate the relationship between relocation control and anxiety. Parameter estimates, standardized error, and critical ratios for both an uncontrolled model and a controlled model are shown as an “uncontrolled model” in Table 17.

A controlled mediation model (Figure 18) also did not fit the data very well (χ^2 (159, N = 336) = = 369.840, p = .000, CFI = .868, RMSEA = .063, TLI = .809) and did not demonstrate any mediation effect either (Sobel's test B = .081, SE= .044, p = .935). Coefficients parameter estimates, standardized error, and critical ratios for both an uncontrolled model and a controlled model are shown as a "controlled model" in Table 17.

Table 17.
Parameter estimates from the social support mediation model for the effect of relocation control on anxiety

Paths		*B*	*β*	*S.E.*	*C.R.*
Uncontrolled model	Relocation control → anxiety	−.059	−.097	.044	−1.326
	Relocation control → social support	.211	.364	.040	5.222***
	Social support → anxiety	.017	.016	.081	.209
Controlled model	Relocation control → anxiety	−.060	−.096	.046	−1.294
	Relocation control→ social support	.212	.367	.041	5.197***
	Social support → anxiety	−.002	−.002	.085	−.022

*** $p < .001$
Note . Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

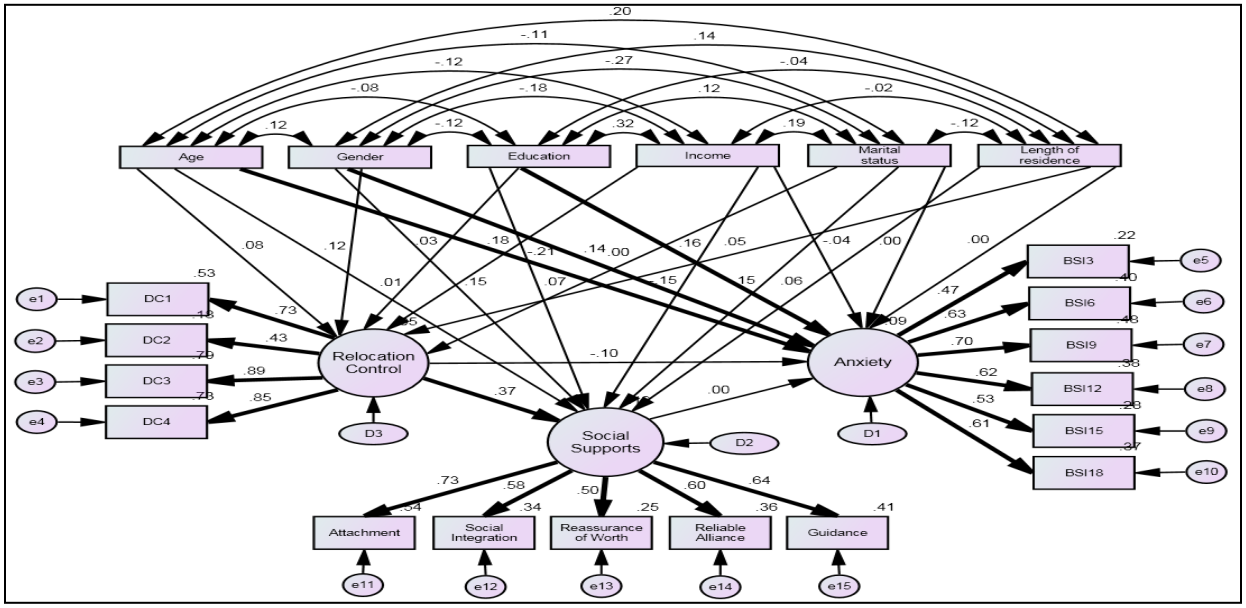

Figure 18. Social support as mediator of the effect of relocation control on anxiety with controlling for the sample's demographic characteristics. Model fit indices: $\chi^2 = 369.840(159, N = 336)$; $p = .000$; CFI = .868; RMSEA = .063; TLI = .809. Bold solid lines are statistically significant and all estimates are standardized.

3. Social support as mediator of the effect of relocation control on life satisfaction

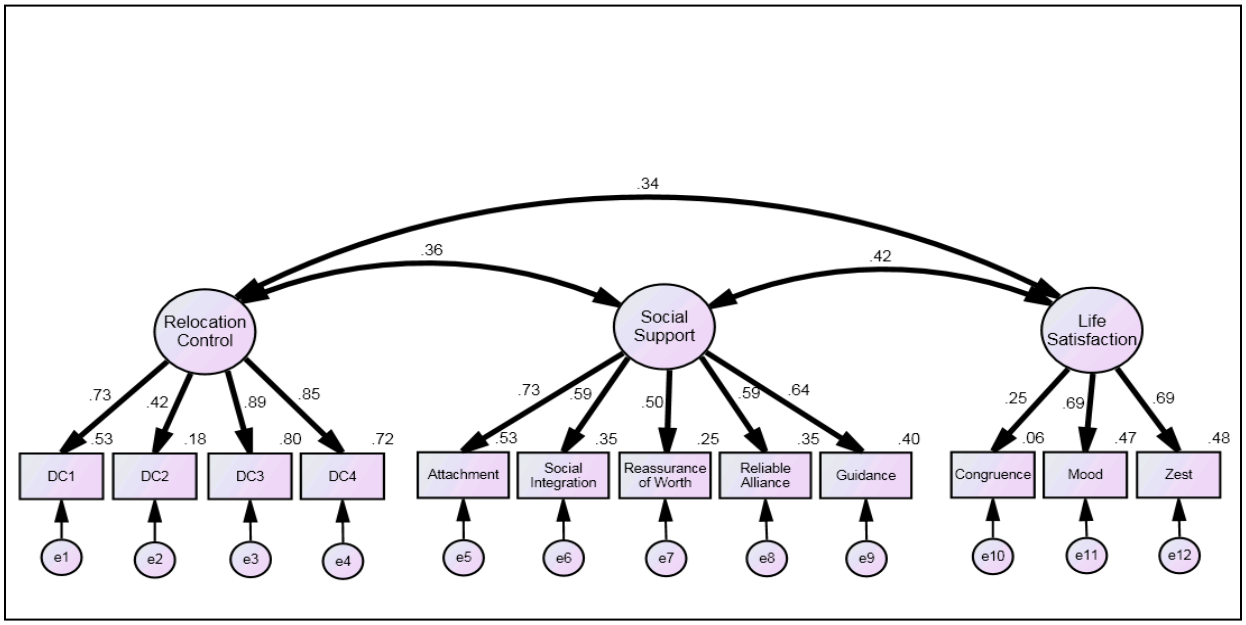

Figure 19. Estimated measurement model of testing the relationship among relocation control, social support, and life satisfaction. Model fit indices: χ^2 (51, N = 336) = 124.709, p =.000, RMSEA = .066; TLI = .914; CFI =.934. Bold solid lines are statistically significant and all estimates are standardized.

Figure 19 presents a measurement model of relocation control, social support, and life satisfaction. The measurement model consists of three latent variables (Relocation Control, Social Support, and Life Satisfaction) and 12 manifest variables (DC1, DC2, DC3, DC4, Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, Guidance, Congruence, Mood, and Zest). The latent variable of relocation control is constructed by four measured variables (DC1, DC2, DC3, and DC4), as described in the section on Hypothesis 1A, while the latent variable of life satisfaction is constructed by three manifest variables (Congruence, Mood, and Zest), as described in the section on Hypothesis 1C. The latent variable of social support is constructed by five summed variables (Attachment, Social Integration, Reassurance of Worth, Reliable Alliance, and Guidance), as described in the section on Hypothesis 2A-1. The measurement model fit the data very well (χ^2 (51, N = 336) = 124.709, p =.000, RMSEA = .066; TLI = .914; CFI =.934). These results support the use of the latent variables in the measurement

model to test the study hypothesis 2A-3. All the loadings of the measured variables on the latent variables are statistically significant, as presented in Table 18. All factor correlations among the three latent variables are also statistically significant.

Table 18.
Parameter estimates from the measurement model of relocation control, social support, and life satisfaction

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.479	.730	.032	14.794***
	DC2	.323	.419	.043	7.580***
	DC3	.661	.893	.034	19.484***
	DC4	.576	.847	.032	18.066***
Social support	Attachment	.445	.729	.033	13.334***
	Social integration	.428	.594	.041	10.492***
	Reassurance of worth	.346	.501	.040	8.617***
	Reliable Alliance	.143	.593	.014	10.468***
	Guidance	.332	.636	.029	11.355***
Life satisfaction	Congruence	.238	.255	.061	3.892***
	Mood	.849	.688	.090	9.417***
	Zest	1.017	.694	.107	9.467***
Correlations among variables		*r*		SE	C.R
Relocation control<–> life satisfaction		.345		.066	5.228***
Relocation control<--> social support		.364		.059	6.137***
Social support<--> life satisfaction		.416		.069	6.021***

***$p < .001$

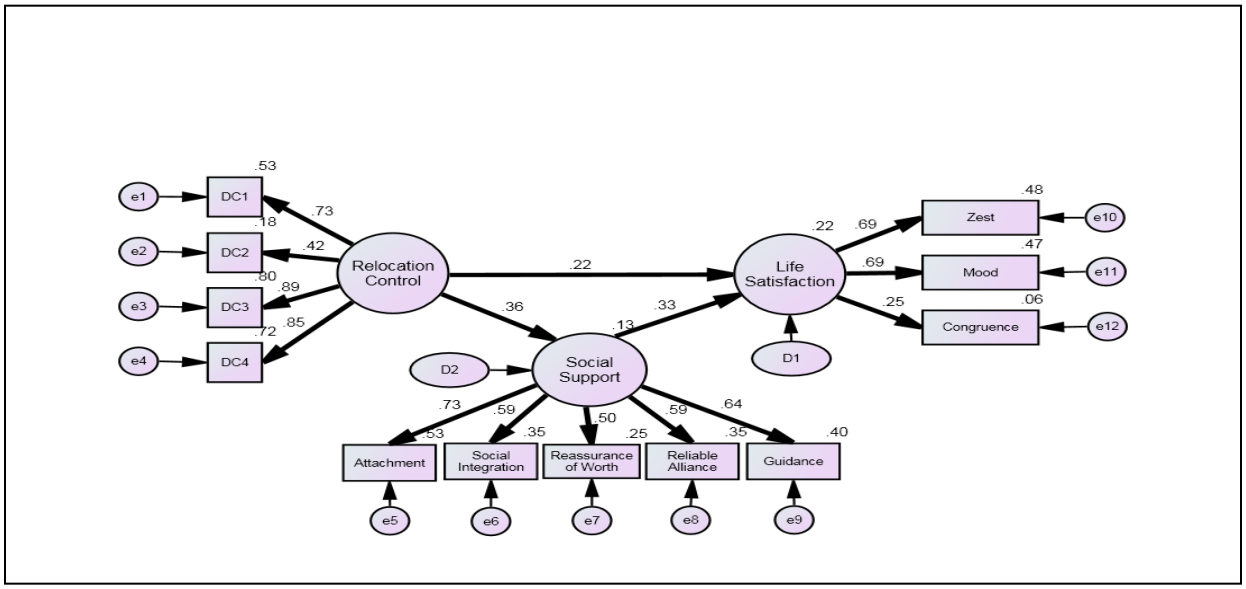

Figure 20. Social support as mediator of the effect of relocation control on life satisfaction. Model fit indices: χ^2 = 124.709 (51, *N*=336); *p* = .001; CFI = .934; RMSEA = .066; TLI = .914. Bold solid lines are statistically significant and all estimates are standardized.

The results of testing a mediation model of hypothesis 2A-3 is presented in Figure 20. The mediation model is an uncontrolled structural model of testing the mediation effect of social support on the relationship between relocation control and life satisfaction. This uncontrolled structural model fit the data very well (χ^2 (51, N=336) = 124.709, p = .000, CFI = .934, RMSEA = .066, TLI = .914). Estimated path coefficients and their standard errors are presented as an "uncontrolled model" in Table 19. A direct path from relocation control to social support was statistically significant (β = .364, p < .001), and a direct path from social support to life satisfaction (β = .335, p < .001) was also statistically significant. The procedure of a bootstrapping method in AMOS showed that the mediation effect (e.g., indirect effect from relocation control through social support to life satisfaction) was statistically significant (B = .215 (β = .122), SE= .016, p = .003), and the direct path from relocation control to life satisfaction was also statistically significant (β = 223, p < .01), which indicates partial mediation effect. The partial mediation effect is the case in which the effect of an independent variable on a dependent variable is mediated by another variable while the direct effect of the independent variable on the dependent variable is held. In the context of the present study, relocation control influences life satisfaction directly as well as through the mediator of social support. Thus, the research hypothesis 2A-3 is supported by the data.

Table 19.
Parameter estimates from the social support mediation model for the effect of relocation control on life satisfaction

Paths		*B*	*β*	*S.E.*	*C.R.*
Uncontrolled model	Relocation control → life satisfaction	.393	.223	.136	2.881**
	Relocation control → social support	.210	.364	.040	5.223***
	Social support → life satisfaction	1.024	.335	.271	3.781***
Controlled model	Relocation control → life satisfaction	.418	.235	.141	2.960**
	Relocation control→ social support	.210	.366	.041	5.174***
	Social support → life satisfaction	.976	.316	.277	3.528***

**$p < .01$, ***$p < .001$
Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

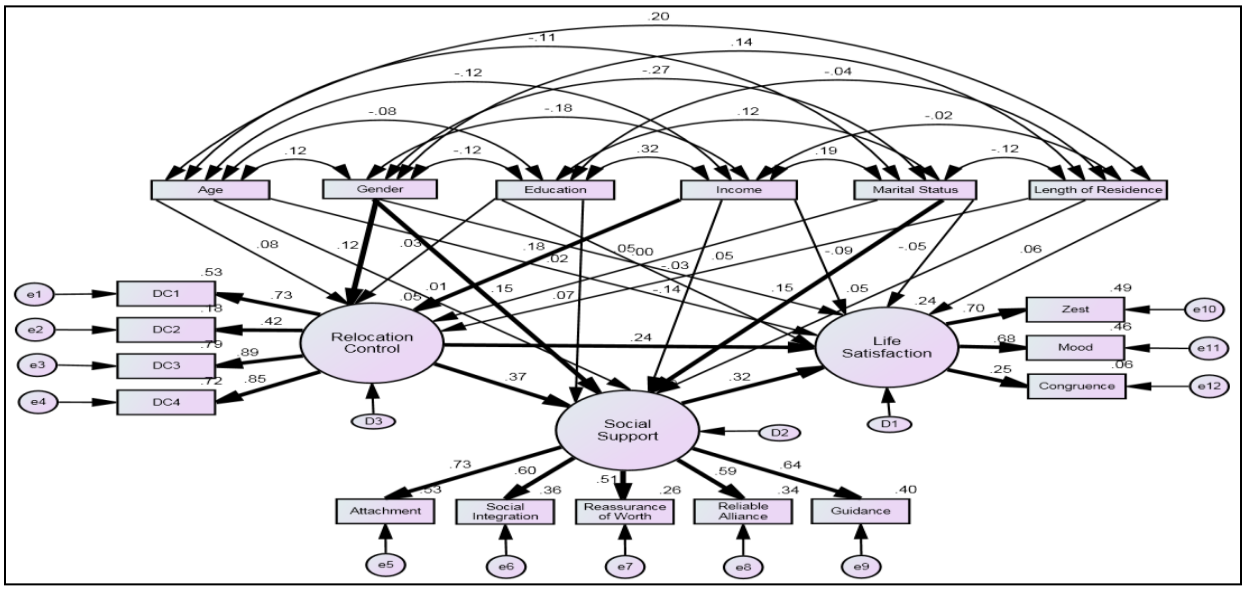

Figure 21. Social support as a mediator of the effect of relocation control on life satisfaction, controlling for demographic characteristics. Model fit indices: χ^2 = 194.868 (105, *N* = 336); *p* = .000; CFI = .926; RMSEA = .051; TLI = .879. Note². Bold solid lines are statistically significant and all estimates are standardized.

Table 20.
Effect decomposition of the social support mediation model for the effect of relocation control on life satisfaction

Path	*Total effects*	*Direct effects*	*Indirect effects*
Relocation control → life satisfaction	.345(.351)**	.223(.235)*	.122(.115)**
Relocation control→ social support	.364(.366)**	.364(.369)**	-
Social support → life satisfaction	.335(.316)**	−.272(.316)**	-

*p < .05, **p < .01,
Note. Numbers in parentheses are estimates from the mediation model with controlling for the sample's demographic characteristics. p values are for parameters from uncontrolled model only.
Note[3]. All estimates are standardized.

As presented in Figure 21, significant mediation effect of social support on the relationship between relocation control and life satisfaction held when the sample's demographic characteristics (age, gender, education, income, marital status, and length of residence) were controlled for. This controlled social support mediation model fit the data (χ^2 = 194.868 (105, N = 336); p = .000; CFI = .926; RMSEA = .051; TLI = .879), and the indirect effect from relocation control through social support to social support was statistically significant (Sobel's test B = 3.066, SE= .070, p = .002). A direct path from relocation control to social support was statistically significant (β = .366, p < .001), and a direct path from social support to life satisfaction (β = .316, p < .001) was also statistically significant. In addition, the direct path from relocation control to life satisfaction was also statistically significant (β = .235, p < .001), as in the uncontrolled social support mediation model. Consequently, the controlled social support mediation model is a partial mediation mode. Thus it is concluded that research hypothesis 2A-3 is supported by the data. Additionally the effect decomposition of the social support mediation model on the relationship between relocation control and life satisfaction is presented in Table 20,

showing that life satisfaction goes up by .345 standard deviation when relocation control goes up by 1 standard deviation due to both direct and indirect effects.

Hypothesis 2B: *Relationship between relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction) with mediation of self-reported health*

1. Self-reported health as mediator of the effect of relocation control on depression

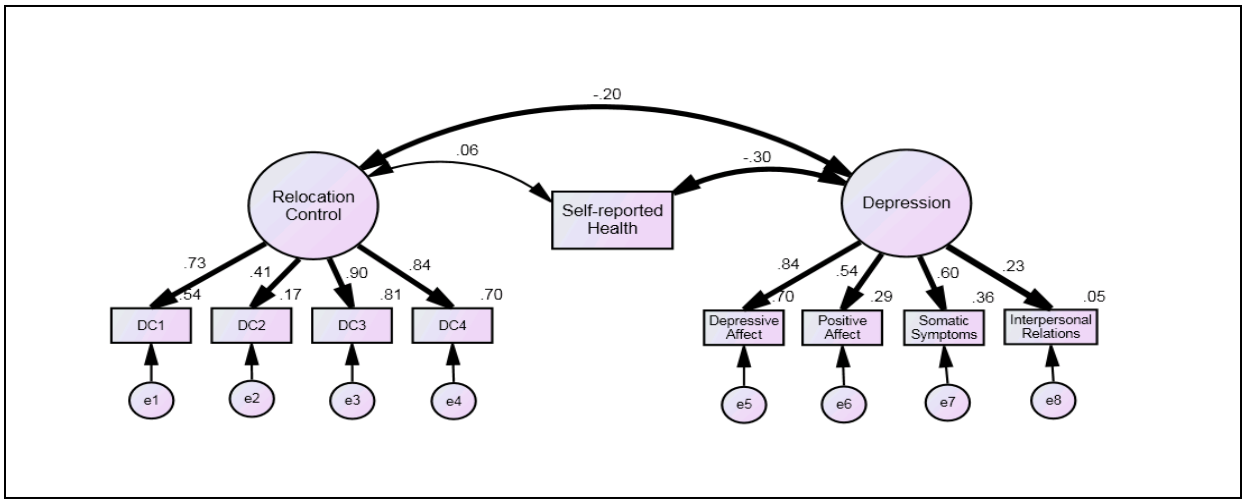

Figure 22. Estimated measurement model of testing the relationship among relocation control, self-reported health, and depression. Model fit indices: χ^2 (26, N = 336) = 76.672, p =.000, RMSEA = .073, TLI = .920, and CFI =.942. Note². Bold solid lines are statistically significant and all estimates are standardized.

A measurement model of relocation control, self-reported health, and depression is presented in Figure 22. The measurement model is a hybrid model, which is constructed by two latent variables (Relocation Control and Depression) with their indicators and one observed variable (Self-Reported Health). The latent variable of relocation control is constructed by four measured variables (DC1, DC2, DC3, DC4), whereas the latent variable of depression is constructed by four measured variables (Interpersonal Relationship, Somatic Symptoms, Positive Affect, and Depressive Affect), as described in the section on Hypothesis 1A. The measurement model fit the data very well (χ^2 (26, N = 336) = 76.672, p =.000, RMSEA = .073, TLI = .920, and CFI =.942), and all factor loadings are statistically significant, as presented in Table 21. Factor correlations between relocation control and depression ($r = -.203$, $p < .01$) as well as between self-reported health and depression ($r = -.295$, $p < .001$) are significant, while relocation control is not significantly correlated with self-reported health.

Table 21.
Parameter estimates from the measurement model of relocation control, self-reported health, and depression

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.481	.732	.032	14.842***
	DC2	.317	.411	.043	7.437***
	DC3	.667	.900	.034	19.595***
	DC4	.571	.839	.032	17.773***
Depression	Depressive affect	2.668	.840	.200	13.338***
	Positive affect	1.258	.540	.139	9.058***
	Somatic symptoms	2.092	.598	.210	9.978***
	Interpersonal relations	.110	.233	.029	3.805***
Correlations among variables		*r*		SE	C.R
Relocation control<–> depression		−.203		.064	−3.173**
Relocation control<--> self-reported health		.061		.058	1.052
Self-reported health <--> depression		−.295		.057	−5.183***

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

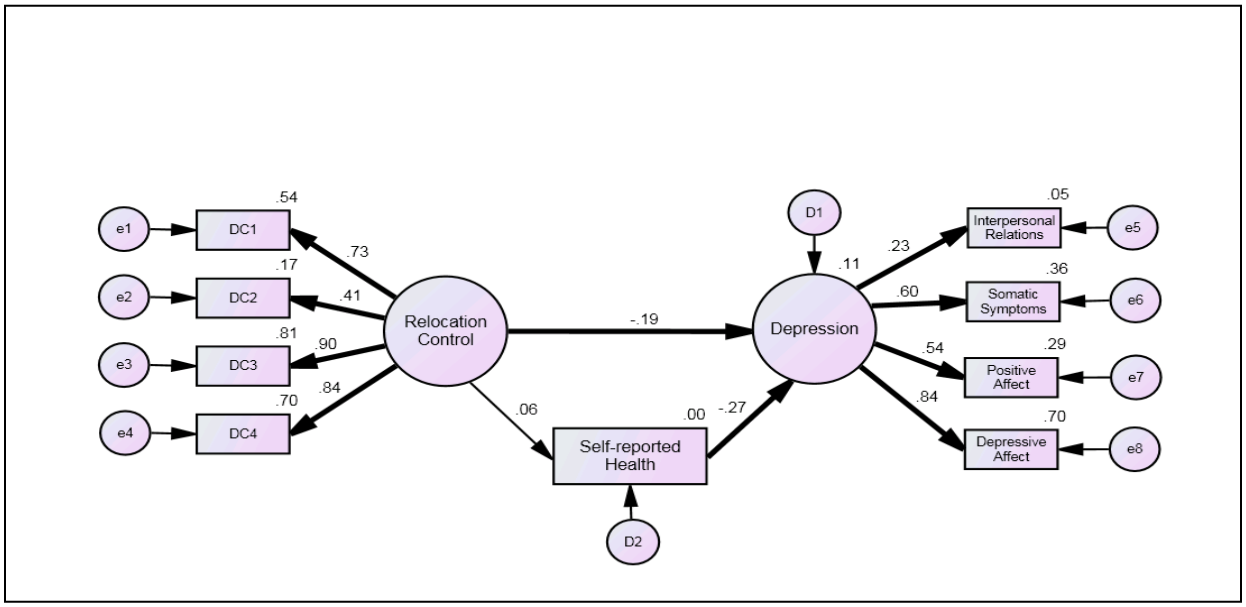

Figure 23. Self-reported health as mediator of the effect of relocation control on depression. Model fit indices: χ^2 = 71.049 (25, *N*=336); *p* =.000; CFI =.943; RMSEA = .074; TLI = .918. Bold solid lines are statistically significant and all estimates are standardized.

A structural model (presented in Figure 23) was examined in order to test the mediation effect of self-reported health on the relationship between relocation control and depression. The structural model fit the data well (χ^2 = 71.049 (25, *N* = 336), *p* = .000, CFI = .943, RMSEA = .074, TLI = .918). Contrary to what was hypothesized, there was no evidence of the mediating effect of self-reported health on the relocation control in predicting depression in AL residents.

The direct path from relocation control to self-reported health was not statistically significant (β =.058, *p* =.319), whereas that from self-reported health to depression was statistically significant (β = −.271, *p* =.004). Moreover, the mediation effect (e.g., indirect effect from relocation control through self-reported health to depression) was not statistically significant (B = −.003 (β = −.016), SE= .004, *p* = .142). In the controlled mediation model presented in Figure 5-22, the mediation effect was not significant either (Sobel's test B = −0.998, SE= .003, *p* = .318), although the controlled model fit the data well (χ^2 = 130.433 (67, *N* = 336); *p* = .000; CFI = .930; RMSEA = .053; TLI = .874). These results suggest that the data do not support the research hypothesis 2B-1. Parameter estimates, standardized error, and critical ratios for both an uncontrolled model and a controlled model are shown as an "uncontrolled model" in Table 22.

Table 22.
Parameter estimates from the self-reported health mediation model for the effect of relocation control on depression

Paths		*B*	*β*	*SE*	*C.R.*
Uncontrolled model	Relocation control → depression	−.036	−.186	.015	−2.320*
	Relocation control → self-reported health	.096	.058	.096	.998
	Self-reported health → depression	−.031	−.271	.011	−2.916**
Controlled model	Relocation control → depression	−.036	−.187	.015	−2.304*
	Relocation control→ self-reported health	.102	.061	.096	1.062
	Self-reported health→ depression	−.032	−.279	.011	−2.984**

**p < .01, * **p < .001
Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

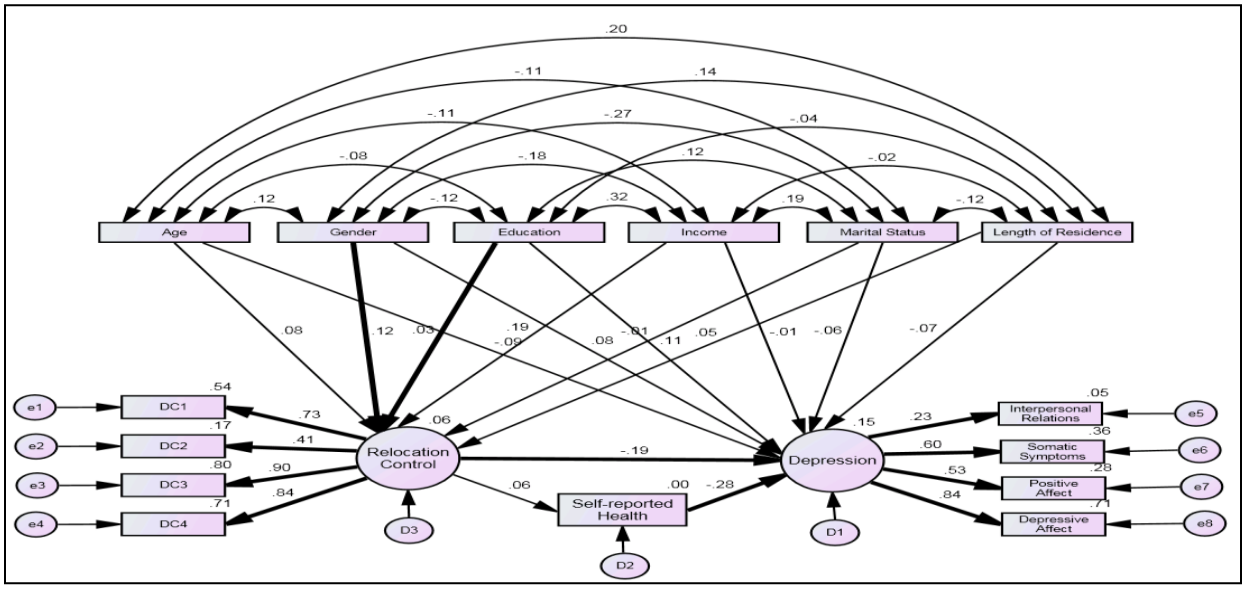

Figure 24. Self-reported health as mediator of the effect of relocation control on depression with controlling for the sample's demographic characteristics. Model fit indices: χ^2 = 130.433 (67, N = 336); p = .000; CFI = .930; RMSEA = .053; TLI = .874. Bold solid lines are statistically significant and all estimates are standardized.

2. Self-reported health as mediator of the effect of relocation control on anxiety

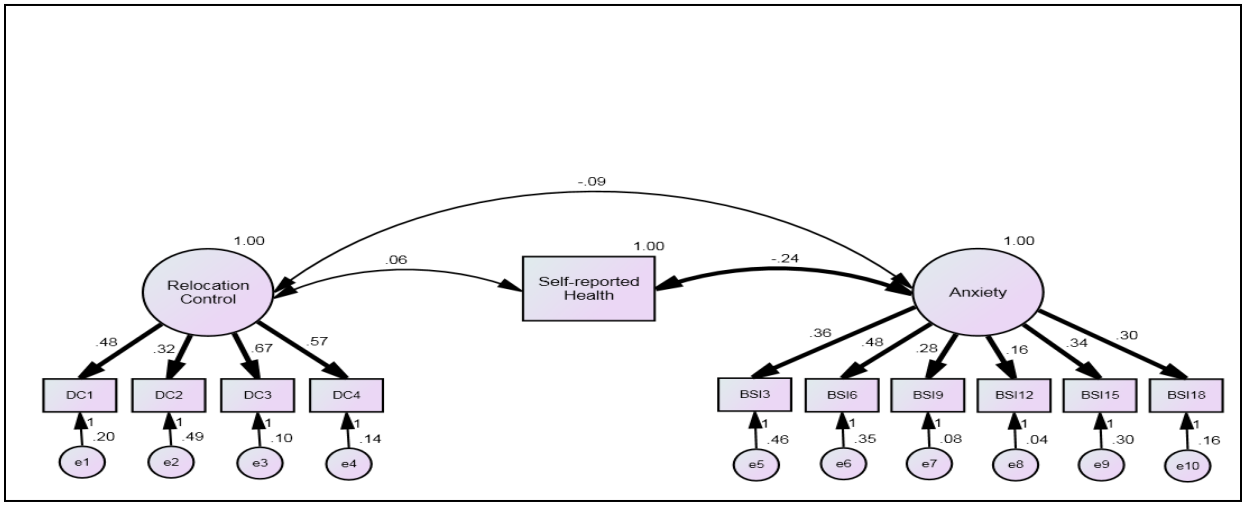

Figure 25. Estimated measurement model testing the relationship among relocation control, self-reported health, and anxiety. Model fit indices: χ^2 (43, N = 336) = 136.892, p =.000, RMSEA = .081, TLI = .885, and CFI =.910. Bold solid lines are statistically significant and all estimates are standardized.

A measurement model of relocation control, self-reported health, and anxiety was presented in Figure 25. The measurement model is a hybrid model, which is constructed by two latent variables (Relocation Control and Anxiety) with their indicators and one observed variable (Self-Reported Health). The latent variable of relocation control is constructed by four manifest variables (DC1, DC2, DC3, DC4), whereas the latent variable of anxiety is constructed by six manifest variables (BSI3, BSI6, BSI9, BSI12, BSI15, and BSI18), as described in the section on Hypothesis 1B. The measurement model fit the data marginally (χ^2 (43, N = 336) = 136.892, p =.000, RMSEA = .081, TLI = .885, and CFI =.910), and all factor loadings are statistically significant, as presented in Table 23. Only a factor correlation between relocation control and anxiety was statistically significant ($r = -.238$, $p < .001$).

Table 23.
Parameter estimates from the measurement model of relocation control, self-reported health, and anxiety.

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.480	.731	.032	14.813***
	DC2	.318	.412	.043	7.451***
	DC3	.667	.900	.034	19.557***
	DC4	.572	.840	.032	17.777***
Anxiety	BSI3	.358	.468	.045	8.032***
	BSI6	.476	.626	.042	11.232***
	BSI9	.279	.707	.021	13.009***
	BSI12	.162	.626	.014	11.245***
	BSI15	.336	.520	.037	9.043***
	BSI18	.301	.606	.028	10.808***
Correlations among variables		*r*		SE	C.R
Relocation control<–> anxiety		−.092		.065	−1.414
Relocation control<--> self-reported health		.061		.058	1.052
Self-reported health <--> anxiety		−.238		.058	−4.098***

**$p < .01$, ***$p < .001$

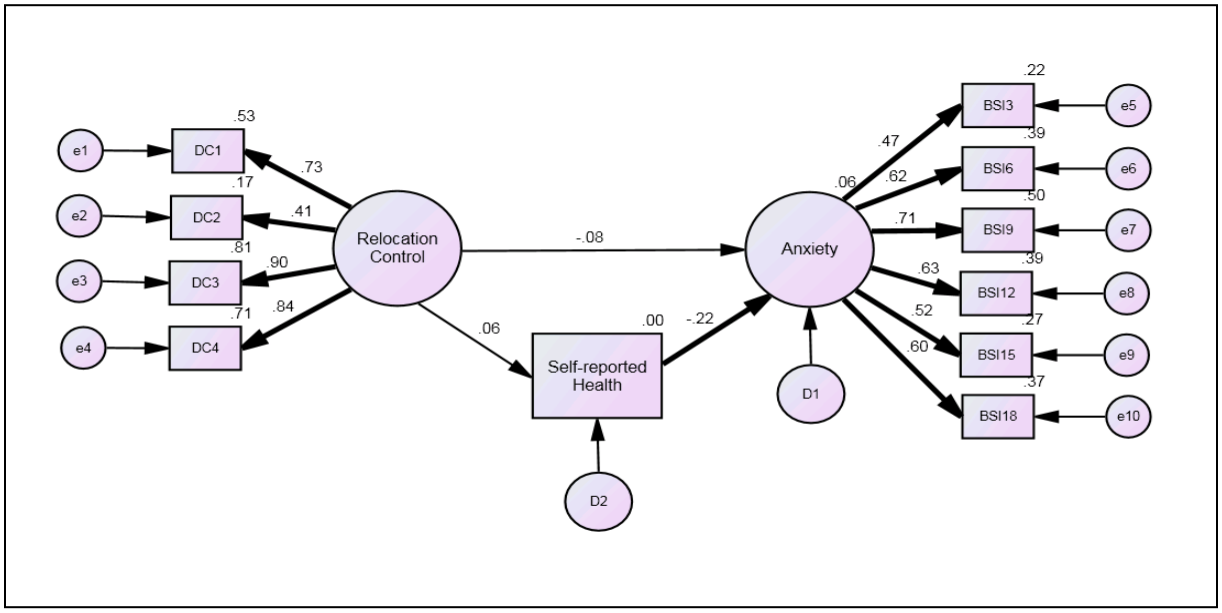

Figure 26. Self-reported health as mediator of the effect of relocation control on anxiety. Model fit indices: χ^2 = 135.269 (42, *N*=336); *p* = .000; CFI = .911; RMSEA = .081; TLI = .883. Bold solid lines are statistically significant and all estimates are standardized

A structural model (presented in Figure 26) was examined in order to test the mediation effect of self-reported health on the relationship between relocation control and anxiety. The structural model fit the data marginally (χ^2 = 135.269 (42, N = 336), p = .000, CFI = .911, RMSEA = .081, TLI = .883). Contrary to what was hypothesized, there was no evidence of the mediating effect of self-reported health on the relocation control in predicting anxiety in AL residents.

The direct path from relocation control to self-reported health was not statistically significant (β =.058, p =.319), whereas that from self-reported health to anxiety was statistically significant (β = −.223, p < .001). Moreover, the mediation effect (e.g., indirect effect from relocation control through self-reported health to anxiety) was not statistically significant (B = −.008 (β = −.013), SE= .009, p = .230). In the controlled mediation model presented in Figure 27, the mediation effect was not significant either (Sobel's test B = −0.385, SE= .009, p = .699) as the controlled model fit the data poorly (χ^2 = 228.157 (90, N = 336), p = .000, CFI = .884, RMSEA = .068, TLI = .802). These results suggest that the data do not support the research hypothesis 2B-2. Parameter estimates, standardized error, and critical ratios for both an uncontrolled model and a controlled model are shown as an "uncontrolled model" in Table 24.

Table 24.
Parameter estimates from the self-reported health mediation model for the effect of relocation control on anxiety

Paths		*B*	*β*	*SE*	*C.R.*
Uncontrolled model	Relocation control → anxiety	−.049	−.078	.041	−1.203
	Relocation control → self-reported health	.096	.058	.096	.997
	Self-reported health → anxiety	−.084	−.223	.025	−3.385***
Controlled model	Relocation control → anxiety	−.059	−.092	.042	−1.410
	Relocation control → self-reported health	.038	.023	.098	.386
	Self-reported health → anxiety	−.094	−.242	.025	−3.709***

**$p < .01$, ***$p < .001$
Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

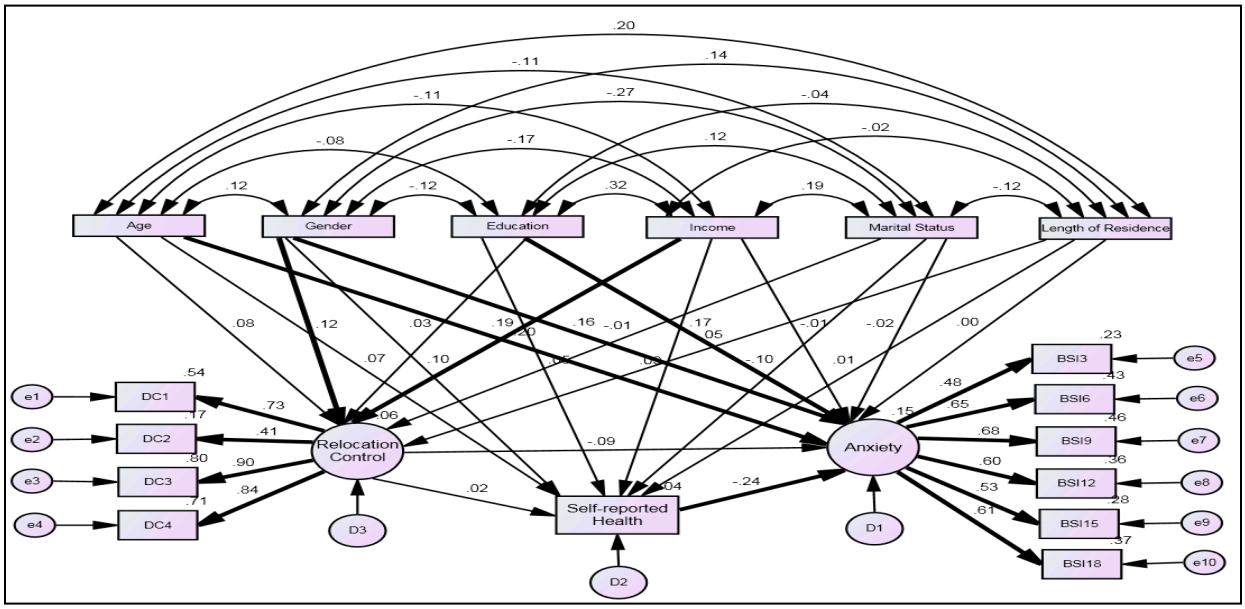

Figure 27. Self-reported health as mediator of the effect of relocation control on anxiety with controlling for the sample's demographic characteristics. Model fit indices: χ^2 = 228.157 (90, *N* = 336); *p* = .000; CFI = .884; RMSEA = .068; TLI = .802. Bold solid lines are statistically significant and all estimates are standardized.

3. Self-reported health as mediator of the effect of relocation control on life satisfaction

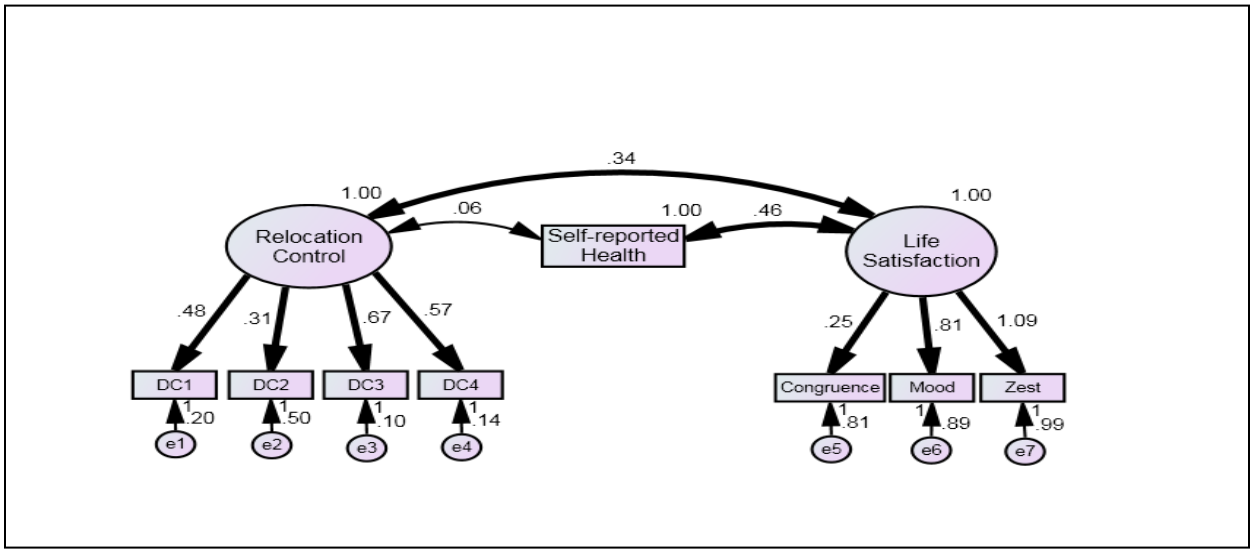

Figure 28. Estimated measurement model of testing the relationship among relocation control, self-reported health, and life satisfaction. Model fit indices: χ^2 (19, N = 336) = 39.216, p =.004, RMSEA = .056, TLI = .959, and CFI =.972. Bold solid lines are statistically significant and all estimates are standardized.

A measurement model of relocation control, self-reported health, and life satisfaction is presented in Figure 28. The measurement model is a hybrid model that is constructed by two latent variables (Relocation Control and Life Satisfaction) with their indicators and one observed variable (Self-Reported Health). The latent variable of relocation control is constructed by four manifest variables (DC1, DC2, DC3, DC4), whereas the latent variable of life satisfaction is constructed by three manifest variables (Congruence, Mood, and Zest), as described in the section on Hypothesis 1C. The measurement model fit the data excellently (χ^2 (19, N = 336) = 39.216, p =.004, RMSEA = .056, TLI = .959, and CFI =.972), and all factor loadings are statistically significant, as presented in Table 25. Factor correlations between relocation control and life satisfaction (r = .339, p < .001) as well as between self-reported health and life satisfaction (r = .463, p < .001) are statistically significant, whereas relocation control is not significantly correlated with self-reported health (r = .061, p = .292).

Table 25.
Parameter estimates from the measurement model of relocation control, self-reported health, and life satisfaction

	Observed variables	*B*	*β*	*SE*	*C.R.*
Relocation control	DC1	.481	.733	.032	14.872***
	DC2	.315	.408	.043	7.377***
	DC3	.667	.901	.034	19.667***
	DC4	.571	.839	.032	17.803***
Life satisfaction	Congruence	.250	.268	.060	4.186***
	Mood	.805	.649	.079	10.202***
	Zest	1.089	.739	.097	11.243***
Correlations among variables		*r*		SE	C.R.
Relocation control<–> life satisfaction		.339		.065	5.184***
Relocation control<--> self-reported health		.061		.058	1.053
Self-reported health <--> life satisfaction		.463		.055	8.449***

***p < .001

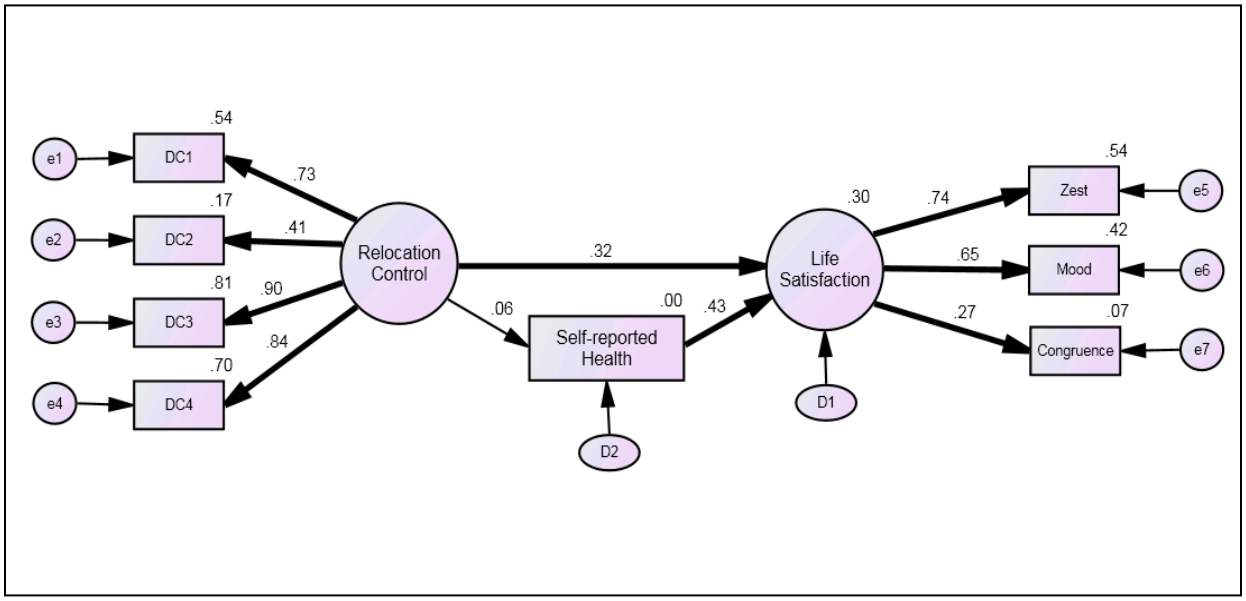

Figure 29. Self-reported health as mediator of the effect of relocation control on life satisfaction. Model fit indices: χ^2 = 37.593 (18, *N*=336); *p* =.004; CFI=.973; RMSEA = .057; TLI = .958. Bold solid lines are statistically significant and all estimates are standardized.

Table 26.
Parameter estimates from the self-reported health mediation model for the effect of relocation control on life satisfaction

Paths		*B*	*β*	*SE*	*C.R.*
Uncontrolled model	Relocation control → life satisfaction	.595	.315	.127	4.669***
	Relocation control → self-reported health	.096	.058	.096	.998
	Self-reported health → life satisfaction	.484	.427	.074	6.560***
Controlled model	Relocation control → life satisfaction	.641	.338	.131	4.903***
	Relocation control→ self-reported health	.040	.024	.098	.402
	Self-reported health→ life satisfaction	.495	.434	.074	6.704***

***$p < .001$
Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

A structural model (presented in Figure 29) was examined in order to test the mediation effect of self-reported health on the relationship between relocation control and life satisfaction. The structural model fit the data excellently (χ^2 = 37.593 (18, N = 336), p =.004, CFI = .973, RMSEA = .057, TLI = .958). There was no evidence of the mediating effect of self-reported health on the relocation control in predicting life satisfaction in AL residents.

The direct path from relocation control to self-reported health was not statistically significant (β = .058, p =.318), whereas that from self-reported health to life satisfaction was statistically significant (β = .427, p < .001). The mediation effect (e.g., indirect effect from relocation control through self-reported health to life satisfaction) was not statistically significant (B = .047 (β = .025), SE= .049, p = .250). In the controlled mediation model presented in Figure 30, the mediation effect was not statistically significant either (Sobel's test B = .407, SE= .048, p = .683), as the controlled model fit the data excellently (χ^2 = 81.956 (48, N = 336), p = .002, CFI = .959,

RMSEA = .046, and TLI = .911). These results suggest that the data do not support the research hypothesis 2B-3. Parameter estimates, standardized error, and critical ratios for both an uncontrolled model and a controlled model are shown as an “uncontrolled model” in Table 26.

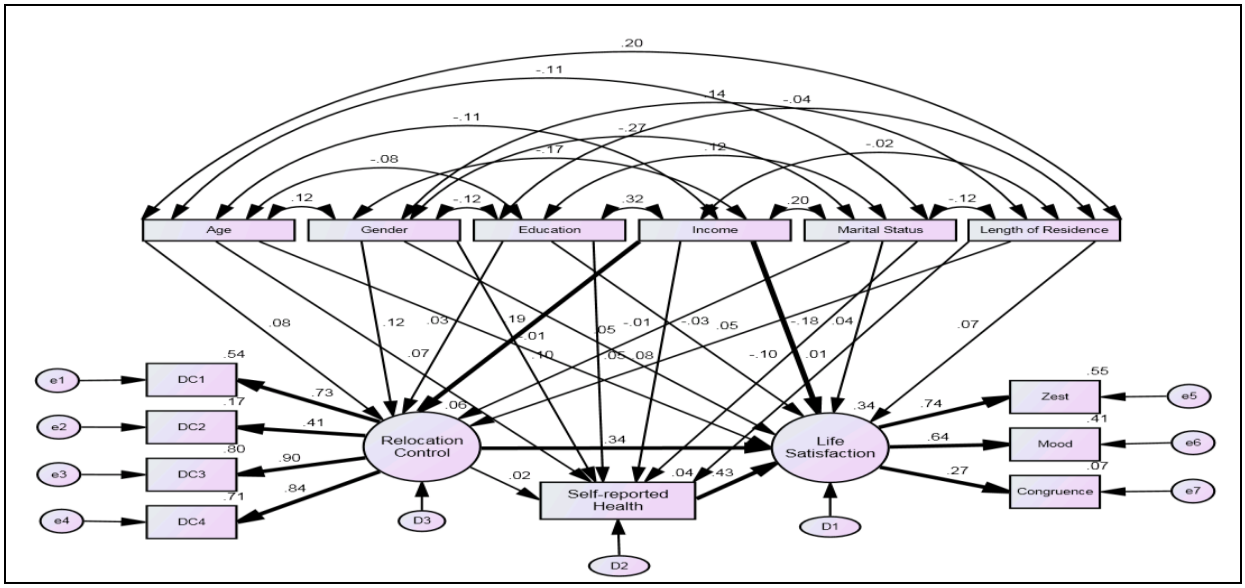

Figure 30. Self-reported health as mediator of the effect of relocation control on life satisfaction with controlling for the sample's demographic characteristics. Model fit indices: $\chi^2 = 81.956$ (48 , $N = 336$); $p = .002$; CFI = .959; RMSEA = .046; TLI = .911. Bold solid lines are statistically significant and all estimates are standardized.

Hypothesis 2C: *Relationship between relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction) with mediation of functional impairment*

1. Functional impairment as mediator of the effect of relocation control on depression

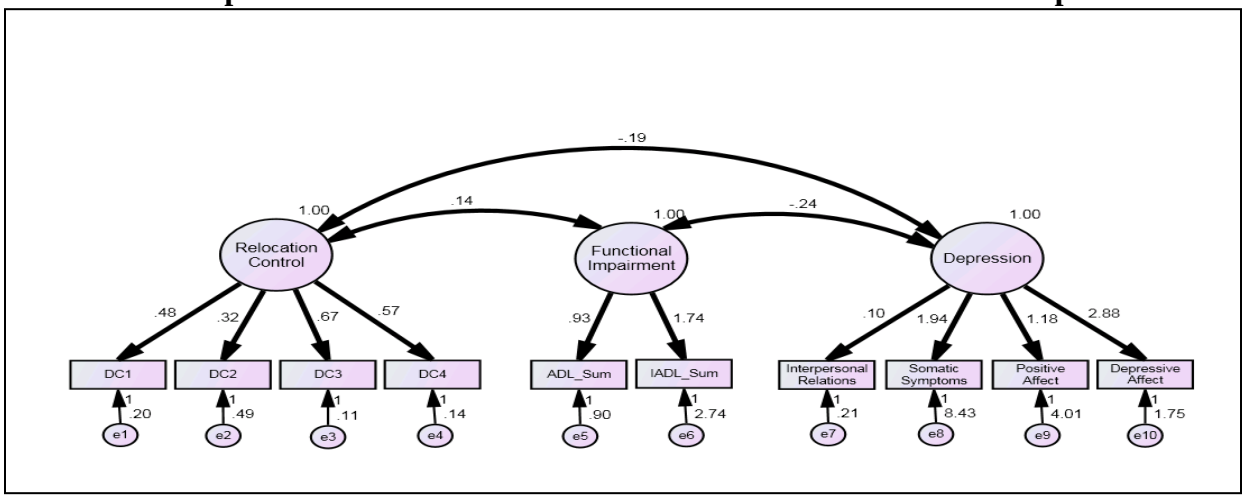

Figure 31. Estimated measurement model testing the relationship among relocation control, functional impairment, and depression. Model fit indices: χ^2 (32, N = 336) = 65.684, p =.000, RMSEA = .056, TLI = .947, and CFI =.962. Bold solid lines are statistically significant and all estimates are standardized.

Figure 31 presents a measurement model of relocation control, functional impairment, and depression. The measurement model consists of three latent variables (Relocation Control, Functional Impairment, and Depression) and ten indicators (DC1, DC2, DC3, DC4, ADL_Sum, IADL_Sum, Interpersonal Relationship, Somatic Symptoms, Positive Affect, and Depressive Affect). A latent variable of relocation control is constructed by four measured variables (DC1, DC2, DC3, DC4), whereas a latent variable of depression is constructed by four measured variables (Interpersonal Relationship, Somatic Symptoms, Positive Affect, and Depressive Affect), as described in a previous section (see detail in the section on Hypothesis 1A). On the other hand, the latent variable of functional impairment is constructed by two sum score variables (ADL_Sum and IADL_Sum). The first variable of ADL_Sum is a total score of six items in the Katz Index of Independence in Activities of Daily Living (Katz et al., 1970), and the second variable of IADL_Sum is a total score of eight items in Instrumental Activities of Daily

Living Scale (Lawton & Brody, 1969). The measurement model fit the data excellently (χ^2 = 126.002 (74, *N* = 336), *p* = .000, CFI = .948, RMSEA = .046, TLI = .904). All factor loadings and three factor correlations among relocation control, functional impairment, and depression are statistically significant, as presented in Table 27. These findings support the use of latent variables to test the study hypothesis 2C-1.

Table 27.
Parameter estimates from the measurement model of relocation control, functional impairment, and depression

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.481	.733	.032	14.856***
	DC2	.317	.412	.043	7.441***
	DC3	.666	.899	.034	19.560***
	DC4	.572	.840	.032	17.802***
Functional impairment	ADL_Sum	.931	.701	.159	5.840***
	IADL_Sum	1.738	.724	.296	5.878***
Depression	Interpersonal relations	.105	.223	.028	3.758***
	Somatic symptoms	1.944	.556	.213	9.128***
	Positive affect	1.184	.509	.140	8.445***
	Depressive affect	2.878	.908	.219	13.170***
Correlations among variables		*r*		SE	C.R
Relocation control<–> depression		−.190		.062	−3.094**
Relocation control<--> functional impairment		.141		.070	2.019*
Functional impairment<--> depression		−.236		.070	−3.357***

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

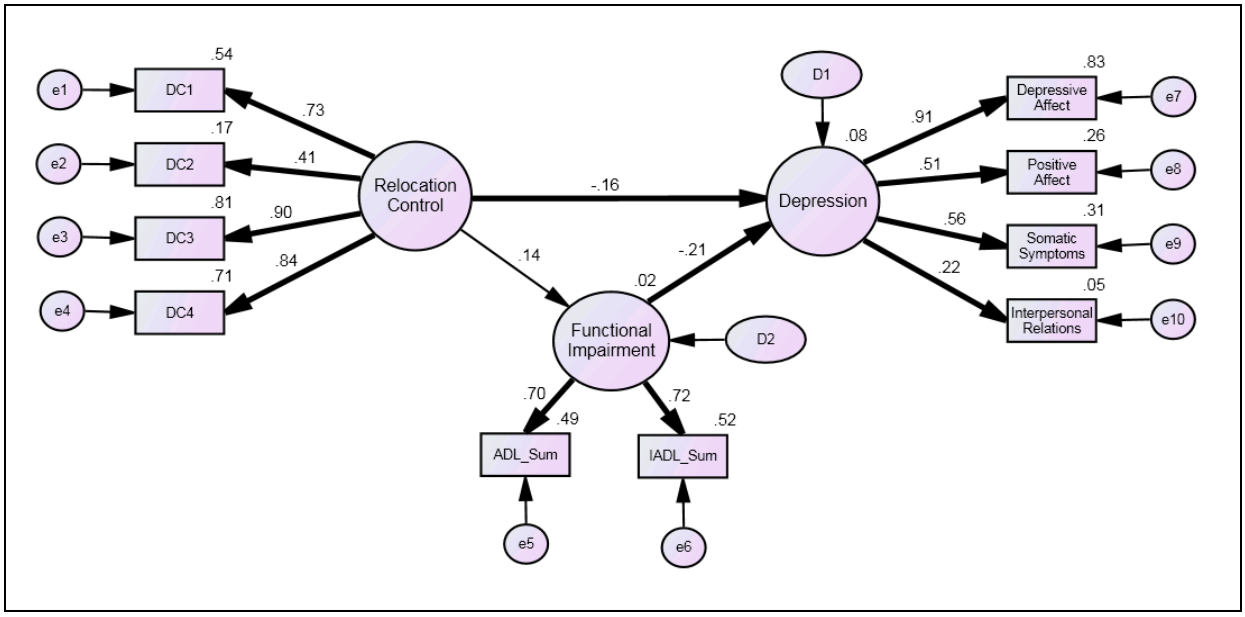

Figure 32. Functional impairment as mediator of the effect of relocation control on depression. Model fit indices: χ^2 = 65.684 (df = 32, *N*= 336); *p* = 000; CFI=.962; RMSEA = .056; TLI = .947. Bold solid lines are statistically significant and all estimates are standardized

A direct path from relocation control to functional impairment was statistically significant at a trend level (β = .141, *p* = .056), and a direct path from functional impairment to depression (β = −.213, *p* < .01) was also statistically significant. The procedure of a bootstrapping method in Amos showed that the mediation effect (e.g., indirect effect from relocation control through functional impairment to depression) was statistically significant (B = −.151 (β = -.030), SE= .102, *p* = .009.), whereas the direct path from relocation control to depression was statistically significant (β = −.160, *p* < .05). These results suggest that functional impairment mediated the effect of relocation control on depression. The estimated path coefficients and their standard errors are presented as an “uncontrolled model” in Table 28.

Table 28.
Parameter estimates from the functional impairment mediation model for the effect of relocation control on depression

Paths		*B*	*β*	*SE*	*C.R.*
Uncontrolled model	Relocation control → depression	−.808	−.160	.316	−2.557*
	Relocation control → functional impairment	.427	.141	.223	1.915^{+}
	Functional impairment → depression	−.353	−.213	.134	−2.639**
Controlled model	Relocation control → depression	−.876	−.168	.323	−2.712**
	Relocation control→ functional impairment	.371	.065	.236	1.571
	Functional impairment→ depression	−.101	−.110	.078	−1.302

$^{+}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$
Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

The unexpectedly significant mediation effect of functional impairment on the relationship between relocation control and depression did not hold when the sample's demographic characteristics (age, gender, education, income, marital status, and length of residence) were controlled for, as presented in Figure 33. This controlled functional impairment mediation model fit the data very well (χ^2 = 126.002 (74, N = 336), p = .000, CFI = .948, RMSEA = .046, and TLI = .904), but the indirect effect from relocation control through functional impairment to depression was not statistically significant (Sobel's test B = −.994, SE= .037, p = .317). A direct path from relocation control to functional impairment was not statistically significant (β = .065, p = .116), and a direct path from functional impairment to depression was not significant either (β = −.078, p = .193). These results indicate that the controlled mediation model of functional impairment is not supported by the data. Parameter

estimates, standardized error, and critical ratios for the controlled model are shown as a "controlled model" in Table 28.

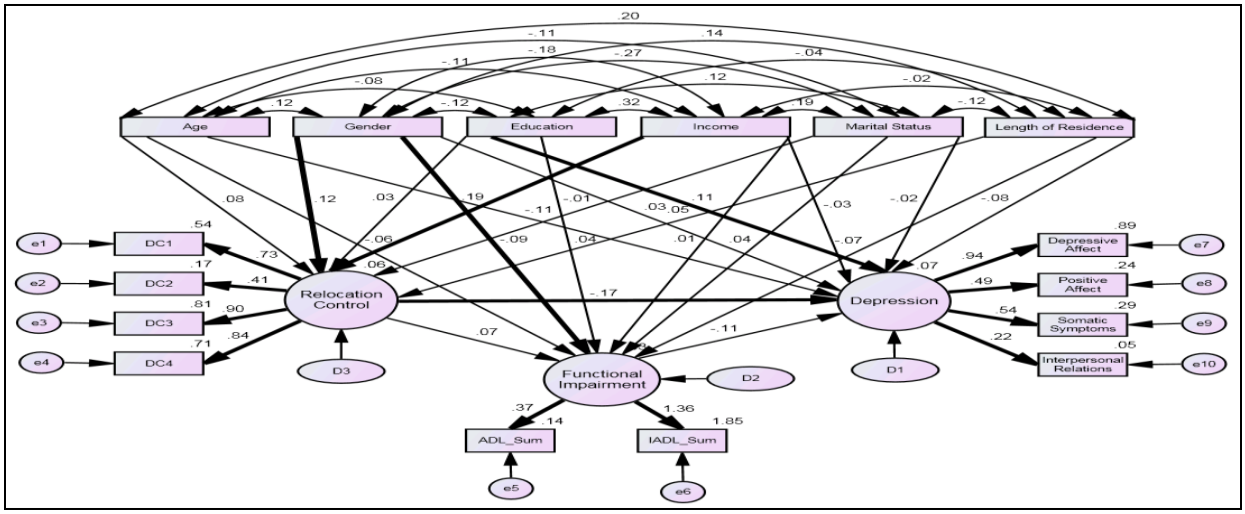

Figure 33. Functional impairment as mediator of the effect of relocation control on depression with controlling for the sample's demographic characteristics. Model fit indices: χ^2 = 126.002 (74, *N* = 336); *p* = .000; CFI = .948; RMSEA = .046; TLI = .904. Bold solid lines are statistically significant and all estimates are standardized.

2. Functional impairment as mediator of the effect of relocation control on anxiety

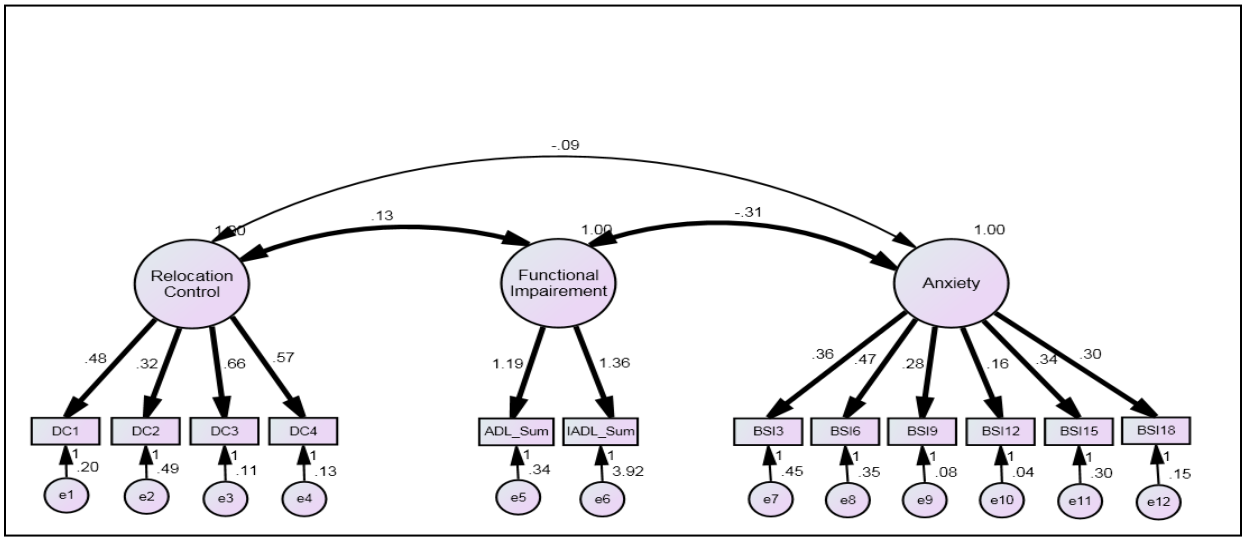

Figure 34. Estimated measurement model of testing the relationships among relocation control, functional impairment, and anxiety. Model fit indices: χ^2 (51, *N* = 336) = 145.409, *p* =.000, RMSEA = .074, TLI = .894, and CFI =.918. Bold solid lines are statistically significant and all estimates are standardized.

Table 29.
Parameter estimates from the measurement model of relocation control, functional impairment, and anxiety

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.481	.732	.032	14.826***
	DC2	.318	.413	.043	7.462***
	DC3	.665	.898	.034	19.499***
	DC4	.573	.842	.032	17.831***
Functional impairment	ADL_Sum	1.194	.899	.176	6.803***
	IADL_Sum	1.355	.565	.224	6.055***
Anxiety	BSI3	.360	.472	.044	8.095***
	BSI6	.472	.622	.042	11.143***
	BSI9	.278	.708	.021	13.017***
	BSI12	.159	.617	.014	11.031***
	BSI15	.335	.519	.037	9.027***
	BSI18	.304	.612	.028	10.932***
Correlations among variables		*r*		SE	C.R
Relocation control<–> anxiety		−.093		.065	−1.419
Relocation control<--> functional impairment		.127		.065	1.960*
Functional impairment<--> anxiety		−.311		.072	−4.320***

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

Figure 34 presents a measurement model of relocation control, functional impairment, and anxiety. The measurement model consists of three latent variables (Relocation Control, Functional Impairment, and Anxiety) and 12 indicators (DC1, DC2, DC3, DC4, ADL_Sum, IADL_Sum, BSI3, BSI6, BSI9, BSI12, BSI15, and BSI18). A latent variable of relocation control is constructed by four manifest variables (DC1, DC2, DC3, and DC4), whereas a latent variable of anxiety is constructed by six manifest variables (BSI3, BSI6, BSI9, BSI12, BSI15, and BSI18), as described in the section on Hypothesis 1B. The latent variable of functional impairment is constructed by two sum score variables (ADL_Sum and IADL_Sum), as described in the previous section (Hypothesis 2C-1). The measurement model showed an acceptable goodness of fitness (χ^2 (51, N = 336) = 145.409, p =.000, RMSEA = .074, TLI = .894, and CFI =.918), and all factor loadings are statistically significant, as presented in Table 29. Relocation control is significantly correlated with functional impairment (r = .127, p < .05), and functional

impairment is also significantly correlated with anxiety (r = -.311, p < .001). However, there was no statistically significant correlation between relocation control and anxiety. These findings support the use of latent variables to test the study hypothesis 2C-2.

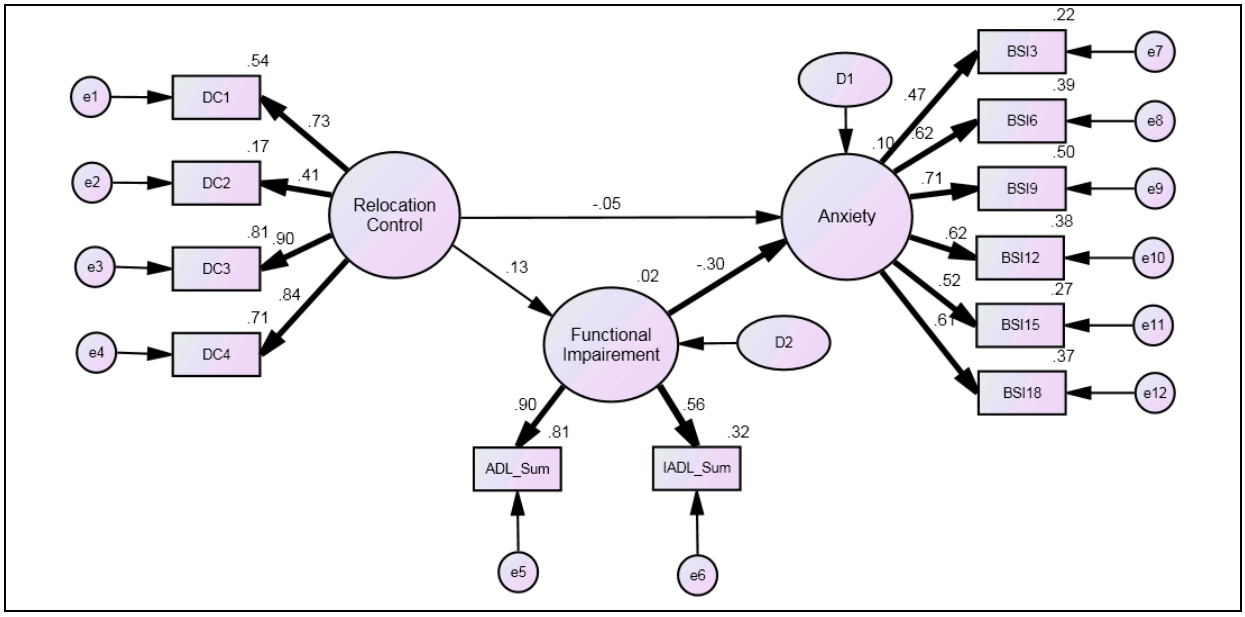

Figure 35. Functional impairment as mediator of the effect of relocation control on anxiety. Model fit indices: χ^2 = 145.409 (51, *N*= 336); *p* = .000; CFI=.918; RMSEA = .074; TLI = .894. Bold solid lines are statistically significant and all estimates are standardized.

Table 30.
Parameter estimates from the functional impairment mediation model for the effect of relocation control on anxiety

		B	*β*	*SE*	*C.R.*
Uncontrolled model	Relocation control → anxiety	−.034	−.054	.041	−.829
	Relocation control → functional impairment	.299	.127	.169	1.767^{+}
	Functional impairment → anxiety	−.081	−.304	.021	−3.817***
Controlled model	Relocation control → anxiety	−.033	−.052	.043	−.784
	Relocation control→ functional impairment	.477	.153	.228	2.093*
	Functional impairment→ anxiety	−.063	−.307	.019	−3.364***

$^{+}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$
Note. Estimated parameters of factor loadings are not presented because they are very similar to those in the measurement model. Estimated parameters of paths for the sample's demographic characteristics and of factor loadings are not presented because they are not of interests.

A structural model (presented in Figure 35) was examined in order to test the mediation effect of functional impairment on the relationship between relocation control and anxiety. As relocation control is not correlated with anxiety in the measurement model presented above, the mediation model in Figure 35 was analyzed to explore a hidden mechanism such as suppression effect among relocation control, functional impairment, and anxiety. The results show that the mediation model fit the data marginally (χ^2 (51, N = 336) = 145.409, p = .000, CFI = .918, RMSEA = .074, and TLI = .894). The direct path from relocation control to functional impairment was statistically significant at a trend level (β = .127, p = .077), and the direct path from functional impairment to anxiety was also statistically significant (β = −.304, p < .001). The mediation effect (e.g., indirect effect from relocation control through functional impairment to anxiety) was significant (B = −.024 (β = −.039), SE= .016, p = .023), whereas the direct path from relocation control to anxiety was not statistically significant (β = −.054, p = .407). These results imply that functional impairment might mediate the effect of relocation control on anxiety. The estimated path coefficients and their standard errors are presented as an “uncontrolled model” in Table 30.

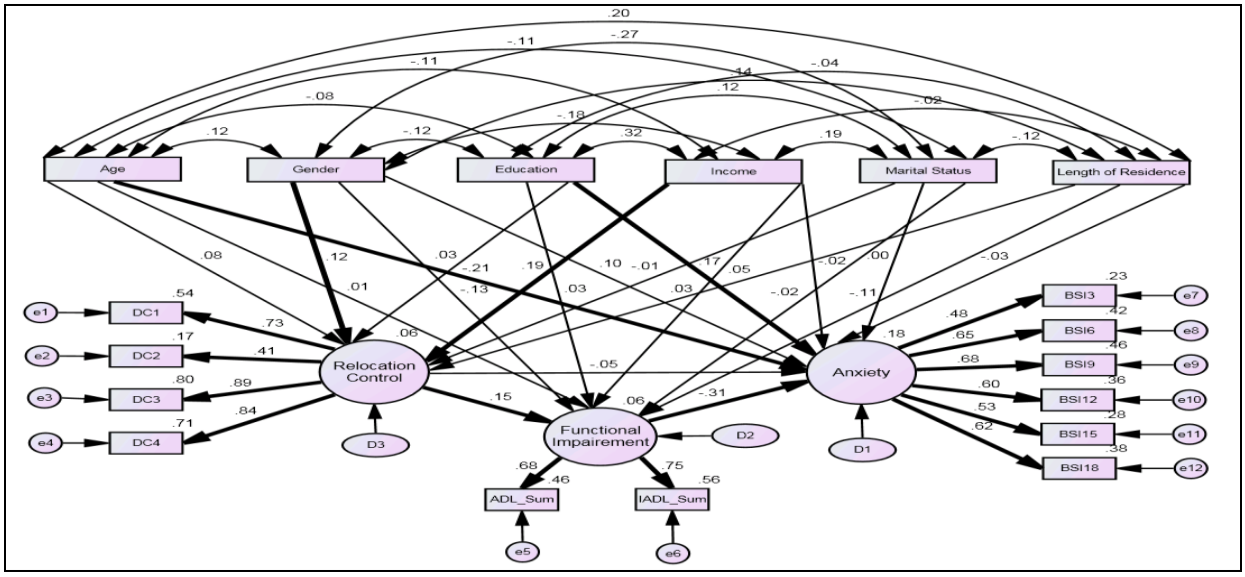

Figure 36. Functional impairment as mediator of the effect of relocation control on anxiety with controlling for the sample's demographic characteristics. Model fit indices: χ^2 = 261.081 (105, *N* = 336); *p* = .000; CFI = .880; RMSEA = .067; TLI = .805. Note². Bold solid lines are statistically significant and all estimates are standardized.

However, a significant mediation effect of functional impairment on the relationship between relocation control and anxiety did not hold when the sample's demographic characteristics (age, gender, education, income, marital status, and length of residence) were controlled for, as presented in Figure 36. This controlled functional impairment mediation model did not fit the data very well (χ^2 (105, *N* = 336) = 261.081, *p* = .000; CFI = .880; RMSEA = .067; TLI = .805), and the indirect effect from relocation control through functional impairment to anxiety was not significant (Sobel's test B = −1.769, SE= .016, *p* = .076). A direct path from relocation control to functional impairment was statistically significant (β = .153, *p* < .05), and a direct path from functional impairment to anxiety was not statistically significant (β = −.307, *p* < .001). Thus, it is concluded that the mediation model of functional impairment on the relationship between relocation control and anxiety is not supported by the data. Parameter estimates, standardized error, and critical ratios for the controlled model are shown as a "controlled model" in Table 30.

3. Functional impairment as mediator of the effect of relocation control on life satisfaction

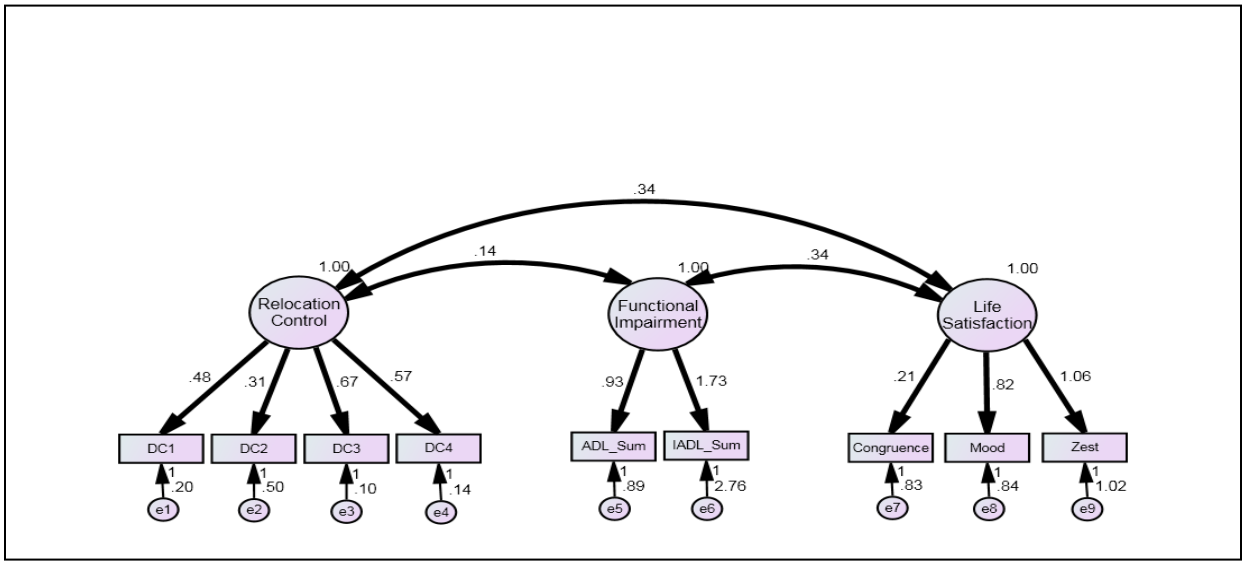

Figure 37. Estimated measurement model testing the relationship among relocation control, functional impairment, and life satisfaction. Model fit indices: χ^2 (24, N = 336) = 39.628, p =.023, RMSEA = .044, TLI = .971, and CFI =.980. Bold solid lines are statistically significant and all estimates are standardized.

A measurement model of relocation control, functional impairment, and life satisfaction is presented in Figure 37. The measurement model consists of three latent variables (Relocation Control, Functional Impairment, and Life Satisfaction) and nine indicators (DC1, DC2, DC3, DC4, ADL_Sum, IADL_Sum, Congruence, Mood, and Zest). The latent variable of relocation control is constructed by four manifest variables (DC1, DC2, DC3, and DC4), whereas the latent variable of life satisfaction is constructed by three manifest variables (Congruence, Mood, and Zest), as described in the section on Hypothesis 1C. The latent variable of functional impairment is constructed by two sum score variables (ADL_Sum and IADL_Sum), as described in the section on Hypothesis 2C-1. The measurement model showed an acceptable goodness of fitness (χ^2 (24, N = 336) = 39.628, p =.023, RMSEA = .044, TLI = .971, and CFI =.980), and all factor loadings and factor correlations are statistically significant, as presented in Table 31. These results support the use of latent variables to test the study hypothesis 2C-3.

Table 31.
Parameter estimates from the measurement model of relocation control, functional impairment, and life satisfaction

	Observed variables	*B*	*β*	*SE*	*C.R*
Relocation control	DC1	.481	.733	.032	14.874***
	DC2	.315	.408	.043	7.381***
	DC3	.666	.900	.034	19.637***
	DC4	.571	.840	.032	17.826***
Functional impairment	ADL_Sum	.935	.704	.137	6.845***
	IADL_Sum	1.731	.733	.251	6.893***
Life satisfaction	Congruence	.213	.228	.061	3.482***
	Mood	.825	.668	.092	9.000***
	Zest	1.063	.726	.113	9.412**
Correlations among variables		*r*		SE	C.R
Relocation control<–> life satisfaction		.340		.066	5.189***
Relocation control<--> functional impairment		.141		.070	2.020*
Functional impairment<--> life satisfaction		.344		.076	4.501***

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

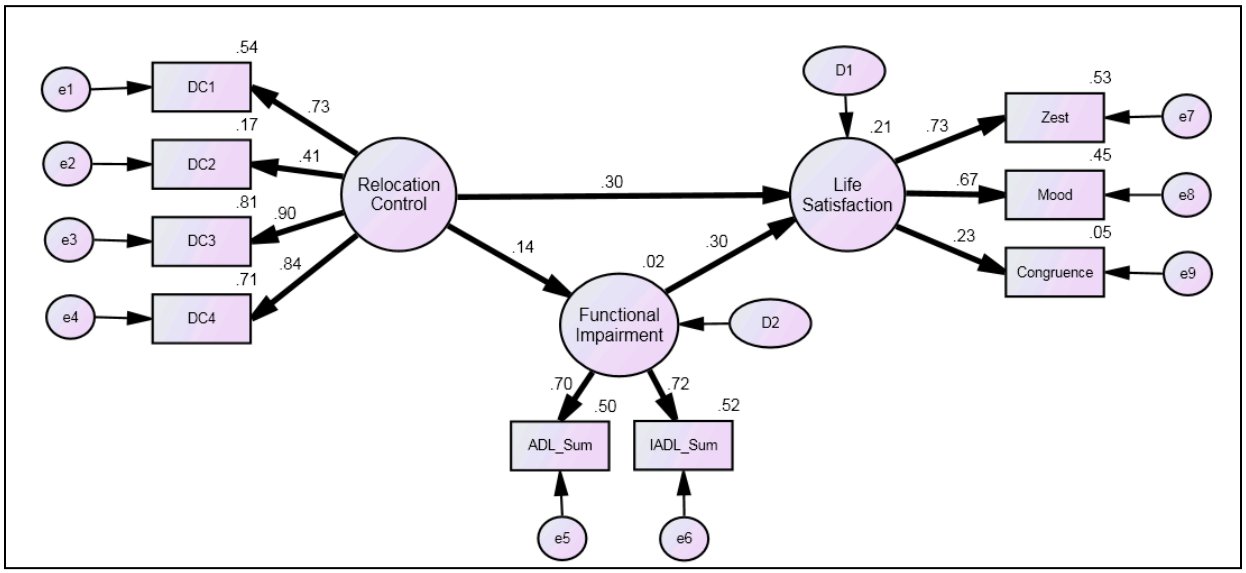

Figure 38. Functional impairment as mediator of the effect of relocation control on life satisfaction. Model fit indices: χ^2 = 39.628 (24, N = 336); p = .023; CFI = .980; RMSEA = .044; TLI = .971. Bold solid lines are statistically significant and all estimates are standardized

A structural model (presented in Figure 38) was examined in order to test the mediation effect of functional impairment on the relationship between relocation control and life satisfaction. Results show that the mediation model fit the data excellently (χ^2 = 39.628 (24, *N* = 336); *p* = .023; CFI = .980; RMSEA = .044; TLI = .971). The direct path from relocation control to functional impairment was statistically significant (β = .141, *p* < .05), and the direct path from functional impairment to life satisfaction was also statistically significant (β = .302, *p* < .001). The mediation effect (e.g., indirect effect from relocation control through functional impairment to life satisfaction) was statistically significant (B = .079 (β = .043), SE= .044, *p* = .017), and the direct path from relocation control to life satisfaction was statistically significant (β = .298, *p* < .001). These results indicate that functional impairment mediated the effect of relocation control on life satisfaction. Estimated path coefficients and their standard errors are presented as an "uncontrolled model" in Table 32.

Table 32.
Parameter estimates from the functional impairment mediation model for the effect of relocation control on life satisfaction

		B	*β*	*SE*	*C.R.*
Uncontrolled model	Relocation control → life satisfaction	.554	.298	.136	4.083***
	Relocation control → functional impairment	.426	.141	.217	1.963*
	Functional impairment → life satisfaction	.186	.302	.057	3.251**
Controlled model	Relocation control → life satisfaction	.607	.320	.138	4.400***
	Relocation control→ functional impairment	.466	.101	.245	1.900^{+}
	Functional impairment→ life satisfaction	.127	.253	.030	4.182***

^{+}p < .10, *p < .05, **p < .01, ***p < .001

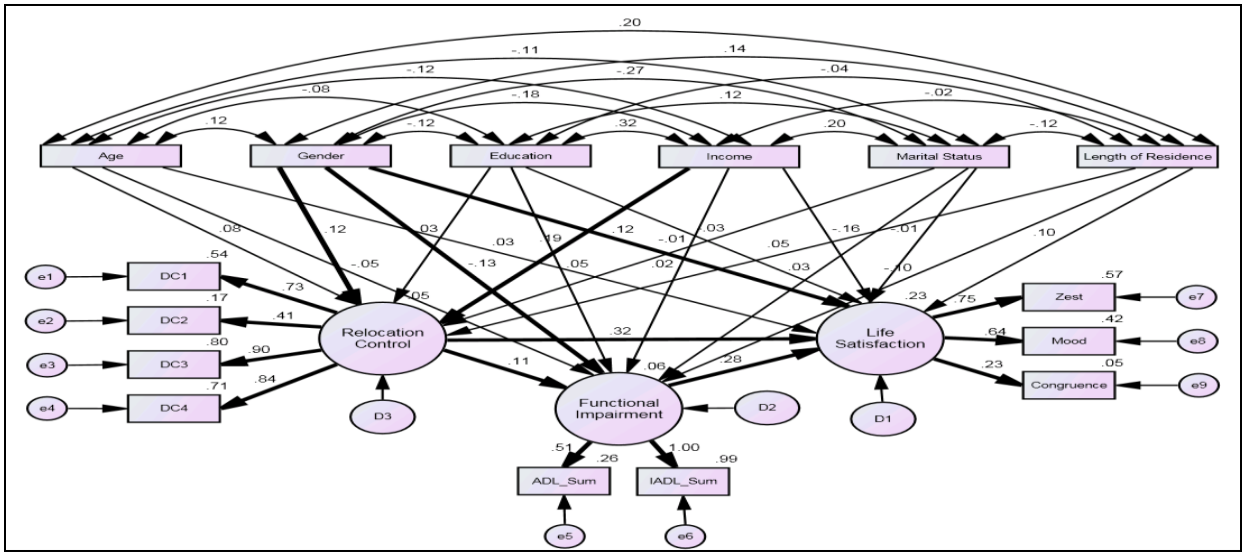

Figure 39. Functional impairment as mediator of the effect of relocation control on life satisfaction with controlling for the sample's demographic characteristics. Model fit indices: χ^2 = 98.153 (60, *N* = 336), p = .001, CFI = .958, RMSEA = .044, and TLI= .916. Bold solid lines are statistically significant and all estimates are standardized.

Table 33.
Effect decomposition of the functional impairment mediation models for the effect of relocation control on life satisfaction

Path	*Total effects*	*Direct effects*	*Indirect effects*
Relocation control → life satisfaction	.340(.346)**	.298(.316)**	.043(.031)*
Relocation control→ functional impairment	.141(.112)*	.141(.112)*	-
Functional impairment→ life satisfaction	.302(.276)**	.302(.276)**	-

Note. Numbers in parentheses are estimates from the mediation model with controlling for the sample's demographic characteristics. All estimates are standardized.

Significant mediation effect of functional impairment on the relationship between relocation control and life satisfaction held when the sample's demographic characteristics (age, gender, education, income, marital status, and length of residence) were controlled for, as presented in Figure 39. This controlled functional impairment mediation model fit the data very well (χ^2 = 98.153 (60, *N* = 336), *p* = .001, CFI = .958, RMSEA = .044, and TLI= .916), and the indirect effect from relocation control through functional impairment to life satisfaction was statistically significant at a trend level (Sobel's test B = 1.734, SE= .034, *p* = .082). The direct path from relocation control to functional impairment was statistically significant (β = .101, *p* < .01), and the direct path from functional impairment to life satisfaction was significant also (β = .253, *p* < .001). Thus, it is concluded that the mediation model of functional impairment on the relationship between relocation control and life satisfaction is partially supported by the data. Parameter estimates, standardized error, and critical ratios for the controlled model are shown as a "controlled model" in Table 32.

Additionally, the effect decomposition of the social support mediation model on the relationship between relocation control and life satisfaction is presented in Table 33, showing that life satisfaction goes up by .340 standard deviation when relocation control goes up by 1 standard deviation due to both direct and indirect effects.

Summary of Findings

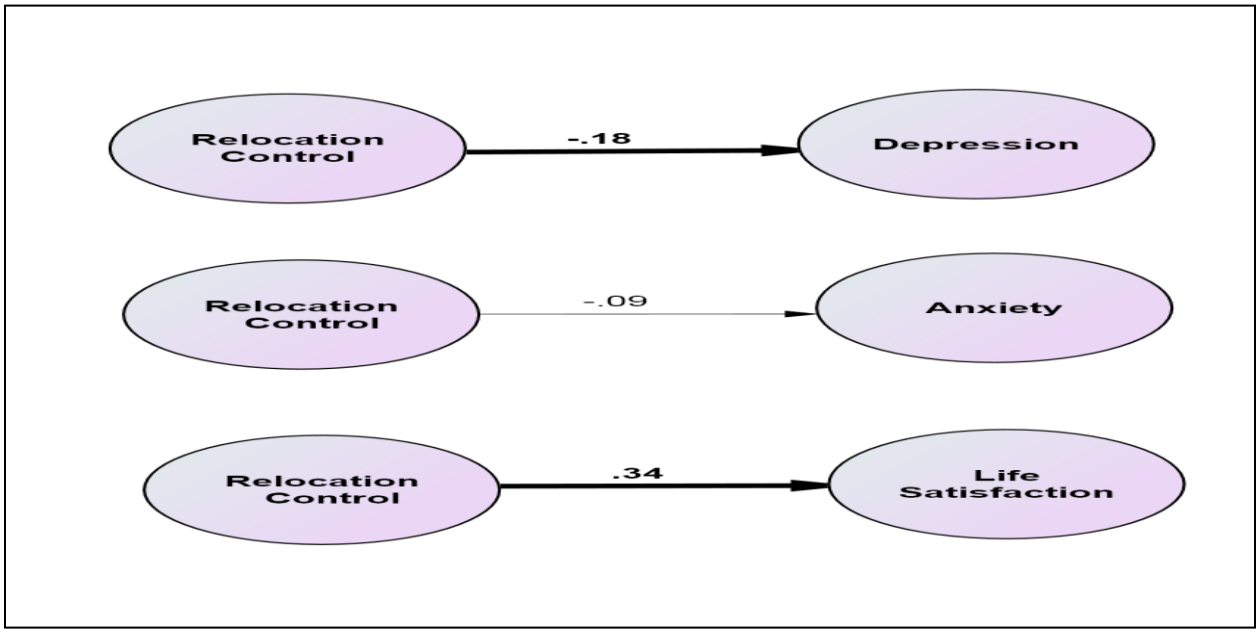

Figure 40. Findings of hypotheses 1. Bold solid lines are statistically significant and all estimates are standardized.

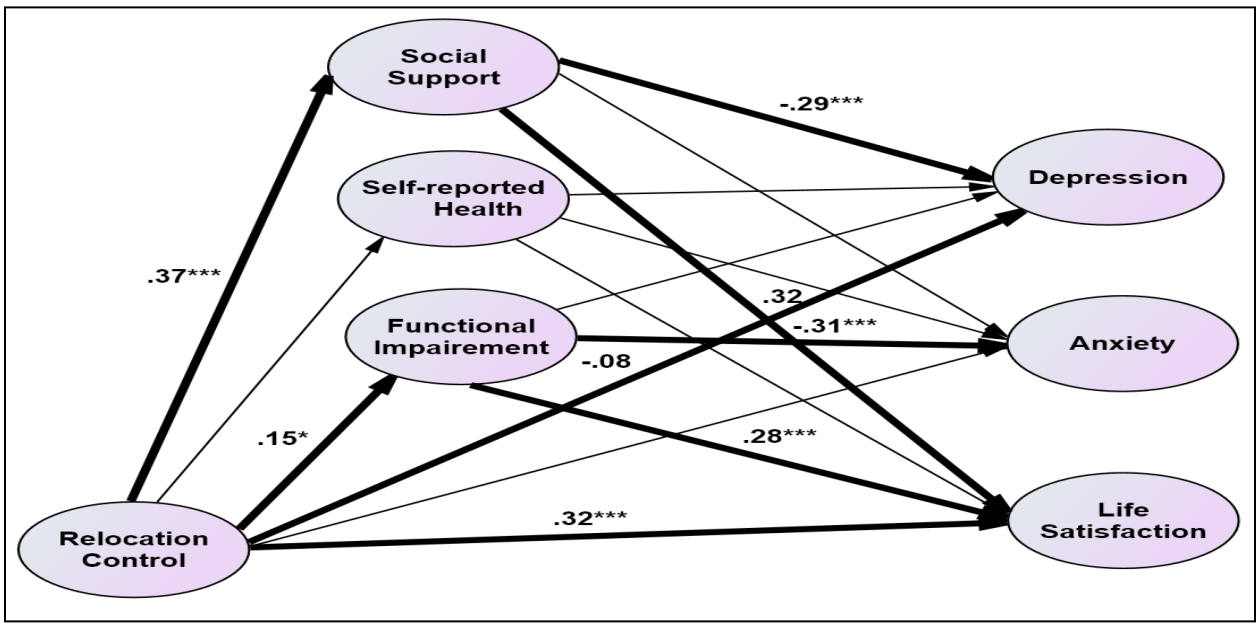

Figure 41. Findings of hypotheses 2. Bold solid lines are statistically significant and all estimates are standardized.

This study had two aims: (a) to investigate the relationship between relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction) among assisted living (ALF) residents, controlling for demographic factors; and (b) to evaluate whether social support from family and friends, self-reported health, and functional impairment (e.g., ADLs and IADLs) mediate the relationship between the perceived relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction).

Major findings are summarized as follows:

1. Relocation control was positively associated with depression.
2. Relocation control was not related to anxiety.
3. Relocation control was positively associated with life satisfaction.
4. This study found evidence of a mediating effect of social support, indicating that relocation control was indirectly related to depression and life satisfaction via social support.
5. The results indicated that self-reported health did not affect the relationship between relocation control and psychological well-being (e.g., depression, anxiety, and life satisfaction).
6. The results support that functional impairment had a mediating effect on the relationship between relocation control and anxiety and life satisfaction.

Chapter 6. DISCUSSION

As the number of older adults who experience ALF relocation continues to rise, it is important that researchers and practitioners increase their understanding of the challenges encountered by the ALF relocatees and their effects on the psychological well-being of the ALF residents. Although past study has revealed the psychological vulnerability of long-term care relocatees, especially those experiencing involuntary relocation (Chen et al., 2007; Chentiz, 1983; Johnson, 1996; Thomasma et al., 1990), few studies have specifically investigated the mediating role of social support, self-reported health, and functional impairment as they may influence the psychological well-being of ALF residents.

The purpose of this study then was to examine how relocation control prior to admission is associated with the psychological well-being of ALF residents and to explore the extent to which the social support, self-reported health, and functional impairment plays a role in improving psychological well-being (e.g., depression, anxiety, and life satisfaction) in ALF residents.

The stress-process model suggests that sources of stress for ALF residents (e.g., relocation control) are associated with their psychological well-being. Guided by these theoretical perspectives, the present study has focused on the extent that psychological well-being is a function of the sources of stress (e.g., relocation control) and mediators of stress (e.g., social support, self-reported health, and functional impairment) after controlling for the demographic characteristics of the ALF residents. Psychological well-being was assessed by three measures: depression, anxiety, and life satisfaction. This study separately examined the relationship between relocation control and three measures of psychological well-being (e.g., depression, anxiety, and life satisfaction).

Hypothesis 1A: Higher levels of relocation control will be associated with lower levels of depression among ALF residents.

Hypothesis 1C: Higher levels of relocation control will be associated with higher levels of life satisfaction among ALF residents.

Supporting the first set of hypotheses (e.g., hypothesis 1A and1C in chapter 3), this study suggests that relocation control is critical in predicting both depression and life satisfaction of ALF residents. A higher level of relocation control was significantly associated with both lower levels of depression and higher levels of life satisfaction in these ALF residents. The results confirm previous research that has documented relationships between various measures of relocation control and psychological well-being across numerous long-term care contexts. The literature has shown that higher levels of relocation control lead to lower levels of depression among ALF residents (Chen et al., 2007). Similarly, past studies of relocation found that older adults who had more control over their relocation had greater levels of life satisfaction (Harel & Noelker, 1982; Kampfe, 1999).

Hypothesis 1B: Higher levels of perceived relocation control will be associated with lower levels of anxiety among ALF residents.

Although the literature suggested that involuntary relocation may influence the levels of anxiety in older adults (Johnson, 1996; Thomasma et al., 1990), this variable did not turn out to be significant in this analysis. This may be due to environmental factors that this study could not control. It is plausible that each ALF provided a safe environment for older adults with deteriorating health and functional impairment. Living in a supervised setting may also decrease the variability of anxiety among residents because of decreased self-care burden (e.g., incidents of falls and medication). All demographic characteristics did not significantly predict depression,

anxiety, and life satisfaction. The demographic variables that were predictors of relocation control were gender and income. Contrary to what was expected, higher relocation control was found in female ALF residents when compared with male ALF residents, although prior studies reported that women seemed to be more vulnerable to the stressful effects of relocation than men (Bradley & Willigen, 2010; Campbell & Lee, 1992; Magdol, 2002). Consistent with prior research (Fried, 1963; Gutman, 1963), this study also found that higher income was significantly associated with greater relocation control among ALF residents.

Hypothesis 2A: Less relocation control leads to less social support, which leads to higher levels of depression, anxiety, and lower life satisfaction among ALF residents.

Partially confirming hypothesis 2A, the findings of this study highlighted the importance of social support for depression and life satisfaction. In addition to the direct association between relocation control and depression, this study also found evidence of a mediating effect of social support, indicating that relocation control was indirectly related to depression via social support when demographic variables were controlled. In other words, ALF residents who had greater relocation control were more likely to have stronger social support, which led to decreased depression after admission. One explanation could be that voluntary relocatees may have positive relationships with family members, friends, and people with power of attorney, and feel connected to them after ALF admission, and they are likely to want to maintain frequent and meaningful interactions (e.g., family reunions, birthdays, and shopping). Continuous social support may decrease the ALF residents' depression by meeting their psychological needs (e.g., sense of belonging) or by assisting to redirect negative perceptions of involuntary relocation (e.g., anger, sadness, or powerlessness). Additionally, it is also possible that ALF residents who maintain their psychological well-being regardless of the degrees of relocation control may be

more able to engage with other ALF residents (e.g., program activity participation) than ALF residents whose mental health is vulnerable to depression, depending on the degrees of relocation control. Building on a prior ALF study that provided evidence of a significant mediating effect of social support on the relationship between depression and life satisfaction (Cummings, 2002), these results validated the linkage between relocation control and depression of ALF residents via social support after controlling for demographic factors (e.g., age, gender, income, marital status, education, length of residence). Among the demographic factors, a distinct predictor of depression was lower education. A correlation between education and depression has not been well documented in prior research on ALF residents. Thus, further studies will need to explore the effect of education on depression in ALF residents.

Also, the results of this study supported hypothesis 2A, indicating that relocation control influences life satisfaction through social support, and that social support is a critical mechanism for explaining the relationship between relocation control and life satisfaction before and after controlling for demographic factors. None of the demographic variables were predictors of life satisfaction in the controlled model. The direct association between relocation control and social support appears to be consistent with past studies that involuntary relocation was a strong predictor of a lack of social support among older adults (Eearle, 1980; Jones, 1991; Rossen & Knafl, 2003). Also, prior research on social support has documented the beneficial effect of continuous social support on the life satisfaction of ALF residents (Cummings & Cockerham, 2004; Lee et al., 2012). However, to date, this is the first analysis to simultaneously examine relocation control, mediating function of social support, and life satisfaction of ALF residents. The mediation effect of social support in relationship between relocation control and life satisfaction is not a well-documented finding in the ALF literature. There is a clear need for

more empirical work targeted at understanding the process of relocation control and life satisfaction across ALF residents.

Contrary to what was expected in hypothesis 2A, relocation control was not related to ALF residents' anxiety. No buffering effect of social support was found on the association between relocation control and anxiety. This may be because stress that stems specifically from relocation control is likely to decrease as a result of successful adjustment to a new environment at some point rather than as a result of social support from family and friends. Unfortunately, degrees of adjustment were not measured and could not be explicitly examined. Also, the other possible explanation may be that a larger sample size and a longitudinal study are needed in order to detect relatively small mediating effects of social support. More research is suggested in this area, as there are potentially important practice implications designed to affect the psychological well-being of ALF relocatees.

Hypothesis 2B: Less relocation control leads to more negative self-reported health, which leads to higher levels of depression, anxiety, and lower life satisfaction among ALF residents.

There were some unexpected findings in this study. Contrary to what was expected, the mediator hypotheses of 2B were not supported. Self-reported health did not affect the relationship between relocation control and the psychological well-being (depression, anxiety, and life satisfaction) of ALF residents. As expected, the current study found that greater relocation control was associated with lower levels of depression (Chen et al., 2007) and higher levels of life satisfaction (Harel & Noelker, 1982; Kampfe, 1999). The findings of this study suggest that there is no relationship between relocation control and anxiety, whereas the links between involuntary relocation and anxiety have been established in prior studies (Johnson, 1996; Thomasma et al., 1990). Also, positive self-reported health was a significant factor that yielded

low levels of depression (Cummings & Cockerham, 2004; Jang et al., 2007) and anxiety, and higher life satisfaction (Cummings, 2002; Cummings & Cockerham, 2004) when demographic variables were both controlled and uncontrolled in the current study. However, this study did not find evidence that relocation control was related to self-reported health. Some prior investigation found that involuntary relocation was associated with poor self-rated health among community residents (Dimond et al., 1987). One of the reasons for this discrepancy may be that relocation control is more relevant to psychological factors than physical health issues, particularly among ALF residents, whereas physical health care is somewhat mandated by states and well supervised by ALF staff members and primary physicians. Further research will need to explore whether health perception is more or less likely to operate as a mediator of the relationship between relocation control and the psychological well-being of ALF residents.

Hypothesis 2C: Less relocation control leads to lower functional impairment, which leads to higher levels of depression, anxiety, and lower life satisfaction among ALF residents.

Considering hypothesis 2C, the results indicated that there was no effect of relocation control on depression through functional impairment while controlling for demographic characteristics. In other words, functional impairment did not mediate the effect of relocation control on depression. The significant mediation effect of functional impairment in the uncontrolled model disappeared when demographic variables were included in the analyses. In this study relocation control was a significant predictor of depression of ALF residents, which further supports hypotheses 1A. However, relocation control was not related to functional impairment (Capezuti et al., 2006; Castle & Engberg, 2011; Reinardy, 1992). Also, in contrast to previous ALF research (Chen et al., 2007; Cummings & Cockerham, 2004; Jang et al., 2006, 2007), there was no significant association between functional impairment and depression.

Some comments are appropriate about why the mediation hypothesis was not supported. Part of the answer may in the homogeneous character of the population that was being studied (all are White, aged 65 or older, and all are in ALF). It is quite probable that the homogeneous sample prevented a mediator effect because of a lack of variability for the relocation control (independent variable) and functional impairment (mediator). The current sample was purposive and the ALF residents had greater positive relocation control and higher functional health, and this might have influenced the study's results. Thus, a heterogeneous sample may be central to understanding how functional impairment affects the relationship between relocation control and depression and should be considered in future research.

Confirming hypothesis 2C, the results support the hypothesis that functional impairment had a mediating effect on the relationship between relocation control and anxiety when controlling for covariates. Functional impairment marginally but significantly interacted with the independent variable (relocation control) to affect the association between relocation control and anxiety in the total sample. This finding was consistent with the findings from previous studies, which showed that involuntary relocation was significantly related to negative health outcomes among community residents (Danermark & Ekstrom, 1990; Ferraro, 1982) and health decline among congregate housing residents (Evans & Moen, 2004). Strahan (1990, 1991) also found that functional impairment had a direct negative effect on anxiety. In addition, the current study indicated that three predictors of anxiety among demographic factors were age, gender, and education. This is consistent with prior research reporting that younger age (Kessler et al., 2005; Sheikh et al., 2004) and female gender (Beekman et al., 1998; Regier et al., 1988) are sources of anxiety in older adults. Contrary to previous research (Beekman et al., 1998; Gum, King-Kallimanis, & Kohn, 2009), more education was significantly related with higher levels of

anxiety. To date, this is the first study the researcher is aware of that evaluated functional impairment as a mediator of the relationship between relocation control and anxiety. As these results are preliminary, a thorough investigation of the nature and role of functional impairment over a longer period of time needs to be undertaken.

As expected, the results of this study showed that there was an effect of relocation control on life satisfaction through functional impairment while controlling for demographic characteristics. In other words, functional impairment mediated the effects of relocation control on life satisfaction. The results of this analysis are consistent with the finding of Danermark and Ekstrom (1990) and Ferraro (1982), that when community-dwelling older adults did not have control over their move, their health outcomes were significantly negative. Similarly, Heisler et al. (2004) found that those who voluntarily transferred to congregate housing had less deteriorating health compared with those who did not. Also, the findings of this study indicated that there was a negative correlation between impairment of physical functioning and life satisfaction among ALF residents (Cummings & Cockerham, 2004). It is of interest that out of all of the demographic variables, only gender emerged as a predictor of life satisfaction, indicating that female ALF residents had higher levels of life satisfaction than male residents in the current study. This is not in line with previous studies that showed that life satisfaction was substantially higher in men than women among 65 and older (Borg, Hallberg, & Blomqvist, 2006; Cummings, 2002). Considering the significance of the predictor of life satisfaction, further research needs to explore the relationship between gender and life satisfaction of ALF residents.

Implications for Practice

Prior to Admission

Several important practice implications can be drawn from the findings of this study. The study suggests that involuntary ALF relocatees are at risk of depression and low life satisfaction. Therefore, ALF staff members may need to facilitate relocation support services (e.g., individual counseling, support groups, and outreach programs) to address a sense of control for ALF residents who experience involuntary relocation and emotional disturbance. For instance, individual counseling that offers opportunities to share feelings and concerns, and to receive assistance with settling into an ALF (e.g., time of the move, floor plan, and arrangement of furniture), and coping with new roles at the ALF may be important in mitigating stress among ALF residents. Assessing new residents' needs, concerns, and characteristics are also crucial in order to develop effective plans of care for them (e.g., dining table arrangement and activity program planning) and minimize psychological distress with the relocation. These sessions could also involve support groups with current ALF residents who have been successful in relocation telling their stories about how to cope with emotional distress and concerns. In addition, outreach efforts (e.g., home or hospital visits) of ALF staff members may be an important and needed service for ALF relocatees, especially when potential residents suffer from physical or mental illness (e.g., hospitalization) and are physically unable to tour AL facilities. The outreach support (e.g., showing facility pictures) of ALF staff members is important in order to further their understanding of a new facility environment, enhance a sense of control over relocation, and relieve their stressors. ALF staff members typically provide a brief consultation with caregivers regarding room selection, facility tour, medical information, and a facility pamphlet and fee

levels prior to admission. However, a specialized form of relocation support services for ALF residents with such difficulties was difficult to find.

After Admission

Furthermore, intervention efforts should target ALF residents who are most likely to benefit from such social support efforts. The findings imply that involuntary ALF residents may be particularly vulnerable to depression and low life satisfaction when they are socially isolated after admission. ALF residents who have had to move from their private residences might have difficulty developing new relationships with other residents. ALF staff member assistance can play a key role in managing these aspects at this time. Also, ALF residents, called ”wellness coordinators,” could be important partners in this task. From a practice perspective, ALF residents who have high physical and cognitive functioning with appropriate occupational background (e.g., teacher or pastor) to take care of residents could be more actively engaged in accompanying residents, thus providing more time for residents to interact with other ALF residents and further enhance their psychological well-being.

The findings of this study have important implications for relocation support and mental health service systems for ALFs. Currently, relocation support and mental health services are not federally mandated at ALFs. Many ALF residents are largely unprepared for the ALF transition and work through their psychological distress (e.g., loneliness, powerlessness, loss, and anger) by themselves before or after the move. Given the high rate of depression (37%) (Watson, Zimmerman, Cohen, & Dominik, 2009) and anxiety (22–44.3%) (Cheng et al., 2009; Kang, Smith, Buckwalter, Ellingrod, & Schulz, 2010; Smith et al., 2008) among ALF residents and in general adults aged 60 and older (15.3%) (Kessler et al., 2005), it may be useful for ALF staff members to provide individual counseling so that residents can understand stressors and explore

how these concerns may be associated with their psychological well-being. Conducting group sessions might be effective in improving coping skills and managing stress. If funding were to allow it, staffing on-site mental health service teams that could systematically assess emotional needs of relocated ALF residents monthly and prescribe psychiatric medication would be ideal for early detection of symptoms and increased service access. Furthermore, depression and anxiety measures could be incorporated into evaluation protocols to enable ALF staff members to identify mentally at-risk ALF residents, monitor their scores regularly, and refer the residents to local mental health service agencies so that residents' mental health needs can be addressed.

Implications for Policy

The findings of this study have important implications for social policy. Relocation support and mental health treatment programs and policies for ALF residents currently are not state or federally mandated. Despite the detrimental effects of involuntary relocation on psychological well-being, the majority of ALF residents have not received adequate relocation support services. Moreover, psychological health problems that may stem from unprepared and abrupt residential transition are often undetected and neglected at ALFs. For example, two studies of Watson and others showed that 57% (2006) and 82% (2003) of depressed assisted living residents were not given antidepressant prescriptions. Smith, Buckwalter, Kang, Ellingrod, and Schultz (2008) reported that 12% of depressed residents were not treated with antidepressant medication. The consequences of untreated mental health problems found in the literature were serious. First, residents with depression were characterized by low participation in daily activity programs, long bed stays, and inability to perform ADLs (Watson et al., 2003, 2006). Depressed residents had 2.1 times as much in-facility mortality and 1.5 times as much nursing home transfer as nondepressed residents (Watson et al., 2003). The nonexistence of on-site relocation

support programs catering to ALF adjustment assistance, mental health intervention, and screening is an especially serious obstacle to protecting residents from the risk factors of involuntary relocation. In this regard, the U.S. government needs to enact laws requiring relocation support programs, including an ALF relocation specialist and on-site mental health care providers. In addition, social work, nursing, and psychology programs should create curricula and licensure procedures based on state regulations to produce ALF relocation specialists and mental health practitioners to enhance relocation control and psychological well-being in this population.

Implications for Social Work Research

To advance our knowledge about the origins of and factors contributing to psychological distress among ALF residents, several issues need to be addressed in future research. First, future study should be replicated with longitudinal data that assess causality. Causality could not be inferred from the cross-sectional data from this study. A longitudinal study is desirable because it provides a consistent relationship linking relocation control and psychological well-being and enables researchers to develop interventions and strategies to support the relocation process and prevent psychological distress in this population.

Second, additional research is needed to elucidate additional relationship factors that moderate the influence of relocation control on the psychological well-being of ALF residents. The moderation model may be re-specified to examine if spirituality moderates the relationship between relocation and psychological well-being, or if this is moderated by social support, self-reported health, and functional impairment. The moderation model may also be refined to evaluate if social support or functional impairment moderates the relationship between relocation control and overall resident quality of life. Testing various moderation models has the potential

to help test and develop theory, and to investigate influential variables in ALF programs so that they can be adapted and optimized to increase efficacy and cost-effectiveness.

Third, a mixed-method design using qualitative techniques would provide richer data and improve insights as to barriers that potential residents and family members face in securing successful relocation and the role ALF staff members play as they interact with potential residents. The quantitative data could highlight factors not clearly evident in the qualitative data, and the qualitative data could make clear the importance of factors that did not emerge as significant in the quantitative analysis. Ultimately, using both quantitative and qualitative methods would provide in-depth understanding of older adults' transition into a new ALF and its effect on their psychological well-being.

Fourth, future research that uses richer measures of relocation control would also enhance this study. While the 4–item scale appeared to perform well, there were no standardized scales that specifically measure relocation control among ALF residents. Future research that includes more elaborate measures of relocation control is needed to expand our understanding of the role of relocation control in influencing psychological well-being among ALF residents. In addition, findings from this study would suggest taking matched resident-family member responses, so that their results could be contrasted. Comparisons of family data with ALF residents' perception would help to discover what gaps exist between them.

Fifth, a study should include more diverse subsamples to examine the effect of ethnicity and other cultural factors. All participants in the current study were White. It was impossible to test whether subgroups differently interpreted items or differed in factor loadings. Future studies might examine these problems using statistics such as multiple invariance testing. Potential subgroups of particular importance would be those based on gender, ethnicity, income, length of

residence, and cognitive functioning level. For example, researchers should attempt to investigate the influence of gender (male vs. female) to examine the descriptive characteristics and the nature of the differences in their relocation control, mediators of stress (e.g., social support, self-reported health, and functional impairment), and psychological well-being. Although all respondents were White in this study, it should be noted that there are African American, Latino, and Asian ALF residents. Given the paucity of information about how ethnic minority residents differ from White residents regarding relocation control and psychological well-being, future research is needed to explore this issue. Further, the current study participants were mostly affluent older adults. Future research also needs to incorporate low-income ALF residents to have a more representative sample. In addition, the literature has shown that residents living in ALFs more than 1 year showed less depression than their counterparts (Watson et al., 2003). Thus, conducting a comparative study by length of residence (1 year vs. 1 year and more) will allow researchers to better understand changes of psychological well-being in relocation to relocation control. In addition, replication of the study using ALF residents with dementia is needed in order to increase the generalizability of the findings of ALF relocatees. Assessing the differences among the groups will enrich social work knowledge and develop culturally competent relocation support programs.

Finally, in future research, it will be important to conduct a needs assessment among potential ALF residents and family members to develop new programs that better address their needs. ALF residents may need services to prepare for relocation, to increase relocation control, and to deal with their psychological well-being. Future research is needed to explore whether the preliminary ALF tour, meal-time participation, and staff home visits or counseling services meet their needs, or which alternative services would do it better. In addition, future research that

explores the reasons for which some community residents were reluctant to use ALF services or existing programs is essential. Qualitative studies are ideally suited to address these questions and to enrich understanding of ALF residents and their family members. Such efforts can potentially inform the development of relocation support programs to increase services access for ALFs.

Limitations and Suggestions for Further Studies

There are some limitations of this study that need to be recognized. First, although this study helps to establish the relationships between the variables under examination, like other cross-sectional investigations, the directional and causal nature of these relationships cannot be determined. For instance, it is difficult to determine the direction of causality between relocation control and psychological well-being. For example, involuntary relocation may lead to depression or anxiety, but it is also possible that ALF residents who suffer from emotional distress may be more likely to have low relocation control because they may be less likely to participate in the decision-making process than ALF residents who had better mental and emotional health. In addition, the passage of time can have negative effects on the psychological well-being of ALF residents. It may be difficult to separate which effects are from relocation control and which are strictly from the result of the passage of time. Therefore, longitudinal follow-ups are desirable to address dynamic differences that might occur over time with changes in depression, anxiety, and life satisfaction through the course of the adjustment in ALFs.

Similarly, although this study assumed that mediating variables would influence the psychological distress among ALF residents, it is equally plausible that greater psychological distress influences the degree of mediators (e.g., social support, self-reported health, and anxiety). Without longitudinal data collected at multiple time points, the causal and reciprocal

relationships among relocation control, social support, and psychological well-being could not be disentangled.

Moreover, this cross-sectional study relied exclusively on the ALF residents' retrospective reports of their relocation control prior to admission and concurrent reports of psychological well-being. The HIPPA privacy regulations made it difficult to review the chart of ALF residents. Most of the ALFs requested the researcher to obtain consent from residents' power of attorney or family members. The researcher did not consult the family or resident records to determine accuracy. Therefore, recall bias may have affected the relocation control scale score. For instance, participants may have responded that their relocation experiences were positive or negative, even when specific details about the decisions could not be recalled due to circumstances (e.g., hospitalization) or psychological difficulties (e.g., depression). Future studies should examine the longitudinal relationships between relocation control and change in psychological well-being that will allow for establishing more viable causal relationships.

This study consisted of a convenience sample obtained from residents and sites who agreed to be interviewed. Upon agreeing to participate, the ALFs were then invited to participate. AL administrators referred to the researcher those whom they identified as eligible participants. This was necessitated by problems of access to respondents, as well as the respondents' cognitive and physical ability and willingness to participate in the study. A self-selection bias might occur between participants and nonparticipants. For example, when a survey interview is conducted with ALF residents, those who participate may be more motivated or suffer from fewer or more functional and psychological problems or differ in other important ways from those who do not agree to participate. It is also possible that nonparticipants may have more insights into relocation control and evaluation of psychological well-being. Thus, the subjects in

this study may not be representative of all ALF residents. The findings can only apply to ALF residents with similar characteristics and backgrounds.

More diverse samples are clearly needed. The composition of the study population was predominantly of White women (77.1%) aged 65 or older living in 19 ALFs in Tennessee. Underrepresentation of persons of color in one county limits within- and across-group comparisons (e.g., men or other racial groups). The study sites also were mostly for-profit corporations, and the majority of residents paid with private funds, so the study results therefore cannot be generalized to apply to all AL residents. Also, attention should be given to ALF residents with significant cognitive impairments. While it is likely that results can be generalized to relatively cognitively intact older adults, the results may not apply to the entire population of ALF residents. For example, results may have differed if residents with early stage dementia had been interviewed. Additional studies conducted in a variety of settings and on more varied samples of ALF residents in terms of ethnicity, gender, age, socioeconomics, cognitive functioning, and geographic region status are needed to confirm the study's generalizability.

Finally, given that data were collected during face-to-face interviews, social desirability may have influenced how elders responded to questionnaire items. Residents may have a social desirability tendency and may have presented their relocation experiences and psychological status in a positive light. Residents may also have had a fear of reprisal by facility staff, although the confidentiality of residents was maintained throughout the study.

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Appendices

Appendix A. Letter of Support Template

June 05, 2012

Young Sook Kim, LMSW
Doctoral Student
College of Social Work
The University of Tennessee
#4 Henson Hall
Knoxville, TN 37996

Subject: Assessing the Impact of Relocation Control on Psychological Well-being among Assisted Living Residents

Dear Young Sook Kim:

Thank you for your letter requesting us to collaborate in your study. We are honored and will gladly support your research project. We will do our best for you to be able to recruit residents to participate in the study. We will permit you to contact potential participants as needed and will allow you to interview them in our facility if they volunteer to participate.

We look forward to working with you.

Sincerely yours,

Signature:

Administrator:

Agency Name:

Phone Number:

Appendix B. Invitation Flyer

Invitation Flyer

You are invited to participate in this research study being conducted by a doctoral student at the University of Tennessee which will explore relocation experiences of older adults. The purpose of the study is to obtain information that will help healthcare professionals better understand: 1) how older adults make the decision to relocate to Assisted Living Facilities and; 2) the impact of the relocation control on residents' psychological well-being.

If you do choose to participate in the study, you will be asked to share some of your experiences about moving to an Assisted Living Facility. An interviewer will visit you and conduct the interview at a time and location at ALF of your choice (i.e. room at the ALF). The interview will take approximately 25-60 minutes to complete.

If you have any questions and suggestions about this study or the procedures, please let me know. I can be reached at (865) 974-9134. I appreciate your taking the time to consider participating in this study.

Principal Investigator:

Young Sook Kim, LMSW
Doctoral student
University of Tennessee, Knoxville College of Social Work

Appendix C. Consent Form

Consent Form

Assessing the Impact of Relocation Control on Psychological Well-being among Assisted Living Residents

You are invited to participate in this research study being conducted by a doctoral student at the University of Tennessee, which will explore relocation experiences of older adults. The purpose of the study is to obtain information that will help healthcare professionals better understand: 1) how older adults make the decision to relocate to Assisted Living Facilities; and 2) the impact of the relocation control on residents' psychological well-being. This study may lead to the development of interventions which can support relocation adjustment among assisted living residents.

If you do choose to participate in the study, you will be asked to share some of your experiences about moving to an Assisted Living Facility and emotional and physical health status. The interview could be conducted in your apartment or another area of the ALF if you'd prefer. The interview will take approximately 25-60 minutes to complete. Everything you tell the interviewer will be kept in the strictest confidence. Your name will not be associated with your individual responses. No individual resident's responses will be shared with anyone other than the researcher and research assistants. Assisted Living Facility staff will not have access to your responses.

You are under no obligation to participate in this study, and you can withdraw any time you want. The Assisted Living Facility staff has been informed that your participation in this study is voluntary. You will not lose your current or future assisted living services for not participating. There will be no personal benefit for your participation in this research. Your participation in the study will contribute to enhanced knowledge of the impact of relocation control on psychological well-being (i.e. depression, life satisfaction, and anxiety).

Risks from participating in this study are minimal. Some individuals may feel uncomfortable answering some of the questions. Support and referrals will be provided, if needed. In some cases, participants may tire before the completion of

Appendix C. Consent Form (continued)

the interview. Participants who give permission to reschedule the interview will be revisited by the same interviewers, at a location and time convenient to the participants, to complete the interviews.

If you have any questions and suggestions about this study or the procedures, please let me know. I can be reached at (865) 974-9134. If you have questions about your rights as a participant, contact the University of Tennessee, Knoxville, Compliance Section of the Office of Research at (865) 974-3466.

Principal Investigator:

Young Sook Kim, LMSW
Doctoral Student
University of Tennessee, Knoxville
College of Social Work
Phone: (865) 974-9134

I have read the above information and agree to participate in this study. I have had the study explained to me, and I have been given an opportunity to ask questions. I understand that I may ask further questions at anytime in the future by contacting the investigator. I can withdraw from this study at any time. I have received a copy of this consent form.

Participant's signature _____

Date __/__/ 2012

Appendix D. Quantitative Data Instruments

Research ID# Date Completed: / / 2012

1 - Self-Rated Health Questionnaire

1. How would you rate your physical health during the last 6 months?

(1) Very Bad (2) Poor (3) Fair (4) Good (5) Excellent

2 - Functional Impairment Scale (ADL/IADL)

Now I'm going to ask you some questions about daily living activities and which of them you need help with.

Activities of Daily Living(ADL) and Instrumental Activities of Daily Living(IADL)	**Help needed?**	
Do you need assistance with any of the following?	Yes(1)	No (0)
1. Using the telephone		
2. Shopping		
3. Cooking meals		
4. Housekeeping		
5. Laundry		
6. Taking medications		
7. Using public transportation		
8. Bathing(sponge bath, tub bath, or shower)		
9. Dressing – gets clothes and dresses without any assistance except for trying shoes		

Appendix D. Quantitative Data Instruments (continued)

Do you need assistance with any of the following?	Yes(1)	No(0)
10. Going to the bathroom		
11. Getting in and out of bed and chair without assistance (may use cane and walker)		
12. Eating		
13. Continence		
14. Money Management		

3 - The Life Satisfaction Index Z

Thank you. Now I'm going to ask you about your sense of well-being of life satisfaction. Please let me know if you agree or disagree with each of the following statements.

Item	Agree (2)	Disagree (1)
1. As I grow older, things seem better that I thought they would be.		
2. I have had more chances in life than most of the people I know.		
3. This is the dreariest time of my life		
4. I am just as happy as when I was young		
5. These are the best years of my life		
6. Most things I do are boring or monotonous		

Appendix D. Quantitative Data Instruments (continued)

Item	Agree (2)	Disagree (1)
7. The things I do are as interesting to me as they ever were		
8. As I look back on my life, I am fairly well satisfied		
9. I have made plans for the things I'll be doing in a month from now		
10. When I think back over my life, I didn't get most of the important things I wanted		
11. Compared to other people, I get down in the dumps too often		
12. I've got pretty much what I expect out of life		
13. In spite of what people say, the life of the average person is getting worse, not better		

4 - Perceived Social Support Scale

In answering the next set of questions, I am going to ask you to think about your **current** relationships with friends, family members, neighbors, community members, and so on. Would you say:

		No	Yes
1	There are people you can depend on to help you if you really need it.	0	1
2	You feel that you do not have close personal relationships with other people.	1	0

Appendix D. Quantitative Data Instruments (continued)

		No	Yes
3	There is no one you can turn to for guidance in times of stress.	1	0
4	There are people who enjoy the same social activities you do.	0	1
5	Other people do not view you as a competent person.	1	0
6	You feel part of a group of people who share your attitudes and beliefs.	0	1
7	You do not think others respect your skills and abilities.	1	0
8	If something went wrong, no one would come to your assistance.	1	0
9	You have close relationships that provide you with a sense of emotional security and well-being.	0	1
10	There is someone you could talk to about important decisions in your life.	0	1
11	You have relationships where your competence and skills are recognized.	0	1
12	There is no one who shares your interest and concerns.	1	0
13	There is at least one trustworthy person you could turn to for advice if you were having problems.	0	1

Appendix D. Quantitative Data Instruments (continued)

		No	Yes
14	You feel a strong emotional bond with at least one other person.	0	1
15	There is no one you can depend on for help if you really need it.	1	0
16	There is no one you feel comfortable talking with about your problems.	1	0
17	There are people who admire your talents and abilities.	0	1
18	You lack a feeling of intimacy with another person.	1	0
19	There is no one who likes to do the things you do.	1	0
20	There are people you can count on in an emergency.	0	1

TOTAL SCORE _____

Appendix D. Quantitative Data Instruments (continued)

5 -The Center for Epidemiological Study Depression

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you've felt this way during the **past week**. Respond to all items.

Place a check mark (*V*) in the appropriate column. During the past week.	Rarely or none of the time (less than1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	All of the time (5-7 days)
1. I was bothered by things that usually don't bother me.				
2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not shake off the blues even with help from my family.				
4. I felt that I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				
8. I felt hopeful about the future.				
9. I thought my life had been a failure.				

Appendix D. Quantitative Data Instruments (continued)

Place a check mark (*V*) in the appropriate column. During the past week.	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	All of the time (5-7 days)
10. I felt fearful.				
11. My sleep was restless.				
12. I was happy.				
13. I talked less than usual.				
14. I felt lonely.				
15. People were unfriendly.				
16. I enjoyed life.				
17. I had crying spells.				
18. I felt sad.				
19. I felt that people disliked me.				
20. I could not "get going."				

Appendix D. Quantitative Data Instruments (continued)

6 - Perceived Decisional Control Measure

Thank you. Now I'm going to ask you about your decision to move to an ALF.

1. Was it your decision to come live in an assisted living facility?
   1 (No) 2 (Decided with someone else) 3 (Yes)

2. Did others consult with you much about the decision to come stay in an assisted living facility?
   1 (Not at all) 2 (A little bit) 3 (Yes. Quite a bit)

3. Did you feel that you influenced the decision to come here?
   1 (Not at all) 2 (Had some say) 3 (Made the decision mostly on my own)

4. How much input would you say that you had in the decision to come live in an assisted living facility?
   1 (None) 2 (A little bit) 3 (a great deal)

7 - Demographic Questionnaire

Thank you. Now I'm going to ask about your background information.

1. What is your date of birth? _____ (month/day/year)

2. What is your Gender?
   (1) Female (2) Male

3. What is your race?
   (1) White
   (2) African American
   (3) Other, please specify_____

4. What is your Marital Status?
   (1) Married (2) Widowed (3) Divorced (4) separated (5) Single

5. How many years of school have you completed? _____years

6. What was your income last year?
   (1) Less than $10,000
   (2) $10,000-24,999
   (3) $25,000-$34,999
   (4) $35,000-$49,999
   (5) $50,000-74,999
   (6) $75,000 and over

7. How many years have you lived in _____? _____years

8 - Brief Symptom Inventory (BSI-18)

The Brief Symptom Inventory has not been attached because of copyright restrictions.

Vita

Young Sook Kim earned her BA in Child Welfare at Sookmyung Women's University in Korea in 2002, and received an MSW from Columbia University in 2005. After graduate school, she began working at the Adult Day Health Care (ADHC) center in California. At the ADHC center, she assessed 60 out of 180 elderly clients every 6 months and oversaw the clinical case management for each client. These clients were mainly low-income elderly Korean and immigrants who suffered from physical health issues, mental illness, cognitive deficit, and social isolation. In working with elderly women with depression for 2 years, she found that they needed professional help in coping with their physical and mental health problems. She earned a doctoral degree in social work in the hopes of finding workable solutions to their problems. Her primary research interest is the treatment of depression and anxiety in the elderly with mental illness in assisted living facilities. In addition, she is interested in cross-cultural research between Korea and the United States.