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DETERMINANTS OF RESIDENT MENTAL HEALTH IN FLORIDA'S ASSISTED LIVING COMMUNITIES

By

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TABLE OF CONTENTS

List of Tables iv

Abstract.......... vi

INTRODUCTION.......... 1

1. AGING AND MENTAL HEALTH:
   PREDICTORS OF WELL-BEING OVER
   THE LIFECOURSE 3

2. ENVIRONMENTAL INFLUENCE ON
   RESIDENT MENTAL HEALTH.......... 19

3. DATA AND METHODS.......... 31

4. PREDICTORS OF RESIDENT WELL-BEING
   IN ASSISTED LIVING 45

5. UNDERSTANDING THE ROLES OF PREDICTORS
   OF RESIDENT MENTAL HEALTH OUTCOMES FOR THE
   ASSISTED LIVING INDUSTRY: RESEARCH AND
   POLICY IMPLICATIONS 67

CONCLUSION 72

APPENDIX A 79

APPENDIX B 81

APPENDIX C 83

APPENDIX D 110

BIBLIOGRAPHY 113

BIOGRAPHICAL SKETCH.......... 125

LIST OF TABLES

1. TABLE 3.1: CHARACTERISTICS OF FALS FACILITY SAMPLE 43

2. TABLE 3.2: DEMOGRAPHIC COMPOSITION OF RESIDENTS 44

3. TABLE 4.1: MEANS AND STANDARD DEVIATIONS OF DEPRESSION, QUALITY OF LIFE, PHILOSOPHICAL TENETS, KNOWLEDGE OF FACILITY POLICIES, CONTROL, PHYSICAL IMPAIREMENT, SOCIAL SUPPORT AND LENGTH OF STAY RESIDENT DEMOGRAPHICS AND FINANCIAL WELL-BEING BY TOTAL SAMPLE AND GENDER 58

4. TABLE 4.2: CORRELATIONS AND ANALYSES OF VARIANCE BETWEEN RESIDENT DEMOGRAPHICS, PHYSICAL IMPAIREMENT, PHILOSOPHICAL TENETS, KNOWLEDGE OF FACILITY POLICIES, CONTROL, SOCIAL SUPPORT, LENGTH OF STAY RESIDENT DEMOGRAPHICS, FINANCIAL WELL-BEING AND MEASURES OF MENTAL HEALTH 61

5. TABLE 4.3: DEPRESSION REGRESSED ON LENGTH OF TIME IN AL, ASSISTED LIVING PHILOSOPHICAL TENETS, RESIDENT DEMOGRAPHICS, KNOWLEDGE OF FACILITY POLICIES, PHYSICAL DISABILITY, FINANCIAL WELL-BEING AND SOCIAL SUPPORT 63

6. TABLE 4.4: QUALITY OF LIFE REGRESSED ON LENGTH OF TIME IN AL, ASSISTED LIVING PHILOSOPHICAL TENETS, RESIDENT DEMOGRAPHICS, KNOWLEDGE OF FACILITY POLICIES, PHYSICAL DISABILITY, FINANCIAL WELL-BEING AND SOCIAL SUPPORT 65

7. TABLE 5.1: PERCENTAGE OF FALS FACILITIES THAT ADMIT OR RETAIN BY CONDITION.. 75

8. TABLE 5.2: FALS ORGANIZATIONAL FACTORS AFFECTING RESIDENT ADMISSION/DISCHARGE................................. 77

9. TABLE 5.3: TOP THREE REASONS FACILITIES DISCHARGE RESIDENTS FROM FLORIDA ASSISTED LIVING SETTINGS... 78

10. TABLE 5.4: FALS FACILITY POLICIES WHEN RESIDENT EXHAUSTS OWN FINANCES... 78

11. TABLE 5.5: TOP THREE DISCHARGE DESTINATIONS FROM FLORIDA ASSISTED LIVING SETTINGS 78

12. TABLE D.1: DEPRESSION REGRESSED ON LENGTH OF TIME IN AL, ASSISTED LIVING PHILOSOPHICAL TENETS, RESIDENT DEMOGRAPHICS, KNOWLEDGE OF FACILITY POLICIES, PHYSICAL DISABILITY, FINANCIAL WELL-BEING AND SOCIAL SUPPORT 111

13. TABLE D.2: QUALITY OF LIFE REGRESSED ON LENGTH OF TIME IN AL, ASSISTED LIVING PHILOSOPHICAL TENETS, RESIDENT DEMOGRAPHICS, KNOWLEDGE OF FACILITY POLICIES, PHYSICAL DISABILITY, FINANCIAL WELL-BEING AND SOCIAL SUPPORT 112

ABSTRACT

In 2002 I began working as a research assistant on the Florida Medicaid Assisted Living Project. The research project, which was funded in part by the National Institute on Aging (NIA) and the Florida Agency for Health Care Administration (AHCA), compared nursing home care to care given to the population in assisted living. Because Medicaid is the main source of payment for long term care services provided outside of the home, our research team was contracted by the state of Florida to: (1) gather baseline data in an effort to learn more about Medicaid populations in assisted living, (2) examine the role of Florida Medicaid assisted living programs in overall Medicaid long term care spending, and (3) compare facilities that serve Medicaid populations to private pay facilities. The project was completed in 2005, yielding a final sample of 692 participants in the resident survey, and 475 participants among the facility administrators.

Using data from the Florida Medicaid Assisted Living Study, this dissertation examines the relationship of demographic predictors, such as age, gender, education, as well as social support and physical impairment to the mental health of residents in assisted living. In addition to those indicators, I also look at philosophical tenets and organizational policies as possible predictors of mental health among assisted living residents.

In the dissertation, I used two separate measures to assess mental health – adaptations of both the Geriatric Depression Scale and the Life Satisfaction Index. I would like to note that, in general, the residents have good mental health -- low average scores on the depression index and relatively high average scores on the quality of life index. Findings show that women, on average, have greater physical impairment than men; women, on average, report higher scores on the "actual family support" index than men (meaning that on average women report more phone calls and visits from family than men); female residents are older than male residents; widowhood, on average, is more likely to be experienced by female residents than male residents; male residents, on average, are more likely to have a professional degree (beyond the 4-year college degree) than female residents; and men, on average, are more often the new arrivals in assisted living (residing in assisted living for less than 1 year).

In addition, being married, completing a college or professional degree, believing that assisted living is "home", having complete control over the decision to move into assisted living, having knowledge of the facility policies regarding what could lead to resident discharge; having both actual and perceived support from family; visits from friends outside of the facility; and perceiving that the amount of money they have takes care of their needs very well are related to positive mental health outcomes of assisted living residents.

As expected, having less education is related to worse mental health (lower quality of life and higher rates of depression); negative perceptions of financial status are related to worse mental health; having greater physical impairment is related to worse mental health; and perceived support from friends inside of the facility is also related to worse mental health – however, this may be due to the level of physical impairment among the population (as denoted by the continued significance and increase in the physical impairment coefficient).

Of the assisted living philosophical tenets, results show that feeling that assisted living is home is beneficial to the mental health of residents. This adds to research showing that reaching "at homeness" is a good indicator that residents have successfully adjusted/transitioned to a new environment by further showing that reaching "at homeness" is also good for the mental health and well-being of the transitioner.

These results confirm many of the findings in the sociology of mental health literature, namely that higher education provides protective benefits for mental health and having greater physical impairment influences negative mental health outcomes. Moreover, this study shows the importance of family support and friendships outside of the facility for positive mental health of assisted living residents.

Among the philosophical tenets, feeling at home in assisted living is the only tenet that provides for lower rates of depression and greater quality of life. In addition to its relevance for the sociology of mental health and aging and the lifecourse, there are vast policy implications arising from this research. Homelike environment is a central tenet of the assisted living philosophy. These findings show that it is important for resident mental health and so it should be heeded by the industry.

In addition to those findings, although the organizational policies variable was not significant in the regression analyses, about 55 percent of the residents who answered the open-ended item felt that they would only be allowed to stay if they were in good health and 32 percent who answered that portion felt that they would be able to stay if their money did not run out. However, this is not consistent with data from the facility administrators. The top three reasons administrators give for discharge are engaging in physically aggressive behavior, being confined to a bed, and engaging in verbally aggressive behavior. So, although facilities will discharge based on extreme physical limitations, the main reasons for discharge are behavioral problems. Moreover, close to half of the facilities sampled accept some form of governmental subsidy for payment if the resident exhausts their own finances. Unfortunately, there seems to be some disconnect between the information given to the residents, or their level of understanding of the information provided, and the actual policies regarding resident discharge. However, because each state determines how assisted living will be run, there is no consistency of protocol. Federal oversight of the assisted living industry may provide for stricter guidelines and uniformity of procedures.

This study is not without its limitations, which should be noted. These data are cross-sectional so there can be no determination of causality (selection effects); also, biases resulting from the missing data may pose a problem for getting a clear picture of resident mental health. However, these findings provide a baseline understanding of the assisted living residents participating in the Florida Medicaid Assisted Living Study and are a good start for providing researchers, caregivers, and policymaker's basic descriptive information about the Florida assisted living population.

INTRODUCTION

The types of living arrangements utilized by the elderly in the United States are also very important indicators of health and well-being (Federal Interagency Forum on Aging-Related Statistics [FIFARS] 2004). Evidence suggests that older adults living in residential long-term care facilities are more depressed (Grayson et al. 1995) and are less satisfied with their lives (Loomis and Thomas 1991) compared to community dwelling elders. In the areas of aging and mental health, little research has been done on residents in assisted living. Although assisted living is supposed to be distinct from institutional dwellings (such as nursing homes), it may not be that different in terms of resident mental health. Therefore, more evidence is needed to provide a clearer picture of this population. For example, it is still relatively unknown which factors affect resident quality of life and psychological well-being. It is important that research in this area consider factors (e.g., gender, personal control/mastery, social support, physical disability, education, financial well being, marital status) that may help to explain variation in elderly residents' responses to assisted living in terms of mental health.

In this dissertation, I first provide brief summaries of the literature addressing predictors, which may explain the variation in elderly residents' mental health. In addition, I discuss literature pertaining to older adults' quality of life and depression in assisted living. Drawing from the literature reviewed, I then provide a rationale for studying the mental health of assisted living residents. In order to familiarize the reader with the assisted living structure in the state of Florida, I also provide profiles of the Florida assisted living industry and general resident composition. Next, I present descriptions of the data and methodology that are used in this project. Included in the data and methods section are research questions and hypotheses derived from the mental health literature and descriptions of the measures that are used in the analyses. Specifically, the questions address the relationship between the factors that assisted living is designed to promote – it's philosophy -- (i.e., resident ability to age in place, remain independent, have decisional control, and privacy) and resident mental health (i.e., depression and quality of life), resident characteristics which may explain variation in residents' responses to assisted living in terms of mental health, and the relationship between resident knowledge of facility policies and resident mental health.

This dissertation consists of 5 chapters. In this chapter (Chapter 1), I introduce the project and review the relevant literature regarding predictors of mental health outcomes in the

elderly population. In Chapter 2, I describe assisted living: the overarching definition, policies versus philosophy, and the makeup of assisted living in the state of Florida. In addition, I provide descriptive results for facilities and resident characteristics. In the third chapter I focus on the methodology for the study. In Chapter 4, I report on the predictors of resident mental health in assisted living. In the fifth, and final, chapter I summarize and discuss results, addressing the theoretical and policy implications, and directions for future research.

CHAPTER 1

AGING AND MENTAL HEALTH: PREDICTORS OF WELL-BEING OVER THE LIFECOURSE

Examining the Variation in Mental Health over the Lifecourse

Researchers have examined the relationship between various sociodemographic predictors and mental health at great length. Adults' changing social and physical status over the lifecourse can negatively impact their mental health and well-being. In general, findings consistently show that older cohorts are at greater risk for mental distress than younger groups (Haug, Belgrave, and Gratton 1984; Mirowsky and Ross 1989), with rates of depression being highest among the oldest old (adults 80 and older). Women are at greater risk for depression than men, especially women who have been primarily responsible for caregiving and feel a lack of independence (or control) in their lives (Mirowsky 1996; Mirowsky and Ross 1989). Higher rates among these women are partially explained by diminished sense of control or mastery, while individuals with a stronger sense of control (i.e., autonomy) are better equipped to handle many of the difficulties that occur in their lives (Mirowsky and Ross 1989).

In this chapter I review literature addressing the factors, which may explain the variation in elderly residents' mental health. Specifically, I look at age, gender, marital status, education/financial well-being and status/role transitions, such as physical decline in terms of their relationship to mental health. Next, I turn to research that looks at social support, specifically addressing the differences in familial versus friendship support, and how these types of support impact mental health among the elderly. Finally, I examine the role that control plays in the mental health of older adults.

Age and Mental Health

Scholars often examine the relationship between age and mental health (Feinson 1985; House and Robbins 1983; Mirowsky 1996; Mirowsky and Ross 1992; 1989; Newmann 1989). Evidence supports the claim that the relationship between age and depression presents in a curvilinear pattern (or U-shaped distribution) (Mirowksy and Ross 1992). That is, symptoms of depression are highest among younger (adolescent/young adults) and older age groups (aged 80

and above), but lowest among middle age groups (aged 45). Researchers note that variation in mental health in terms of age is often explained by life course transitions, such as marital losses (i.e., divorce, widowhood), retirement/loss of employment, financial hardships, physical dysfunction and a lack of control/mastery (Bosse, et al. 1987; Mirowsky 1996; Mirowsky and Ross 1992; Mirowsky and Ross 1989; Turner and Noh 1988).

Alternately, other scholars examining the age-depression relationship contest the evidence supporting the curvilinear relationship, and instead find a direct contrast to the pattern with the highest rates for depressive symptomalogy in middle age groups, lower rates in the youngest groups and the lowest rates among the older population (Ulhenhuth, Balter, Mellinger, Cisin and Clinthorne 1983). According to Newmann (1989) the discrepancy in the findings are a result of poor measurement of the outcome variable, depression. She notes that few studies have used measurements for depression with elderly populations in mind. Many researchers conducting studies use the same standard measure of depression, which perhaps may not appropriately assess the onset of depression among older age groups. Newmann asserts that the standard measure may erroneously result in higher rates of depressive symptoms for older cohorts because these scales do not address factors that may influence depression specific to older adults groups. Moreover, studies of the age-depression relationship have a limited number of older adults in their sample populations (Newmann 1989), which can lead to difficulty in making significant comparisons between the different age cohorts. In summary, it is important for researchers examining the age-depression relationship to find measures, which expressly control for factors that may affect depressive symptoms among the elderly (such as the Geriatric Depression Scale). In an effort to make results more generalizable, studies should also include larger numbers of older individuals among their study populations.

Gender and Mental Health

Women outnumber men in old age, because they have greater life expectancy. According to the U.S. Census, in 1999, the average life expectancy for women was 79.2, but only 73.6 for men. Researchers also show that women, on average, tend to be more psychologically distressed than men (Mirowsky and Ross 1989), in part because of the differences in life strains (stressors) occurring among men and women throughout their lives (Mirowsky 1996; Newman 1986; Umberson, Wortman, and Kessler 1992). Researchers in the areas of gender and mental health note that the gender gap in depression can be attributed to a

number of factors, such as differences in socialization and work/family stressors. This gender gap, which begins in early years, continues over the lifecourse. In 2002, 16 percent of women 65-69 years of age report depressive symptoms, as compared to only 10 percent of their male counterparts (FIFARS 2004). Among the oldest old (age 80 and older), 22 percent of women report depressive symptoms, as compared to 15 percent of the men in this age range (FIFARS 2004). Noting that the gender difference in depression manifests in early adolescence and continues throughout the lifecourse, Hoeksema, et al. (1999) seek to explain the relationship by studying participants ranging from ages 25 to 75. Findings indicate that the relationship between gender and depressive symptoms is mediated by variables such as chronic strain (e.g., household inequities, childcare inequities, role burden, etc.) and low mastery (i.e., sense of control). Specifically, women report higher levels of chronic strain and lower levels of mastery than men, which significantly accounts for the differences in depression rates. Although this study is innovative in that it has a sample that is ethnically and educationally diverse, as well as a large age range, there is no mention of education or economic effects. Noting these effects may increase our understanding of the socioeconomic factors that contribute to women's increased distress.

Keith (1993) argues that a significant amount of the gender differences in distress among older adults can be explained by a specific stressor, namely women's increased financial difficulty as they age. She finds that older women are more distressed than their male counterparts and that this association is mediated by sense of control, financial difficulties, and marital status. Because older women tend to be exposed to more financial strain than older men as a result of widowhood, lack of Social Security, or pension benefits (for unmarried women), they are more distressed.

Countering the notion that women are more depressed than men, Newmann (1986) examines four different types of life strains, which may be experienced differently by men and women – absence of a spouse, deprivation of living companions, financial hardships, and chronic health problems. Using data collected from patients of the Marshfield Clinic in central Wisconsin (n=1026), she finds that although the women in this sample have greater exposure to these sources of hardship, they do not appear to have significantly higher depressive levels than the men. So, it may not be the case that men and women are so different in terms of actually being depressed. The gender gap in depression may reflect how men and women exhibit their

depression. According to Chevron, et al. (1978), women exhibit more depressive symptoms associated with dependence, while men experience more depressive symptoms associated with self-criticism. Moreover, Miller and Eisenberg (1988), note that males externalize their problems. This externalization can be seen in aggressive types of behavior such as drinking and substance abuse. By contrast, women internalize problems, which results in anxiety.

The amount of power over decisions made in the private sphere may contribute to the gender gap in depression. Rosenfield, Vertefuille, and McAlpine (2000) argue that gender/power differentials in the home create gender differences in how women and men view themselves and their social relationships, that is, how women and men make sense of the world and their place in it. According to Rosenfield, et al., (2000) women often have primary family caregiving responsibilities, regardless if they work or not. In addition, the authors assert that: "Individuals' levels of mastery and of self-esteem constitute critical assumptions about the self" (209). According to researchers, mastery, or personal control, has a positive influence on mental health (Mirowsky and Ross 1989; Ross and Mirowsky 2002), as well as self-concept (Pearlin et al. 1981). Specifically, the nature of our relationships to others (highly individualistic or highly connected) influences how we make sense of the world. The authors report that because men more often work in the public sphere and have greater power and autonomy than women, they tend to see the world in terms of their own privilege and thus experience greater self-esteem.

Does this gender gap in depression widen with age? Using three surveys (two of them using nationally representative samples): U.S. Survey of Work, Family, and Well-Being (1990), Illinois Survey of Well-Being (1985) and National Survey of Families and Households (1988-89), Mirowsky (1996) examines whether the gender gap in depression increases as men and women begin to experience unequal gender statuses in adulthood. He finds that the gender gap in depression does increase among middle age adults, in part because of the strains associated with power differentials involved in work-family roles (e.g., marriage, parenthood, and employment). Moreover, this increase, which continues to grow in successively older groups (until retirement), is consistent in all three samples.

These studies reflect a growing interest in the mental health of women. Many studies find that as women age, they have lower well-being than men, in part, because men and women experience the social world differently. However, some studies find no significant gender differences in mental health. The previous studies explore the gendered nature of the life course

and its relation to mental health. What lasting effect(s) does this widening gender gap in mental health have for women as they age? Statistical evidence also shows that women live an average of 6 years longer and continue to report higher rates of depression than men over their lives; therefore, it is important to look at the relationship between gender and mental health over the lifecourse.

Physical Impairment

Researchers note that physical impairment is often associated with higher rates of depression in older adults. However, evidence in this area provides contradictory results. Some scholars find no significant difference in the distress rates of those with disabilities compared with the non-disabled. Schultz and Decker (1985) have examined 100 spinal cord injured persons (aged 40 to 73; mean age of 56), and non-injured persons in the population of the same age range to assess how these individuals adjust to being disabled. The disabled participants in this study report only slightly lower well-being than their able-bodied counterparts. Social support and sense of control act as moderators of this relationship. That is, those disabled persons who feel that they have a strong social support network and greater sense of control report greater levels of well-being. This study, unlike many others examining mental health and physical disability, finds a weaker relationship between the two variables. However, there are limitations that should be noted, such as the lack of heterogeneity in the sample (participants were all white and 90% were men). As noted above, women and minorities, on average, have higher rates of psychological distress (depression) than white men (Mirowsky and Ross 1989), so the fact that gender and race are not addressed is problematic for the generalization of results and may be one reason that the findings only show a slight difference in the reporting of well-being between the groups.

The majority of studies find that disabled people are significantly more distressed than their non-disabled counterparts (Turner and Turner 2004; Turner and Beiser 1990; Turner and Noh 1988; West and Evans 1986). Turner and Noh (1988) examine the relationship between physical disability and risk for depression among young/early maturity adults (aged 18-44), middle age/full maturity adults (aged 45-64), and retirement aged adults (65 and older). Their sample consists of 967 residents in southwestern Ontario, Canada, all reporting some form of physical disability. The mean age of the sample is 55.98, and subjects ages 65 and over are well represented in the analyses. Their findings indicate a positive relationship between physical

disability and risk of depression. Moreover, the risk of depression among the physically disabled is exacerbated by the amount of pain experienced and the extent to which the individual is functionally limited. Although this study is limited in its generalizability because of its regional sample, it provides useful baseline evidence that the risk of depression is heightened among those who experience more painful discomfort and functional limitations. This is a key finding upon which numerous subsequent studies of physical disability and mental health have been built. For example, Turner and Turner (2004) examine the effect of unemployment on the mental health of persons with physical disabilities versus individuals within the general population who have no physical impairment. Their sample consists of 556 physically disabled persons (within the community) and 460 non-disabled individuals (mean age of participants was 56 years old). They find that persons with disabilities are more likely to express depressive symptoms than the non-disabled. Findings also indicate that being unemployed may help to explain the relationship between physical disability and depression. Unemployment accounts for close to 30% of the increased amounts of depression experienced by those with physical limitations. Thus, being physically limited is not necessarily what causes depression; additional factors may also present a heightened depressive affect in the physically disabled.

Attempting to provide more detail on this issue, Patrick et al. (2004) examine the effect of depression on functional ability in elderly Medicaid recipients in rural areas of West Virginia. The sample consists of 221 elderly citizens (mean age 75.86), who receive long-term care services through Medicaid. Depression is assessed by a single-item indicator, which asked participants, "Do you feel depressed?" Consistent with previous research (Penninx et al. 2000), the researchers find a direct and significant relationship between functional disability (as measured by ability to perform physical and cognitive IADLs reported by the participants) and depression. Increased levels of depression are found in those individuals who have greater functional disability. Specifically, respondents who report high levels of depressed affect also have high levels of physical and cognitive IADL disability. One limitation to note is the use of a single item indicator to measure depressive affect. However, according to the authors, other researchers (Hybels et al. 2001) have shown "good specificity and discrimination" in the use of a universal (single item) measure of depression in examining elderly participants. This study adds to the knowledge of physical impairment and mental health in that it shows the importance of examining this topic from the perspective of a community that is infrequently considered.

Lower-income individuals who receive long-term care services are an important population to study as we examine aging and mental health.

Researchers have found another factor shown to increase depression among the disabled. Schieman and Turner (1998) examine the relationship between age and mastery, specifically taking into account the role of physical functioning. They find older adults and the disabled report lower levels of mastery. This may be due to the fact that those disabled participants in the sample are less likely to be married and employed, and have lower income than their non-disabled counterparts. The authors argue that the lack of cherished social roles (e.g., being married, working, etc.) can have a negative effect on the sense of personal control, which can in turn produce an increase in levels of depression.

In sum, researchers have provided evidence for the importance of examining the significance of physical disabilities on the relationship between aging and mental health. As individuals age, they can expect to have diminished physical functioning. But, evidence on how significant of a role disability plays in the mental health of residents in long-term care communities is still relatively unknown.

Marital Status

Researchers have consistently shown married adults' lower rates of mortality, morbidity, and psychological distress as compared to the widowed, divorced, and never married (Mirowsky and Ross 1989; Waldron, Hughes, and Brooks 1996). Some explanations for the psychological advantage experienced by the married include their lower risk of social isolation and higher levels of social support and economic resources (Hughes and Gove 1981; Shanas 1979). Research on marital status and health often places married individuals at the center of focus, and treats all single people as a homogeneous group (Cotten 1999). However, for older singles it is important to examine variation among single-types as they may have developed supportive social relationships that do not involve marriage, which may be advantageous for mental health.

Marital Transitions: Singlehood Among Older Adults. We know very little about the mental health of the never married (Davies 1995). In studies examining variation within the unmarried population, much of the focus has been on the widowed and divorced, who fare worse psychologically than do the never married (Johnson and Booth 1998; Lopata 1981). However, there may be variation in the mental health effects of being never married. As previously mentioned, older singles may have developed supportive social relationships that do not involve

marriage; therefore, the mental health disadvantage of being never married may weaken with age.

Evidence suggests that age-related differences among the never married may vary by gender. In a study comparing never married men and women, Himmelfarb (1984) finds that men report higher rates of depression and anxiety than women. However, older African American women place less emphasis on being married and having romantic involvement than their male counterparts (Tucker and Taylor 1989). Therefore, supportive relationships not involving marriage may provide mental health benefits for older women, but not men.

Widowhood continues to be one of the most significant role transitions and stressful life events among the elderly, resulting in negative mental (emotional), as well as physical, health outcomes. More than half of all individuals 65 and older have experienced the death of their spouse (Kinsella and Taeuber 1993). Widowhood is disproportionately experienced by women. Currently, close to one-half of all women 65 and older are widowed (U.S. Bureau of the Census 2001). Balkwell (1981) reports that 75% of American wives can expect to become widowed at some point over the life course. In fact, as women age, they are less likely to be married (Easterlin 1996; George 1996) and more likely to be widowed than their male counterparts (Moen 2001).

Researchers have shown that when men do experience the death of a partner they are more vulnerable to depression, due in part to the different types of life strains experienced by men and women (Umberson, Wortman, and Kessler 1992). According to Stroebe and Stroebe (1983), men suffer more negative health effects than women, being particularly vulnerable the first 6-12 months after the death of a spouse. Chen, et al. (1999) examine gender differences in health as related to bereavement and find that widows (aged 40-80) experiencing psychological complications (i.e., traumatic grief) after the loss of a spouse are at greater risk for being diagnosed with cancer or having a heart attack. The importance of widowhood can be seen through its ability to negatively impact both mental and physical health for men and women. Therefore, it is an important predictor for well-being, especially among the elderly as this population is more likely to be widowed than other cohorts.

Researchers have also shown that depression is an ordinary response within the first two years of an individual becoming widowed (Glick, Weiss, and Parkes 1974; Parkes and Weiss 1983). Researchers examining widows have shown that in the first years following the loss of a

spouse about 15-30% are diagnosed as clinically depressed (Stroebe, Stroebe, and Hansson 1993; Zisook and Schucter 1991). It may also be the case that the quality of marriage impacts the mental health of a survivor after the death of a spouse. Using data from the Changing Lives of Older Couples (CLOC), Carr et al. (2000) examine whether warmth, conflict and instrumental dependence affected psychological adjustment to widowhood. They find that widows who are more dependent on spouses prior to spousal death report higher anxiety, in comparison to those who are not as dependent. In addition, individuals who report high levels of marital closeness are more likely to yearn for their spouses. Conversely, those reporting more conflict in the marriage report lower levels of yearning than those in close marriages. Moreover, women who receive more instrumental support from their husbands (such as help with home maintenance, minor repairs, financial decisions, general housework, etc.) yearn more for their deceased husbands, than do men who depend on their wives for the same support.

Some researchers have shown that remarrying after widowhood may prove beneficial to psychological functioning. Using data obtained from the Women's Health Initiative, Wilcox et al. (2003) examine the association of widowhood and physical/mental health in women (aged 50-79). They find that older women who were widowed in the past year are more prone to depressed mood and poorer overall mental health (increased rate of depressive symptoms), as well as poorer social functioning than those who have been widowed for longer periods of time. Although those women who have been widowed for longer periods of time improve in rates of social functioning and mental health, they do not experience any change in depressive symptoms. However, women who remarry experience an increase in rates of social functioning and better mental health, in addition to a reduction in rates of depressive symptomology.

Depression tends to be the normal response following the loss of a spouse; however, it may not be the actual state of widowhood that creates psychological discomfort, but rather the number of marital losses (i.e., how many times an individual has experienced the end of a union), or type of marital loss (e.g., divorce, widowhood) that lead to negative mental health (Barrett 2000). Researchers examining reduced depressive symptomology among divorced populations have reported that the negative effect of divorce on distress/depression is lessened when the individual views the dissolution of the relationship as an opportunity to get away from a bad situation as compared to a loss (Green 1983; Wheaton 1990). Moreover, the amount of time one has been widowed (or divorced) may perhaps be more important than number or type of marital

transitions.

Educational Attainment

The relationship between education and psychological well-being has been well documented in the mental health literature (Lennon and Rosenfield 1992; Mirowsky and Ross 1989; Pearlin, et al. 1981). A significant amount of research in this area reveals a positive association between these variables -- individuals with more education are likely to have better mental health than their less educated counterparts (Mirowksy and Ross 1989; Ross and Wu 1996). Specifically, individuals who are more educated tend to have greater access to resources, which are beneficial to mental health (Lennon and Rosenfield 1992; Ross and Wu 1996).

In many studies education is used to help explain the relationship between well-being and some other study variable. However, Ross and Van Willigen (1997) focus on the direct relationship between education and well being, using work, economic resources, marital status, sense of control, and social support as the mechanisms through which education is able to provide better health. The authors use the Work, Family, and Well-Being survey (WFW), as well as the Aging, Status, and the Sense of Control (ASOC) survey. They find that well educated participants earn more, are more likely than to work for pay in non alienating work, have a greater sense of control, are more likely to be married and have greater social support than their less educated counterparts. However, findings show that marriage and social support explain little of the relationship between education and distress (used in this study as a proxy for subjective quality of life and defined by respondents' self-reported depression, anxiety, anger, malaise, and physical aches and pains).

These studies are useful in that they provide more information regarding the direct and indirect effects of education on health. However, there are notable limitations of the datasets used. Although the Health Practices dataset has excellent measures of healthy lifestyle and living and is longitudinal, it is limited by age range (survey participants included only up to age 64); therefore, the authors cannot report on trends for older individuals (65 and older). The WFW and ASOC datasets have larger age ranges (18-90 and 18-95, respectfully), however they are both cross-sectional so the authors can make no determination of causality.

Financial Well-Being

Researchers theorize that not only does advanced education provide individuals the knowledge, skills, and abilities to perform tasks associated with greater fiscal opportunity, but

that it also instills a greater sense of control and stronger coping abilities (Ross and Van Willigen 1997), which is associated with better mental health. Educational attainment shapes employment opportunities and income, which, in turn, affects financial well-being (Ross and Wu 1996). Evidence shows that it is not being financially unstable that causes psychological distress, but how an individual copes with the loss of income (Mirowsky and Ross 2001). Mirowsky and Ross (2001) examine whether the relationship between economic hardship and mental health relationship is age related. They report that: "Economic hardship declines with age, so older people have good reason to be confident about their ability to overcome it … As people age they should be increasingly able to handle life strains such as economic hardship …" (147). The older age groups in this study have lower rates of psychological distress than younger participants, possibly because the older adults have learned coping mechanisms, which may help to offset the negativity associated with financial distress. Mirowsky and Ross also find that depression associated with financial difficulty lessens with age if there are no structural constraints present (e.g., low income, functional disability, or chronic disease).

The importance of coping mechanisms has been further examined in the literature. Krause (1987) has examined the effects of financial strain on psychological well-being in older adults (age 65 and older). Findings show that older adults who feel that they have some control over their financial situation (i.e., internal locus of control) have better mental health than older adults who feel that what happens in their lives is largely a result of some outside source (i.e., external locus of control beliefs). Although it has been confirmed that a lack of economic resources puts individuals at greater risk for depression, it may also be the case that coping resources, such as perceiving that one has control over their finances, may in fact positively influence mental health.

Social Support

As individuals age, they have a protective layer (or convoy) of family and friends that follow them over the life course. The convoy model, as reported by Antonucci and Akiyama (1995), holds that: "individuals move through their lifetimes surrounded by people who are close and important to them and who have a critical influence on their life and well-being" (356). The protective nature of these relationships can moderate the negative effects of psychological distress, which tends to increase in old age. Antonucci and Akiyama (1995) use the convoy model of social relations to explain the developmental nature of social support systems and the

impact that these relationships have on how one experiences old age.

Definition of Social Support. Social support is not simply the number of social relationships in which a person is involved, but also involves the quality and type of relationship between individuals. According to Quadagno (2005) social support is defined as:

> … the networks of relatives, friends, and organizations that provides both emotional support, such as making the individual feel loved or comforted, and instrumental support, which refers to help in managing activities of daily living … Often researchers make a distinction between the quality of support as measured by an individual's satisfaction with his or her relationships and the quantity, or number, of relationships the individual reports (178).

Much of the social support research defines social support as both the emotional support and/or physical, hands-on assistance (Cohen and Syme 1985). Other researchers (Antonucci, Fuhrer, and Dartigues 1997) have qualified the concept of social support, defining it not only in terms of the function(s) that it provides but also including the individuals' reported feelings regarding support.

To address the importance of individual feelings regarding social support, Antonucci, Akiyama, and Lansford (1998) examine the effects of social relationships on well-being (defined as happiness) in older adults, aged 50-95. Well-being was measured by a single item indicator: "Overall how happy would you say you are these days?" They found that, in general, a negative feeling about one's social network is associated with being less happy. Interestingly, they found that, for women, larger numbers in their social network results in lower rates of happiness. The authors contend that larger networks for women are not necessarily advantageous, as the demands of networks can decrease happiness. On the other hand, although men report lower numbers in their social networks, those men who desire more people in their network on which they can depend report feeling less happy than those who do not.

Familial Support. According to Antonucci and Akiyama (1995) friends, not family, have a more significant and positive effect on the well-being of elders. Friends are an optional type of relationship, and can be terminated upon dissatisfaction. Family, on the other hand, is an obligatory type of relationship. An alternative theory proposes that because family members

provide daily instrumental (information, caregiving -- assistance/aid) as well as emotional support over the life course (Adams and Blieszner 1995; Longino and Lipman 1981), they are better able to offer long-term support (Antonucci and Akiyama 1995). Friends may have an immediate influence on well-being but cannot provide the continuity of support that comes from family members (Antonucci and Akiyama 1995).

Conversely, familial social support may have a negative effect on the health and well-being of the elderly (Silverstein, Chen, and Heller 1996). In the University of Southern California Longitudinal Study of Generations, Silverstein, et al (1996) find positive health and well-being when familial social support (child/elderly parent) is moderate. They also find that too much support results in negative health outcomes.

Antonucci and Akiyama (1995) also note: "social relations are a developmental phenomenon both interindividually and intraindividually" (357). Relationships are both intrinsic and extrinsic in nature. That is, while social relationships between persons develop over time (e.g. parent/child relationships), relations can also be influenced by the internal changes that one experiences over time (e.g., physical/cognitive decline). The thesis that relationships develop and change over time is important to the study of health and the life course in that researchers can trace how past experiences (such as caregiving, or being responsible for family nurturing) influence present health, particularly mental health. For example, because people are living longer, their adult children, especially daughters, more so than sons, are finding themselves responsible for caring for their parents (Moen 2001). The fact that women, as they age, are more likely to be caregivers and are more likely to be burdened by closer network ties than men (Moen 2001) may explain the increase in older adult women's rates of depression.

Support from Friends. Although the support individuals receive from family has been documented as a long-term type of support, scholars have consistently found that support from friends can be of significant health benefit for elderly individuals. According to Dean, Kolody and Wood (1990) support from family (namely children) is a stronger predictor of distress among the elderly than support from friends. That is, support from friends is less likely to influence negative mental health outcomes than support from children. Research indicates that the elderly are more likely to list friends, not family, as the people they enjoy interacting with recreationally (Antonucci and Akiyama 1995). In fact, friendship support is a better predictor of well-being for the elderly than familial support (Lee and Ellithorpe 1982).

To illustrate the importance of friendship support on the mental health status of the elderly, Matt and Dean (1993) sample non-institutionalized older adults (age 50 and over) in New York. The authors find that in comparison to the young-old (age 50 to 70), the old-old (age 71 and older) men who receive less friendship support are more likely to experience psychological distress. These findings support the argument that friend support becomes more important for mental health as individuals age.

Similarly, Blau (1973) finds that familial relationships are not sufficient to counteract the negative outcomes relating to role exits, such as widowhood and retirement, but that friendship networks are important in sustaining morale in elderly individuals. Moreover, older adults who find new friends later in life have higher morale and greater feelings of social integration than those who do not. Support from friends is especially important after the recent death of a spouse. Using the Survey of the Low-Income Aged and Disabled (SLIAD), Ferraro, Mutran, and Barresi (1984) examine the effect of widowhood on friendship support. Findings indicate that individuals widowed for shorter amounts of time (1-4 years) are more likely to increase their friendship involvements than those widowed for more than 4 years.

Overall, research suggests that friendships produce greater satisfaction because they are based on both individuals being mutually willing (Blau 1973). Because they are not mandatory, when friendships do become stressful they can be terminated, perhaps producing less stress. By contrast, familial ties can be more stressful because they are not voluntary in nature. However, research shows that it is not necessarily the type of relationship (friendship or familial) that is important, but how the individual feels about that relationship. This suggests that measuring feelings about the relationship (i.e., quality) is as important in studies of social support as quantifying relationships.

Control

Adjusting to a new setting can be risky to the health and well-being of elders (Carp 1974; Hays 2002). Researchers have shown that relocating can be one of the most stressful life events one experiences (Watson 1980). When an individual relocates, there may be ensuing health problems and an increase in mortality, in addition to maladjustment. Therefore, in order to offset the potential negative consequences of relocation it is important that individuals utilize various coping mechanisms. For example, Watson (1980) has examined the effects of forced relocation on stress among poor, inner city black elderly from Philadelphia. When black inner city housing

residents are forced to move into other housing situations, some into predominantly white institutions, coping mechanisms such as high religiosity, high self-reported economic status, desire to socially integrate with others in the community, high self-reported physical ability, greater cognitive ability, and strong social support networks with friends and family provide for positive adjustment.

Another useful coping mechanism is control. The ability of elders to control when and where to move, in addition to having some control over their new environment, is important to the adjustment process. Drozdick (2003) has compared assisted living residents with community dwelling elders over a three-month period after moving. Contrary to expectations, among assisted living residents there is no decline in functional health over the course of the three month study, although AL residents report having lower rates of life satisfaction and desired control in their new environment than their community dwelling counterparts. This study emphasizes the importance of resident control in the relocation process as the decision to move (decisional control variable) is negatively related to depression, and control within the environment (actual environmental control variable) is also negatively related to depression, negative affect, and anxiety.

Again, forced relocation is especially stressful and can cause physical and mental impairment (Staveley 1997). Many studies find that patients begin to show a decline in mental health and physical health after being required to move to a new environment (Carp 1974; Hays 2002). However, a voluntary move is less likely to produce negative outcomes, and, in fact, may moderate negative health for relocating elders (Lawton 1975). In a study of 25 nursing home residents in the Midwestern United States, Alves (2003) documents the positive relationship between sense of control and adjustment. Residents with a greater sense of control over their environment are more engaged and better adjusted than those residents with low sense of control.

Summary

Researchers have examined the relationship between aging and mental health extensively. Debates persist regarding the consensus that older cohorts are at greater risk for poor mental health than middle-aged (younger) groups. There are many factors that can alter this outcome, including gender, marital status, physical health status, education, financial well being, social support, and control. The literature reviewed in his chapter indicates that chronic life

stressors (such as financial hardship and physical illness) can have a deleterious effect on mental health, especially for older adults who tend to experience more chronic stressors than younger adults (Pearlin, et al. 1981). So it may be the case that the way older people cope with their difficulties affects their mental health, but these coping mechanisms are only helpful when there are no other structural constraints in their lives. These studies also reveal the wealth of research dealing with role loss, transitioning and mental health.

It is important that research in the areas of aging and mental health continue examining these issues and build upon the knowledge base by incorporating more heterogeneity in the populations of interest. For example, in the areas of aging and mental health, little research has been done on residents in long term care settings, particularly assisted living. More research is necessary to provide a clearer picture of this population. Therefore, my research will focus on the factors that affect the mental health of residents in assisted living. Because this is a relatively new housing arrangement, it is important that research in this area consider factors (e.g., gender, personal control/mastery, social support, physical disability, financial well being, marital status, education) that may help to explain variation in elderly residents' responses to living in assisted living in terms of mental health.

CHAPTER 2

ENVIRONMENTAL INFLUENCE ON RESIDENT MENTAL HEALTH

What is Assisted Living?

There is no universal definition of assisted living in the United States. Since its inception in the 1980s, individual states have had the authority to define assisted living (AL) as they see fit incorporating skilled nursing services while emphasizing the privacy, independence, and autonomy of the consumers (Kane and Wilson 1993). In this chapter I review the assisted living literature, discussing its philosophy, organizational structure in the state of Florida, and its potential influence on the mental health of elderly residents. This review will offer more insight into the assisted living industry, providing organizational factors that may help explain the variation in resident mental health (i.e., depression and quality of life).

Founded in 1991, the Assisted Living Federation of America (ALFA) is an organization that supports the AL industry, and works to improve resident satisfaction. The organization defines assisted living as "a residential setting that offers choices in personal care and health related services." The AL philosophy consists of 10 points, which set assisted living apart from the more institutionalized long-term care settings (ALFA 2003; Utz 2003):

1. Offering cost-effective quality care that is personalized for individual needs;
2. Fostering independence for each resident;
3. Treating each resident with dignity and respect;
4. Promoting the individuality of each resident;
5. Allowing each resident choice of care and lifestyle;
6. Protecting each resident's right to privacy;
7. Nurturing the spirit of each resident;
8. Involving family and friends, as appropriate, in care planning and implementation;
9. Providing a safe, residential environment; and
10. Making the assisted living residence a valuable community asset.

Although the 10-point philosophical structure has assisted many providers with governing premises, it is up to the individual facilities as to how they will carry out these theories in practice (Utz 2003). Over the last ten years, two types of assisted living categories have

advanced: (1) Senior housing with Non-Health Care Service; and, (2) Senior Housing with Health Care Services (ALFA 1999). The first model is primarily directed at providing housing for cognitively and physically intact persons. This model provides little, if any, assistance with activities of daily living (ADLs) and does not accommodate residents with impairments. In many areas, these are called independent living arrangements. The second model provides assistance with ADLs and IADLs (instrumental activities of daily living), in addition to providing housing for the elderly. The second model is more consistent with the philosophical premise of assisted living: aging in place in a homelike environment (Chapin and Dobbs-Kepper 2001; Frank 2002).

Effect of Living Environment on Mental Health Outcomes

Psychological Well-Being. According to Lawton and Nahemow (1973), person/environment factors can be important predictors in elderly depression. Lawton's theory of "environmental docility" suggests that as people age, their competence declines (Lawton and Simon 1968). However, this decline in competence may be associated with the environment and may not necessarily be a personal characteristic (Lawton and Nahemow 1973). This theoretical model has influenced the creation of resident/consumer-centered housing arrangements (e.g., assisted living), incorporating aspects designed to improve the social psychological as well as the physical well being of residents.

Evidence of environmental influence on mental health and well-being has been well documented in the literature (Lawton 1981). However, little is known about the influence of the assisted living environment on resident mental health. Assisted living facilities (ALFs) are presented as home-like communities, however many of the comforts of home are missing (Mahoney 2002). According to Mahoney (2002) a home should serve as a place where an individual essentially has a sense of identity. Specifically, home is an environment that incorporates what an individual deems significant – familiarity, social networks, "the site of important and memorable life events" (Fogel 1992: 15-16). Although there has been little examination into how residents "reach at homeness in assisted living" (Cutchin, Owen and Chang 2003: S235), perceiving a new residence as home is a good indication that an individual has successfully transitioned (Cutchin, Owen and Chang 2003) which may in turn provide for better mental health.

The concept of aging in place is also a key component of the AL philosophy (Ball, et al. 2004; Frank 2002). However, there has been little examination into the concept, except as an

outcome variable, with most studies addressing factors contributing to resident ability to age in place (Ball, et al. 2004). Although evidence contributing to an understanding of aging in place as a predictor of mental health is relatively non-existent, the relation of the concept to relocation, which evidence has shown is related to physical and mental impairment (Staveley 1997), has been addressed in the literature (Frank 2002).

While aging in place and a home-like environment are considered by some researchers to be the most important aspects of assisted living (Chapin and Dobbs-Kepper 2001), others believe that an assisted living model of care must also incorporate dignity, privacy, individuality, independence, and choice (ALFA 2003; Mollica 1998; Wilson 1990). According to ALFA (2003), the AL industry should "foster independence" of its residents. In residential housing settings, such as assisted living, evidence shows that residents prefer to care for themselves despite their level of disability and that a lack of dependence on others is associated with greater quality of life (Ball et al. 2000; Mitchell and Kemp 2000). This suggests that feelings of independence may have protective health benefits for individuals in long term care. In addition to the industry's encouragement of independence, AL should also "protect each resident's right to privacy" (ALFA 2003). According to Shils (1966):

> The idea of privacy is a vague one and difficult to get into a right perspective … Privacy is a "zero-relationship" between two persons or two groups or between a group and a person. It is a "zero relationship" in the sense that it is constituted by the absence of interaction or communication or perception within contexts in which such interaction, communication or perception is practicable – i.e., within a common ecological situation, such as that arising from spatial congruity or membership in a single collectivity such as a family, a working group, and ultimately a whole society (1).

The vagueness of the privacy concept leaves it open for subjective interpretation, and as such leaves its impact upon other variables up for subjective interpretation as well. Little research has been conducted on the direct relationship between privacy and outcomes, such as mental health. However, social withdrawal (also considered an "absence of interaction") has been linked to depression among residents in assisted living (Watson, et al. 2003). Therefore, it might be the case that more privacy, or increased social withdrawal, may perhaps negatively impact mental

health.

These guiding principles (e.g., aging in place, homelike environment, independence, privacy, and control) are considered some of the basic components of an assisted living philosophy (ALFA 2003; Mollica 1998). Although assisted living has been touted as a consumer-and market-driven industry (Carder 2002; Carder and Hernandez 2004), more extensive research is needed in order to understand how environment might affect the psychological well-being and quality of life of the resident.

Cummings (2002) has examined factors that predict depression among assisted living residents. Her study consists of residents from a corporately owned assisted living facility in the southeastern region of the United States. All facility residents are included in the study, except those who are identified as having cognitive impairment. She finds that female residents have higher rates of depression than males and score lower on life satisfaction. Functional impairment is also associated with depression, as is socialization. Additionally, a lack of perceived social support and participation in social activities are associated with negative mental health.

Watson, Garrett, Sloane, Baldini, and Zimmerman (2003) examine the prevalence of depression and depressive symptoms in assisted living. Their study is comprised of 2,078 residents (age 65 and older) in AL facilities across Florida, Maryland, New Jersey, and North Carolina. Using the Cornell Scale for Depression in Dementia (CSDD), the authors find that depression is fairly common across the groups surveyed (13 percent were depressed and approximately 25 percent showed some symptoms of depression), and often goes untreated. In addition, depression among the residents is associated with social withdrawal.

Emphasizing the importance of social relationships in residential housing arrangements, Namazi, Eckert, Kahana, and Lyon (1989) examine 177 facility operators and 285 residents in Ohio. The authors find that comfort with the environment (i.e., interaction with other residents) has a strong influence on resident well-being. This finding is consistent with other research documenting the benefits of social interaction for mental health (Dean, Kolody and Wood 1990; Lee and Ellithorpe 1982; Mirowsky and Ross 1989), and adjustment (Perkinson 1980, 1995; Ross 1977).

This topic has also been examined in similar environments internationally. For example, Eisses, et al. (2004) examine factors, which indicate depression among individuals in residential homes in The Netherlands. The authors note that residential homes in The Netherlands are the

equivalent to AL facilities in the United States. They provide "daily and, if needed, uncomplicated medical care to infirm elderly 65" (635). Using the Geriatric Depression Scale, they find that loneliness, functional impairment, higher educational levels and neuroticism increases the residents' chances for depression.

Quality of Life. Studies of quality of life experiences indicate it affects the mental health of seniors, in distinct ways (Compton 1989; Gutheil 1991). In a study of 55 residents in 17 assisted living communities in Georgia, Ball, et al. (2000) identify 14 domains, which they believe are distinctive markers of residents' quality of life in assisted living. One of the most significant domains found is psychological well-being, which the authors view as a distinct concept, not identical to quality of life. Concurring with Lawton (1991), they view psychological well-being as an outcome measure and note Lawton's definition of the concept as "the weighted evaluated level of the person's competence and perceived quality in all domains of contemporary life" (Lawton 1991: 11). This study provides further evidence that the concepts of psychological well-being and quality of life, while having similar dimensions, are not the same concept. However, size limitations of the study make it difficult to discern validity. Because they have a small sample, the results may not be generalizable or representative of the assisted living population as a whole. More research in this area using a larger data set may provide further insight into whether the quality of life and psychological well-being concepts should be examined as separate dimensions of mental health or as one measure.

Mitchell and Kemp (2000) examine the impact of health status, social activity, facility characteristics, and social climate on the quality of life of assisted living residents in California (N=201). In order to assess resident quality of life, the authors use three indicators: the Life Satisfaction Index A, the Older Adult Health and Mood Questionnaire, and resident satisfaction with the facility. Residents with fewer health conditions report greater quality of life. It may be the case that healthy residents are able to participate in more social activities than those who have health restraints. Results also show that being socially embedded produces high quality of life scores – that is, residents who report more participation in social activities and more social interaction with family have a better quality of life than those who do not. The authors speculate that it is the social aspect of the residents' lives that contributes most to greater quality of life and lower depression.

Although some research finds that quality of life and psychological well-being possess

similar domains (Ball, et al. 2000), there is a lack of consistency in how quality of life is measured. As Arnold (1991) notes: "… there is no absolute theoretical model of what constitutes quality of life, measures must approximate our understanding of the elements of a very abstract concept." Because quality of life is multidimensional, it is left to the discretion of the researcher as to the appropriate way to define the concept (Mitchell and Kemp 2000). However vague the theoretical basis for defining quality of life, researchers examining this concept have consistently chosen to construct it using concepts related to life satisfaction, such as cognitive functioning, autonomy, and control over life situations, especially for those examining older populations (Kane, et al. 2004; Mitchell and Kemp 2000).

Organizational Structure and Policies Influencing Resident Satisfaction/Health

Many studies of long-term care have identified the importance of environment to resident satisfaction (Chou, et al. 2003; Sikorska 1999) and health outcomes (Brandi, et al. 2004; Lawton 1981; Pruchno and Rose 2000). Pruchno and Rose (2000) have compared health of elders in nursing homes with residents of assisted living facilities in a suburban area of Cleveland, Ohio. The assisted living facility and nursing home structure are located within one block and employ the same executive director and board of directors. Findings reveal that the type of facility (i.e, nursing home or AL) does not influence rates of mortality, cognitive or functional ability, depression, or self rated health. Rather, health is similar in both environments, although each environment has a different philosophical premise. The philosophy of care in the assisted living environment emphasizes residents being independent and retaining dignity, while the philosophy of the nursing home focuses on quality of life, but does not promote independence. Some limitations are noted, such as the lack of heterogeneity in the sample (only Jewish and white residents). Further, because both of the facilities were part of a larger organization, the philosophies of the environments may have been more similar than was admitted.

To examine the effect of environment on resident quality of life, Brandi, et al. (2004), have conducted a longitudinal study of 42 residents in long term care settings. Results show that residents report less anxiety and depression after moving into assisted living, than when they lived in the nursing home environment. The researchers note that this change in environmental settings provides for more emotional well-being, which they theorize may make the residents more inclined to enjoy their surroundings. In addition, residents report greater satisfaction with their ability to make choices (including daily activities, care, assistance and telephone usage).

Maintaining independence/control is one of the philosophical tenets of the AL industry. Therefore, not only does this study reveal the importance of environment-type for emotional well-being of residents, it also suggests that aspects of the assisted living organizational philosophy can enhance resident satisfaction and well-being.

In addition to social predictors of well-being in long term care settings, Namazi, et al. (1989) have examined environmental factors that might impact the psychological well-being of residents in board and care homes in Ohio. The authors find that availability of special diets are positively related to resident psychological well-being, but the cost of care is negatively related to the well-being of residents. These results reveal the importance of resident-centered research focused on specific policies and practices in the growing field of long term care.

Past studies have examined the influence of organizational characteristics on resident satisfaction with their environment (Namazi et al. 1989). Current studies of the topic continue to build upon these studies by identifying additional factors that may also play a role in resident satisfaction. Chou, et al. (2003) report some of the facility characteristics that impact resident satisfaction outcomes in hostels and nursing homes. They find that facility size (i.e., large) and age of the facility (i.e., older) are negatively associated with resident satisfaction in both environments studied. However, residing in a metropolitan area is negatively associated with residents' satisfaction in hostels, but not in nursing homes.

Sikorska (1999) has examined assisted living residents in Maryland to determine which organizational factors influenced resident satisfaction within this setting. She finds that residents who are happier, less functionally impaired, less educated, and those with less decisional control over the move into assisted living are more satisfied with their living environment. After controlling for these resident characteristics, she also finds that residents living in smaller facilities, facilities with more personal space, non-profit facilities, and facilities offering moderate amenities are more satisfied with assisted living.

Importance of Examining the Relationship Between Organizational Determinants and Resident Well-Being

As the assisted living industry continues to grow, researchers have taken an interest in the residents' perspectives on this living arrangement (Carder and Hernandez 2004; Chapin and Dobbs-Kepper 2001; Frank 2002). Many studies find that residents in long term care facilities have better mental health and better adjustment if they can make decisions (control over

environment), and be involved in social activities (Alves 2003; Drozdick 2003).

The Government Accountability Office (GAO), one of the governmental agencies responsible for providing Congress with information on various topics, has extensively researched the assisted living industry. Specifically, the GAO has provided Congress with in-depth testimony regarding quality of care and consumer protection issues in assisted living. The GAO has found that, because each individual state has the authority to govern the assisted living industry, there is a lack of uniformity in the regulatory process across the states. Assisted living facilities are only mandated to provide residents with housing, meals, activities, limited health care, and some supportive/personal services, such as activities of daily living (ADLs)[1] (Assisted Living Quality Coalition 1998). Because states have various methods by which they regulate assisted living, residents may end up in a facility that cannot meet their care needs. Specifically, the GAO reports that AL varies in services, types of residents, and admittance and discharge policies. Not only is there no uniform discharge system across the country, often residents are not aware of the various reasons that discharge may occur (Frank 2002). Many assisted living communities promote independence of residents (Carder 2002) however, it is left to the discretion of each individual facility whether or not it is willing to care for those who may need additional care.

Research on resident satisfaction has shown that organizational policies can positively and negatively impact satisfaction outcomes (Pruchno and Rose 2000; Sikorska 1999). Therefore, according to the GAO, it is important for AL consumers to make informed decisions based on "sufficient information" provided by the facilities the problem however is that:

> ... many facilities did not provide prospective residents with written information on such key issues as the amount of assistance they could expect to receive with medications, the circumstances under which the cost of services might change, or when they could be required to leave if their health changes (GAO 1999).

Results from a nationally representative survey of assisted living residents reveal that over 30% of elders report some form of dissatisfaction with facilities (e.g., services provided,

1ADLs are supportive services including, but not necessarily limited to: bathing, toileting, transferring, dressing, and eating.

price, etc) as the main reason they left assisted living (Hawes et al. 2003). Moreover, evidence suggests that resident satisfaction is highly correlated with psychological well-being (Sikorska 1999). Unfortunately, little attention has been given to the relationship between declining mental health, and organizational predictors among those residing in these communities.

Assisted Living in Florida

The state of Florida classifies assisted living as:

> Any building or buildings section or distinct part of a building, private home, boarding home, home for the aged, or other residential facility, whether operated for profit or not, which undertakes through its ownership or management to provide housing, meals, and one or more personal services for a period exceeding 24 hours to one or more adults who are not relatives of the owner or administrator (AARP 2004).

Description of Florida AL Regulatory Agency: Purpose and Duties

Assisted living facilities in Florida are regulated by an oversight agency, The Agency for Health Care Administration (AHCA), which also grants licensure to facilities. According to AHCA, the four levels of licensure granted in the state of Florida are: standard, limited nursing service, limited mental health, and extended congregate care.

Standard: A facility licensed to provide housing, meals, and one or more personal care services for a period exceeding 24 hours. Personal care services include direct physical assistance with or supervision of a resident's activities of daily living and the self-administration of medication and similar services. The facility may employ or contract with a person licensed under Chapter 464, F.S., to administer medication and perform other tasks as specified in s. 400.4255. F.S., such as take vital signs, give prepackaged enemas ordered by the physician, observe residents, and document in the resident's record.

Limited Nursing Services: A facility licensed to provide any of the services under a standard license and those services specified in s. 58A-5.0131(1)(a)-(m). Those services include: conducting passive range of motion exercises; applying ice caps or collars; applying heat....; cutting toenails of diabetic residents or residents with a documented circulatory problem if the written approval of the resident's health care provider has been obtained; performing ear and eye irrigations; conducting a urine dipstick test; replacing

established self-maintained in-dwelling catheter or performing intermittent urinary catheterizations; performing digital stool removal therapies; applying and changing routine dressings that do not require packing but are for abrasions, skin tears, and closed surgical wounds; caring for Stage II pressure sores; caring for casts, braces, and splints; conducting nursing assessments if conducted by, or under the direct supervision of, a registered nurse; and for hospice patients, providing any nursing service permitted within the scope of the nurse's license including 24-hour supervision.

Extended Congregate Care: A facility licensed to provide any of the services under a standard license and LNS license including any nursing service permitted within the scope of the nurse's license consistent with ALF residency requirements and the facility's written policy and procedures. A facility with this type of license enables residents to age in place in a residential environment despite mental or physical limitations that might otherwise disqualify them from residency under a standard or LNS license. This definition creates a higher level of care in assisted living, which requires an additional license. Facilities with an ECC license must develop policies which allow residents to age in place and which maximize the independence, dignity, choice, and decision making; specify the personal and supportive services that will be provided; specify the nursing services to be provided; and describe the procedures to ensure that unscheduled service needs are met.

Limited Mental Health: An ALF that is licensed to serve three or more mental health residents. A mental health resident is an individual who receives social security disability income or SSI income due to a mental disorder as defined by the Social Security Administration and receives optional state supplementation. The facility, mental health resident, and case manager must complete a community living support plan that includes the needs of the resident that must be met in order to enable the resident to live in an ALF and the community. The mental health provider and the facility must execute a cooperative agreement with each mental health resident, which provides procedures and directions for accessing emergency and after-hours care.

In addition to the granting of licensure, the state regulatory agency also has the authority to restrict admittance of residents through regulatory policies, such as restrictions for those who have communicable, contagious, or infectious disease (if the individual shows signs or

symptoms), alcohol/drug addiction or mental illness (if individual requires 24-hour licensed professional treatment), excessive medical or nursing care (if individual requires 24-hour nursing care), are bedfast, a danger to self or others, unable to perform supervised ADLs, court appointed incompetence, etc (AARP 2004). Although Florida has strict guidelines as to whom it will allow to be admitted into these residences, it is also strict in its promotion of residents' rights. Each facility in the state of Florida is required to have a resident bill of rights statement, which includes resident freedom of choice, freedom from abuse and restraints, right to privacy, right to present grievances, right to manage his/her own personal finances, etc. (AARP 2004). This bill of rights is required by state law to be posted in an easily detectible location, as well as in the contract that the resident signs (AARP 2004). In addition, the state of Florida requires each facility have a resident council, or some variation thereof, in order to promote resident participation in decision-making and facility activities (AARP 2004).

Rationale for Studying Florida AL Population

Because policies and procedures differ by state, the population of focus in this research project will be assisted living facilities granted licensure by the state of Florida, and elder residents of assisted living facilities in Florida (65 and older). With its high percentage and great ethnic diversity of elderly residents, Florida is considered a "natural laboratory" for the study of assisted living in the United States (Street, Quadagno, Burge, Harris, and Schmidt 2005). From 1990 to 2002, Florida's elderly population increased from 2.37 million to 2.81 million (Street, et al. 2005). In 2000, approximately 18 percent of Florida's population was 65 or older, as compared to slightly over 12.6 percent nationally (U.S. Census 2001). Of the more than 900,000 assisted living units in the United States, over 75,000 units were in the state of Florida alone (Street, et al. 2005; Pepper Institute on Aging and Public Policy 2002). So, although assisted living is a relatively new housing arrangement, it is quickly becoming one of the more favored alternatives for senior housing, especially among the Florida elderly population.

Psychological well-being and quality of life play significant roles in sociological research. It is important for researchers in the areas of medical sociology and aging/life course sociology to be knowledgeable about the factors that influence resident mental health outcomes, especially for the older population. This project provides a resident perspective to understanding mental health, in terms of factors associated with the assisted living philosophy, resident characteristics, social support of family and friends, resident perception of financial well-being,

resident knowledge of facility policies/organizational structure.

CHAPTER 3

DATA AND METHODS

Description of Data

In this chapter, I will use the Florida Assisted Living Study (FALS) (N=475) and the Florida Assisted Living Resident Study (FALRS)[2] (N=580) to identify factors that may explain variation in resident: (1) depression and (2) quality of life. These studies are two of the largest regional studies, to date, of assisted living. Although not used in the statistical analysis portion of the project, the information gained from the FALS provides a context for the resident data and gives the reader basic descriptive information about participating assisted living facilities in the state of Florida.

Description of Survey Instruments. The *Florida Assisted Living Facility Survey* was developed by researchers at Florida State University, Pepper Institute on Aging and Public Policy, under contract with the State of Florida, Agency for Health Care Administration (AHCA) in an effort to gather statewide baseline data on the Florida Assisted Living industry and residents (Street, et al. 2005). Due to the inability to link resident and facility-level data, the facility descriptives reported in the following section are for informational purposes only and will not be used in subsequent analyses.

Facility Profiles

During the years 2003-2005, facility surveys were given to administrators of licensed facilities in Florida resulting in a final sample size of 475. Administrators were asked for information regarding facility policies, staff retention, size of facility, public versus private pay status, profit status, payment sources, types of licensing granted, and level of care provided.

Descriptive statistics are presented here to provide a portrait of the facilities in the state of Florida. Because research shows that facility characteristics/structure impact resident mental health in assisted living (Mitchell and Kemp 2000), it is important to have a general working knowledge of the organizational structure and policies adopted by facilities. Specifically, I focus

2 For the purposes of this dissertation, these data (FALRS) only include information provided by participants 65 and older.

on facility type (size, profit status, chain status, licensure type, private versus public), and facility policy on fees/payment for services.

The majority of facilities that responded are smaller facilities – 11 or fewer beds (40.2%), with large facilities – 40 or more beds -- being the next highest participators (30.9%). About two-thirds of the participating facilities in our sample were from the southern coastal regions of Florida, with 34% being from the southwest coastal region and approximately 31% from the southeast coastal region. Private pay facilities had a response rate of about 57%, while about 43 percent of the publicly funded facilities responded. In fact, the facilities in our sample reported that a large majority of residents pay for room/board and basic services using their own private funds (64% and 54%, respectively).

Conversely, approximately 33% of the residents in the facilities sampled use OSS, SSI, or some other form of public funding to pay for room and board, while only about 27% use Medicaid and 12% use Medicare to pay for basic services in the facility. OSS (Optional State Supplementation) is a subsidy provided by the state government for lower income individuals. In the state of Florida, OSS has been offered as an additional financial aid to federal SSI (Supplemental Security Income) payments for low income AL residents.

When residents exhaust their finances and can no longer pay monthly charges and fees, about 50 percent of the facilities report that their policy is to accept Medicaid reimbursements/waivers, if available. However, about 55% will not accept SSI or any type of state supplemental payment. The majority of the facilities in our sample consist of for profit ventures (about 82%), while not for profits and joint ventures make up less than 20% collectively. In addition, the majority of facilities in our sample also report only having the standard licensure (about 44%). Standard licensing is a basic requirement by the state of Florida for ALFs. Standard licensing requires that facilities provide housing, meals and one or more personal care services for periods greater than 24 hours. However, as reported in Chapter 2 in the overview of licensing policies, facilities with LNS, ECC, or LMH licensure provide a higher level of care, most often under the direct supervision of a licensed nurse. Because licensing and accommodations provided in Florida ALFs are strictly enforced, facility operators may opt for only the standard license requirement, catering to a less impaired population.

Florida Assisted Living Resident Study

The *Florida Assisted Living Resident Study* (FALRS) was developed by researchers at Florida State University, Pepper Institute on Aging and Public Policy, under contract with the State of Florida, Agency for Health Care Administration (AHCA) in an effort to "understand the role that assisted living plays in providing long-term care for people in Florida" (Street, et al. 2004). The *Florida Assisted Living Resident Survey* was administered to residents in licensed assisted living facilities in the state of Florida, who agreed to participate voluntarily. Three versions of the FALRS were available to participants – short, medium, long. The short and medium versions of the survey were adapted from the long version, and included shorter batteries of questions (e.g., measures of depression, quality of life, etc.). Residents were given the version that corresponded to their level of mental capacity (see description of cognitive screen below).

Florida Assisted Living Resident Study – Cognitive Screen (CS)

It should be noted that prior to all respondents being surveyed, each participant was administered a cognitive screen which assessed their recall ability. The cognitive screen asked residents to recall information including such things as phone number, physical address, name of facility, age, date of birth, etc. These items were intended to assess both short-term and long-term memory. Participants who were considered intact (0-2 errors) or with mild intellectual impairment (3-4 errors) in most situations were given the long form. Participants with moderate intellectual impairment (5-7 errors) were typically given the medium form. Those residents with severe intellectual impairment (8-10 errors) were given the short form of the survey. About 7 percent of the final sample was categorized with severe intellectual impairment, however, these individuals were included in the analyses, for the purposes of increasing statistical power (see Chapter 4 for more details).

Resident Profiles

The resident surveys (i.e., FALRS) were administered by researchers to any willing participant in the participating facilities. Upon scheduling appointments in the various facilities, interviewers inquired as to which residents would be interested in completing a survey regarding their experiences in assisted living. The residents who showed interest were informed of the date researchers would arrive, and would then be interviewed in a private place (typically in their rooms) which afforded them additional confidentiality of their answers.

The sample used in this study consists of 580 residents (residents 65 and older) of assisted living communities in Florida. The majority of residents' interviewed were white (95.3%), and the overwhelming majority were women (74.4%). Over two-thirds of the residents interviewed were widowed (67.6%). Most of the participants in the sample were high school graduates (26.1%), or had completed some college courses or completed an associates' degree (about 21.5%). Of the residents 65 and older, approximately 73% use some type of special equipment to assist with mobility. About 76% of the respondents were 80 or older, and the majority reported an income of less than $15,000 (61%). Although 46 percent of the final sample provided a response to the income question, it should be noted that the validity of the income data is poor and will only be reported here for descriptive purposes, not used in any of the subsequent analyses.

In this project, I use two measures of mental health, depression and quality of life. Since my population is 65 and older, depression is measured using the Geriatric Depression Scale (GDS). The GDS is a useful tool for studying depression among older adults, and has been validated as one of the more frequently used indices for determining depression rates among the elderly. In addition, quality of life (QOL) was operationalized using a modified version of the Life Satisfaction Inventory contained in the survey. In statistical analyses not shown, the depression measure (GDS) and quality of life measure are found to be inversely related ($r = -0.599$, significant at $p<.01$); therefore, for the purposes of this project, I expect *better mental health* outcomes to reflect *lower rates of depression and increased quality of life* and *worse mental health* outcomes to reflect *higher rates of depression and decreased quality of life.*

It should be noted that in studies of mental health, refusal of older individuals to answer the mental health battery of question has proved problematic. According to Newmann (1989):

> … studies we have reviewed suffer from initial refusal
> rates ranging from 20% to 30% of base samples, which
> tend to be much higher among elderly than among younger
> persons, particularly among elderly persons who are sick
> or infirm or who evidence other risk factors for depression.
> Thus, elderly persons who form the subject pool
> for most … studies, or who have the vigor and commitment
> to respond to the demands of lengthy interview protocols,

are likely to be disproportionately represented by *optimal agers* (162).

Due to possibly higher refusal rates among the elderly population, and higher response rates among healthier, well-adjusted older adults, results should be cautiously interpreted.

Research Questions and Hypotheses

The following questions are important to better understand mental health among residents in assisted living:

RQ 1: Which resident characteristics explain variation in resident mental health?

Hypothesis 1a. Age is inversely related to resident mental health. *As we age our psychological well-being declines (Mirowsky and Ross 1989). Therefore I expect poorer mental health among older residents.*

Hypothesis 1b. Female residents will have worse mental health than their male counterparts. *Because research has found that women fare worse with regard to mental health outcomes (Mirowsky and Ross 1989), I expect women to have higher depression and lower quality of life than men.*

Hypothesis 1c. I expect married residents will have better mental health than single residents. *Research on the relationship between marital status and mental health has consistently shown that married individuals have better mental health than the widowed, never married or divorced (Mirowsky and Ross 1989; Waldron, Hughes, and Brooks 1996).*

Hypothesis 1d. Higher education will be positively related to mental health.
I expect residents with more education (college graduate and beyond) will have better mental health than those with high school education or less (Mirowsky and Ross 1989).

Hypothesis 1e. Residents with positive perceptions of their financial status will have better mental health. *Because research shows that financial well-being is associated with positive mental health outcomes (Krause 1987; Pearlin, et al. 1981), I expect that those residents who believe that they have enough money to take care of their needs will have better mental health than those who do not.*

Hypothesis 1f. Physical disability is inversely related to positive mental health.
Research shows that individuals with greater physical disabilities have worse mental health than those with fewer disabilities (Turner and Beiser 1990; Turner and Noh 1988; Turner and Turner 2004). Moreover, findings among residents in long-term care reveal that difficulties performing activities of daily living (ADLs), such as toileting, bathing and dressing, are significantly

associated with higher levels of depression (Alexopolous et al. 1996). Therefore, I expect that residents with more functional limitations will have worse mental health than those with fewer limitations.

Hypothesis 1g. Residents who have lived in AL for more than 5 years will have better mental health than new residents. *The amount of time an individual resides in assisted living significantly impacts well-being. Those who live in AL longer have adjusted to the AL environment, which is beneficial to mental health (Dobbs 2004). Therefore, I expect that the residents who have lived in AL for a longer period of time will have better mental health than new residents.*

RQ 2: What is the relationship between the factors that assisted living is designed to promote (i.e., ability to age in place, independence, have decisional control, homelike environment and privacy) and resident mental health (i.e., psychological well-being, and quality of life)?

Hypothesis 2a. Residents' positive perception of their ability to age in place is related to positive mental health. *Little research has addressed resident ability to age in place (Ball, et al. 2004). Moreover, studies that have examined this concept tend to focus on the variable as an outcome (i.e., factors contributing to resident ability to age in place). To the best of my knowledge, the aging in place concept has not been addressed as a predictor of resident mental health in assisted living. However, because longer length of time in AL may positively influence well-being, I expect that perceptions of the ability to remain in the same place will positively influence mental health outcomes.*

Hypothesis 2b. Resident independence is positively related to mental health. *Research shows that independence contributes to self-esteem (Kaufman 1986), which acts as a buffer to depression (Mirowsky and Ross 1989; Pearlin, et al. 1981). Therefore, I hypothesize that residents who feel more independent will have better mental health outcomes.*

Hypothesis 2c. Resident privacy is negatively related to mental health. *Evidence has shown that depression among residents in AL is associated with social withdrawal (Watson, et al. 2003). Therefore I expect that residents who want more privacy will have worse mental health.*

Hypothesis 2d. Homelike environment is positively related to mental health.
"Hominess" has been shown to be a good indicator of adjustment to environment (Cutchin, et al. 2003). Research has provided evidence suggesting that psychological adjustment is associated with better emotional health outcomes and healthy aging (Boykin 1957; Havighurst

and Orr 1955). Therefore, I hypothesize that residents, who view AL as home, will have better mental health outcomes than those who do not feel that they are at home.

Hypothesis 2e. Control is positively related to mental health of residents.

The relationship of sense of control (i.e., personal control, mastery, locus of control, instrumentalism) to mental health has been examined at length by researchers. The majority of findings suggest that having control over one's life is positively related to mental well-being. Moreover, within the AL population, evidence has shown that resident control over the decision to move is negatively related to depression, and control within the AL environment is also negatively related to depression, negative affect, and anxiety (Drozdick 2003). Therefore, I expect that residents who feel that they have more control over decision-making will have better mental health than those who do not.

RQ 3: How does knowledge of organizational structure / facility policies explain variation in resident mental health?

Hypothesis 3. Resident knowledge of facility policies is positively associated with resident mental health. *Research has shown that organizational policies impact resident satisfaction (Pruchno and Rose 2000; Sikorska 1999), with knowledge of policies providing an opportunity for the resident to make more informed decisions (GAO 1999). Therefore, I expect AL residents with greater understanding of facility policies will be happier in AL which will result in better mental health.*

RQ 4: How does social support from friends versus support from family explain variation in residents' responses to AL in terms of mental health?

Hypothesis 4a. Both actual and perceived friend support is positively related to resident mental health. *Evidence has shown the benefits of social support from friends for elderly mental health (Blau 1973; Matt and Dean 1993). Moreover, studies have shown that greater satisfaction with actual social contact and perceived social support positively influence mental health (Fry 1993). Therefore, I expect that both actual and perceived social support from friends will produce positive mental health outcomes among residents.*

Hypothesis 4b. Actual and perceived support from family is related to positive mental health. *Although evidence has found that support from family members can have negative effects on health and well-being among the elderly (Silverstein, et al. 1996), research has also shown that the instrumental and emotional support that family provides is continuous over the lifecourse*

(Adams and Blieszner 1995; Longino and Lipman 1981). The positive relationship between satisfaction with actual social contact, perceived social support and mental health (Fry 1993) should be taken into account, as well. Therefore, I expect that the continuity of actions provided by family members and the belief (perception) by residents that they are receiving support from family will positively influence mental health among residents.

Measures

Depression. In many studies of mental health, the Center for Epidemiological Studies' Depression Scale (CES-D) has been shown to be a reliable and useful measure for many different populations (Radloff 1977). However, many studies of elderly respondents have employed the Geriatric Depression Scale-Short Form (GDS-SF), which is a highly valid and reliable measure for older populations (Sheikh and Yesavage 1986).

In this adaptation of the GDS-SF, respondents were asked to indicate "yes" or "no" to the following 14- item depression index: "Are you basically satisfied with your life?", "Do you feel that your life is empty?", "Do you often get bored?", "Are you in good spirits most of the time?", "Are you afraid that something bad is going to happen to you?", "Do you feel happy most of the time?", "Do you often feel helpless?", "Do you prefer to stay here, rather than going out and doing new things?", "Do you feel that you have more energy than most people?", "Do you think it is wonderful to be alive now?", "Do you feel full of energy?", "Do you feel that your situation is hopeless?", "Do you think that most people are better off than you are?", and "Do you often feel lonely?" For the subset of the population that I am using (ages 65 and older; N=580), these items are compiled into a scale according to the GDS guidelines. The GDS scores are calculated by tabulating the number of responses suggestive of depressive affect. Theoretically, these scores may range from 0 (indicating no depressive symptoms) to 14 (indicating very severe depressive symptoms). This is a valid index of depression for this subsample of the population (alpha=.75), with average scores of 3.79 (*SD*=2.42) indicating low levels of depression. As a side note, because of the advanced age of many of the participants in the study, there are a number of missing answers on several of the GDS-SF indicators, and the scale reflects this large amount of missing data.

Quality of Life. Quality of Life is a continuous variable, measured using a revised version of the Life Satisfaction Inventory-A (LSI-A) (Neugarten, Havighurst, and Tobin 1961). The original instrument contained 20 items; however, the modified version contained in the

FALRS included 11 items, which address such issues as resident cognitive ability and social functioning. Residents were asked to respond "agree," "disagree," or "don't know" to the following statements: "I have skills that I can pass along to others," "People come to me for advice," "I feel that other people need me," "I have a good influence on the lives of other people," "I have little control over the things that happen to me," "There is really no way I can solve some of the problems I have," "There is little I can do to change many of the important things in my life," "I often feel helpless in dealing with problems of life," "Sometimes I feel that I am being pushed around in life," "What happens to me in the future mostly depends on me," and "I can do just about anything I really set my mind to." The scores are calculated by tabulating the number of responses suggestive of resident quality of life. Theoretically, these scores may range from 0 (indicating low quality of life) to 11 (indicating high quality of life). This is a valid index of quality of life for this subsample of the population (alpha=.83), with average scores of 7.62 (*SD*=3.04) indicating moderate to high quality of life.

Aging in Place. In order to assess resident perceptions of the ability to age in place, the following question was asked: "Do you expect to be able to live here as long as you want to?" Residents have the option of answering "yes", "no" or "depends." Response rate for this measure: yes-81%; no-1.5%; depends-17.5%.

Independence. Resident independence is assessed by the following question: "Are you encouraged to do as much for yourself as you can?" Residents were asked to answer: "yes" or "no." Response rate for this measure: yes-96.7%; no-3.3%.

Hominess. Providing a homelike environment is one of the core tenets of AL philosophy. Because "reaching at homeness" has been shown to be a good indicator of adjustment to the AL environment (Cutchin, et al. 2003), resident adjustment to assisted living as a "homelike environment" will be assessed by the following question: "Does this place feel like home to you?" Residents were offered "yes" or "no" as response options. Response rate for this measure: yes-59.3%; no-40.7%.

Control. Evidence has shown that a lack of decisional control in the relocation process results in negative mental health for elders (Drozdick 2003). In order to determine whether residents felt that they had control over their move into assisted living, they were asked: "How much control did you have over the decision to move here?", to which they were asked to respond: "complete control", "some control", or "little or no control." Response rate for this

measure: complete control- 38.4%; some control-29.5%; little or no control-32.1%.

Privacy. In order to determine whether residents felt that they had adequate privacy, they were asked: "Would you like to have more privacy?" to which they could respond: "yes" or "no." Response rate for this measure: yes-26.9%; no-73.1%.

Physical Impairment. The physical impairment scale is used to assess residents' functional ability. It is measured by six items similar to those used in the Minimum Data Set-Activities of Daily Living (MDS-ADL) scale (Morris, et al. 1999). The scale consisted of 6 items, with residents rating the degree of difficulty dressing, eating/drinking, transferring, mobility, bathing, and toileting. They were asked to respond whether these activities were: "very hard", "somewhat hard" or "not hard at all." For this population, scores range between 6 and 17, with higher scores reflecting greater physical impairment. This is a highly reliable scale for physical impairment (alpha=.872). The mean score for the sample used in this project is 9.08 (*SD*=3.19), indicating relatively low physical impairment among this population.

Perceived Financial Well-Being. Resident perception of financial well-being is assessed by the following: "How well does the money that you have take care of your needs?", with response categories consisting of "very well", "somewhat well", or "not well at all". Response rate for this measure: very well-60.6%; somewhat well-28.4%; not well at all-11.1%.

Social Support. Research has shown that both quality and quantity of relationships can have a significant impact on well-being (Antonucci, Akiyama, and Lansford 1998; Antonucci, Fuhrer, and Dartigues 1987). Therefore, social support will be assessed by both types of indicators of the resident's familial relationships and friendships.

In order to examine familial relationships, residents were asked to rate the quality of the relationships with their family members. They were asked: "How is the amount of contact you have with your family since living here?", "In times of trouble, how often can you count on at least some of your family?", "Compared to before you moved here, how are your relationships with your family?" These scores were then scaled into a variable which I call perceived familial support (alpha=.548). For familial support, the scale for perception of support ranged from 4-12, with higher scores reflecting greater perceived support from family. The mean score for the sample used in this project is 8.54 (*SD*=1.28), indicating moderately high quality of familial social support among this population.

Residents were also asked to quantify the amount of time spent with family members. On

a five-point Likert scale residents were asked to report: “How often do family members visit you?” and “How often do you speak with a family member on the phone?” (1=never/almost never; 2=about once a year; 3=about once a month; 4=about once a week; 5=daily/almost every day). Scores for actual familial support were added and summed into a scale (alpha=.785), ranging from 2-10, with higher scores indicating more supportive behaviors from family. The mean score for the sample used in this project is 7.33 (*SD*=2.48), indicating moderately high quantity of familial social support among this population.

Residents were also asked about their relationships with friends inside and outside of the facility. These items were included separately in regression analyses to assess the importance of friendships inside versus outside of facilities.[3] For perceived quality of friendship support, residents were asked: “How do you feel about the amount of contact you have with your friends who live here?” (response rate: too much – 3.1%, about right – 95.4%, not enough – 1.5%) and “How do you feel about the amount of contact you have with your friends who do not live here?” (response rate: too much – 0.4%, about right – 81.4%, not enough – 18.1%). To assess the actual support from friends, residents were asked: “Have you spoken on the phone with any of your friends who do not live here in the past month?” (response rate: yes – 60%, no – 40%) and “Have you visited with any of your friends who do not live here in the past month?” (response rate: yes – 86%, no – 14%).

Length of residence. Participants were asked: “How long have you lived here?” Responses were: “less than 6 months”, “6 months to 1 year”, “more than 1 year but less than 2 years”, between 2 and 5 years”, and “lower than 5 years.” The responses for this measure: less than 6 months- 18.6%; 6 months to 1 year-17.9%; more than one year but less than 2 years-24.5%; between 2-5 years-29.5%; more than 5 years-9.5%.

Demographics

Gender. Observed by interviewers.

Age (in years). “What is your date of birth?”

Marital Status. “What is your current marital status?” Responses include: “married”,

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3 In an effort to “match” the familial support measures, the perceived and actual friendship support measures were originally calculated into separate scales and included in regression analyses. However, due to low alpha reliabilities for both friendship support scales, the indicators have been included in the regression models as individual items.

widowed", "separated/divorced", or "never married."

Education. "What is the highest level of education you completed?" Responses were categorized: "8th grade or less", "some high school", "high school graduate/GED", "vocational/technical/trade school", "some college or community college graduate", "4-year college graduate", and "post-graduate (beyond 4-year college)."

Resident Knowledge of Policies. Residents were asked of their knowledge of facility policies: "Has anyone from this facility given you information about what could lead to discharge from here because of the type of care you need?" Response rate for this measure: yes-34.3%; no-37.7%.

There is limited research on the mental health of residents in assisted living. Moreover, the possibility that organizational factors, such as philosophical tenets and knowledge of organizational policies, could play a role in explaining the variation of mental health among residents in assisted living also remains relatively unexplored. Contributing to the literature on the mental health among the AL population, the present study addresses the following questions: Are there gender differences in mental health among assisted living residents? Among the assisted living residents, does mental health vary by resident characteristics, such as age, gender, marital status, education, perception of financial well-being, physical impairment, length of stay in assisted living, or social support? Among the residents, is variation in mental health explained by organizational philosophical tenets (such as aging in place, independence, privacy, homelike environment, control), or policies (e.g., resident knowledge of discharge policies)? These questions will be addressed in Chapter 4, where I will present findings from the FALRS data.

Table 3.1 Characteristics of FALS Facility Sample. (N=475)

Variable		Percent
Size		
	Small	40.2
	Medium	28.8
	Large	30.9
Public vs Private Pay		
	Public (OSS)	43.4
	Private (non-OSS)	56.6
Profit Status		
	Not-for-Profit	16.1
	For Profit	81.7
	Joint Venture	2.1
License Type		
	Standard Only	43.6
	Extended Congregate Care (ECC)	21.1
	Limited Nursing Services (LNS)	23.2
	Limited Mental Health (LMH)	24.5
Geographic Regions[a]		
	North Central	15.0
	Northeast Coastal	20.1
	Southwest Coastal	34.0
	Southeast Coastal	30.9
Payment Source: Room and Board		
	Private funds	64.1
	Long Term Care insurance	2.5
	Public funding (OSS/SSI/other)	32.9
	Charitable Contribution	0.5
Payment Source: Basic Services		
	Medicaid	27.3
	Medicare	11.5
	Insurance/HMO	3.1
	Private funds	54.0
	Other	4.1

[a]Geographic Regions (*n*=473)
Percentages in columns may not add to 100% due to rounding.

Table 3.2 Demographic Composition of Residents.

Variable		Percent
Gender		
(N=578)	Men	25.6
	Women	74.4
Marital Status		
(N=578)	Married	12.8
	Widowed	67.6
	Separated/Divorced	11.4
	Never Married	8.1
Race/Ethnicity		
(N=572)	White	95.3
	Black	4.0
	Other	0.7
Education		
(N=571)	Less than 8th grade	11.6
	Some high school	18.2
	High school graduate	26.1
	Vocational/Tech. degree	7.0
	Some college or AA recipient	21.5
	4-year college graduate	10.2
	Post-graduate	5.4
Age		
(N=580)	65 to 69	5.5
	70 to 74	7.6
	75 to 79	11.4
	80 and up	75.5
Income		
(N=183)	Less than $15000	61.2
	$15000 to $29999	24.0
	$30000 to $49999	13.7
	More than $50000	1.1
Special Equipment Usage (N=561)		
	Yes	72.9
	No	21.9

Percentages in columns may not add to 100% due to rounding.

CHAPTER 4

PREDICTORS OF RESIDENT WELL-BEING IN ASSISTED LIVING

In this chapter I will test a series of hypotheses regarding the effects of the following variables on resident mental health: residents' perception of AL philosophical tenets (i.e., ability to age in place, resident independence, privacy, homelike environment, and resident control), resident characteristics (i.e., length of time in AL, age, gender, marital status, education, physical disability), social support, resident perception of financial well-being and resident knowledge of facility policies regarding discharge from AL. As mentioned in Chapter 3, the depression measure (GDS) in this project was valid for the population (alpha=.75), with average scores of 3.79 (*SD*=2.42). As with the GDS, the quality of life measure (revised LSI-A) was found to be a highly reliable measure (alpha=.83), with average scores of 7.62 (*SD*=3.04).

Based on the assessment provided by the cognitive screen, the sample for this project includes residents with the following levels of cognitive ability: 51.9% -cognitively intact (0-2 errors on the cognitive screen), 19.7% - mild intellectual impairment (3-4 errors on the cognitive screen), 21.0% - moderate intellectual impairment (5-7 errors on the cognitive screen), and 7.4% - severe intellectual impairment (8-10 errors on the cognitive screen). Although scholars report reliability issues with regard to collecting survey data from those with severe cognitive impairment (e.g., dementia), evidence also reveals that cognitively impaired persons are able to understand questions asked by researchers and provide appropriate answers (Brod, Stewart, Sands, and Walton 1999). In fact, researchers have found that proxy informants (e.g., family members, nursing aides, friends) tend to overestimate the rates of depression among those with dementia (Teri and Wagner 1991) and can be trained in communicative techniques in an effort to provide more accurate reports (Bourgeois, Dijkstra, and Hickey 2005). Because of the evidence in support of retaining the information provided by cognitively impaired residents, self-reports of severely cognitively impaired residents were included.[4]

4 To test whether inclusion of severely cognitively impaired residents would produce biased results, I ran regression models with and without the severely impaired group. Findings show that the same variables remained statistically significant. This allowed for me to include the additional cases of those severely impaired respondents for the purposes of increasing statistical power.

Analytic Framework

The statistical analyses used in this study were threefold. First, descriptive statistics were used to summarize resident mental health indicators, philosophical tenets, resident length of stay in AL, facility policy knowledge, sense of control, physical impairment scale, resident belief in financial well-being and social support variables. Next, zero-order correlations were provided to evaluate the significance of associations among depression, quality of life, philosophical tenets, resident length of stay in AL, facility policy knowledge, sense of control, physical impairment, resident belief in financial well-being, and social support. Finally, OLS regression was used to test hypotheses by deriving models, which may explain the relationship of predictor variables influencing resident quality of life and depression.

Descriptive Results

Because research shows that men and women experience the social world differently and these differences may influence mental health, gender differences will be explored in the descriptive analysis. Table 4.1 reports the means and standard deviations of depression, quality of life, philosophical tenets, knowledge of facility policies, physical impairment, social support, length of stay in AL, resident demographics and resident perception of financial well-being by total sample and gender. As shown in Table 4.1, results indicate that women are significantly more physically impaired than male residents ($p<.05$), with women reporting scores of 9.28 as compared to men's scores of 8.55. Although residents report high actual social support overall, women report significantly more actual familial social support than men ($p<.01$). That is, women tend to receive more visits and phone calls from family members than men, as women report scores of 7.60 as compared to the male respondents' scores of 6.63.

Overall, men tend to be the majority of new arrivals to AL, with close to half (47%) residing in AL for less than 1 year ($p<.01$). About 54 percent of women tend to reside in AL for 2-5 years (significant at $p<.10$). With regard to resident demographics, women, on average, are significantly older than the male respondents ($p<.01$), and although all of the marital status variables reaches statistical significance ($p<.01$), the overwhelming majority of women in this population (76%) are more likely to be widowed than men (43%). These results reflect the importance of widowhood in the lives of the elderly. As reported here, women in this population are almost twice as likely to be widowed as men; however, researchers have shown that after the death of a spouse men tend to experience more negative health effects and are more susceptible

to depression than are women (Umberson, et al. 1992). So, perhaps men are more often the new arrivals to AL because they are not able to care for themselves after the death of a spouse.

Lastly, of the education variables, receiving a post-graduate/professional degree reaches statistical significance ($p<.01$), reflecting that men are more than twice as likely as women to receive a graduate degree. However, this is not surprising given the overall limited education among this female population.

Zero-Order Correlates

To test whether depression and quality of life are associated with resident characteristics, physical impairment, philosophical tenets, knowledge of facility policies, social support, length of stay in AL, and resident perception of financial well-being I examine zero-order correlations between depression, quality of life and the study variables. Examining the correlations will allow me to report the relationship between two variables without the influence of other variables present. (In the following regression analyses, I will discuss the relationship between multiple predictor variables and the mental health outcome variables.) Throughout, correlations are reported as significant when $p<.05$ or higher.

Depression

Demographics. In the data, being married is significantly associated with fewer depressive symptoms ($r= -.13$), which is a well-documented finding in the mental health literature (Mirowsky and Ross 1989; Waldron, et al.1996). However, the marriage variable only explains 2 percent of the variation in the depression outcome, which means that it is not a highly useful predictor of depression among the elderly in assisted living. Three of the five education variables reach significance. Consistent with previous research (Mirowsky and Ross 1989; Ross and Wu 1995), higher education reduces the risk of depression. Completing college is associated with lower depression ($r= -.19$), as is completing a post-graduate degree ($r= -.14$). However, not completing high school is associated with increased depression ($r= .18$). Although these variables do confirm the importance of higher education for reducing depression rates, they explain 3 percent or less variation in the depression measure.

Physical Impairment. As found in previous research of physical disability and depression (Turner and Noh 1988), having more functional limitations (i.e., residents who reported at least some degree of difficulty with activities of daily living – ADLs) is associated with increased risk for depression ($r = .16$). However, this measure of physical impairment

accounts for only a small amount (3%) of variation in the measure of depression.

Philosophical Tenets. Three of the philosophical variables were significant: privacy, homelike environment, and control. Feeling the need for more privacy is associated with increased risk for depression (r = .15). Feeling that the assisted living environment is home is associated with fewer depressive symptoms (r= -.27). In addition, having more decisional control is associated with lower depression among the residents (r = -.13); while having little control over the decision to move into AL is positively associated with depression (r = .17). Compared to the other philosophical tenets variables, homelike environment explains the most variation in the depression outcome (7%). Therefore, the homelike environment variable is better able to help researchers understand the relationship between the philosophy of the AL industry and resident depression, as compared to the other philosophical tenets.

Knowledge of Facility Policies. Although it only explains 3 percent of the variation in the depression measure, having knowledge as to what factors could lead to discharge from the facility is associated with fewer depressive symptoms (r = -.17).

Social Support. The importance of friendships and familial support for reducing elderly depression is documented among these results. Findings show that familial support, as well as certain indicators of friend support, reaches statistical significance. Countering findings which document the potential negative effects of familial support on health and well-being of the elderly (Silverstein, Chen, and Heller 1996), these results show that both actual (r = -.13) and perceived (r = -.25) support from family are associated with lower levels of depression among residents in AL. Moreover, actual visits from friends outside of the facility is significantly associated with decreased depression among elderly residents (r = -.12). This seems consistent with research, which documents the importance of friendship networks in sustaining morale among the elderly (Blau 1973). The perceived social support variable explains 6 percent of the variation in the depression outcome, and has the most explanatory power of all the social support variables.

Length of Stay. Results show that none of the length of stay variables reaches statistical significance.

Financial Well-Being. Findings show the importance of perceived financial well-being for reducing the risk of depression among the elderly residents. Increased levels of depression are significantly associated with residents who do not believe that the money they have takes

care of their needs (r = .24) and those who only believe that the money somewhat takes care of their needs (r = .15). However, believing that there is enough money to take care of financial needs is associated with lower levels of depression (r = -.28). Two of the perceptions of financial well-being variables explain between 5 to 7 percent of the variation in depression among the AL residents. Although these are low percentages, it would seem that among this population, perception of financial well-being is an important predictor of mental health.

Quality of Life

Demographics. Of the demographic variables, age and completed college are statistically significant. Being older is associated with better quality of life (r = .15). In addition, completing a college degree is also associated with better quality of life (r = .17). However, both of these demographic variables explain less than 3 percent of the variation in the quality of life among residents.

Physical Impairment. Although it explains only 2 percent of the variation in resident quality of life, the physical disability variable is statistically significant, which means that having more functional limitations is associated with worse quality of life (r = -.15).

Philosophical Tenets. Two of the philosophical variables are significant: homelike environment and control. Feeling that the assisted living environment is homelike is associated with greater quality of life (r = .23). More control over the decision to move into assisted living is associated with greater quality of life among the residents (r = .22, significant at $p<.01$), while having little control over the move is associated with lower quality of life (r = -.24, significant at $p<.01$). As was the case with depression, the homelike environment variable explains the most variation in the quality of life measure (5%) as compared to the other philosophical tenets measures.

Knowledge of Facility Policies. The knowledge of facility policies variable does not reach statistical significance in this analysis.

Social Support. As is the case with the depression results, both indicators of familial support are statistically significant. Both actual (r = .20) and perceived (r = .29) support from family are associated with better quality of life among residents in AL. In addition, perceived support from friends outside of the facility is also associated with better quality of life (r =.13). The perceived social support from family measure explains 8 percent of the resident quality of life outcome, whereas the perceived social support from friends outside of the facility explains

less than 2 percent. Moreover, the actual support from family measure explains 4 percent of the outcome variation, so it seems as though social support from family aids in predicting quality of life outcomes more so than other types of social support.

Length of Stay. As with depression, none of the length of stay variables reaches statistical significance.

Financial Well-Being. Better quality of life is associated with those residents who believe that they have enough money to take care of their needs ($r = .20$). However, believing that the money they have only somewhat takes care of their needs is associated with lower quality of life ($r = -.16$). Although at least one of the financial well-being indicators explains 4 percent of the variation in resident quality of life, these results reveal that perceived financial well-being has less explanatory power for resident quality of life than for depression.

Statistical Analysis and Hypothesis Testing

This section addresses the models developed from the hypotheses derived in Chapter 3. Because both dependent variables are continuous, OLS regression analysis is used. Model 1, tests Hypotheses 1a-1g. In this model, I examine the influence of resident characteristics (i.e., age, gender, marital status, education), resident perception of financial well-being, disability, and length of time in AL on resident mental health. In order to test whether levels of depression and quality of life vary by the factors that assisted living is designed to promote (i.e., resident ability to age in place, remain independent, have control, live in a homelike environment, and have privacy), I add them in Model 2 (Hypotheses 2a-2e). In Model 3 I look at whether resident knowledge of facility policies influences resident mental health (Hypothesis 3). In Model 4, I test for the relationship between actual and perceived social support and mental health (Hypotheses 4a and 4b).

Missing Data

In cases of cross-sectional surveys, item non-response can be problematic. To assess the potential for bias associated with missing values in the assisted living resident data, I compare differences between those included in the final sample to those excluded from the final analyses.

These comparisons indicate some statistically significant yet slight differences on the mental health measures. For example, the significant difference in depression between those who remain in the sample and those who are excluded is 3.79 versus 3.98, respectively. In addition, the significant difference in quality of life between those who are included in the

analyses as compared to those removed from the sample is 7.62 versus 7.46, respectively. The population from which the final sample was drawn appears to be more slightly more depressed and have a lower quality of life than those included in final sample. Moreover, fifty-five percent of the population skipped or refused to answer the depression measure, as compared to fifty-three percent of refusals/skips from the final sample. Likewise, I find high refusal/skip rates for the quality of life measure, with fifty percent missing from the overall population and forty-nine percent missing from the sample drawn from the overall population. Therefore, the risk of bias from missing data appears high. The loss of these respondents on the dependent variables will decrease statistical power, which is a cause for concern.

Significant differences in rates of item non-response for the independent study variables are modest; however, I would like to note that a number of those missing on many of the study variables are severely cognitively impaired. For example, rates of response are higher among cognitively intact residents on the education, control, privacy, disability, social support and facilities' policies variables. Although the significant differences between the groups are slight, mean imputation is used to increase statistical power.[5] Mean imputation is a useful method, which adjusts for biases caused by missing data. One of the simpler methods by which researchers handle missing data, this analytic strategy is acceptable when analyzing cases of non-response in numerical data. In this strategy, the missing values are replaced by the average (mean) value calculated for respondents of each given variable. I chose to impute the sub-group mean for the missing values. That is, if the observed missing value is for a woman, the mean for all women are calculated and put in the place of the missing value. The sub-group mean imputation strategy allows for more variation in the distribution of new values, providing for less biased estimates of population variances.

Regression Results

Depression. How do these variables impact the mental health of residents in assisted living? Table 4.3 presents the results of depression regressed on assisted living resident demographics, perception of financial well-being, physical disability, length of time in AL, assisted living philosophical tenets, knowledge of facility policies, and social support.

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5 Mean imputations could not be used for dependent variables as it would produce highly biased slope estimates, providing for underestimated representation of the population outcome values.

Model 1: Hypotheses 1a-1g.

Hypothesis 1a. Age is inversely related to resident mental health.

Hypothesis 1b. Female residents will have worse mental health than their male counterparts.

Hypothesis 1c. I expect married residents will have better mental health than single residents.

Hypothesis 1d. Higher education will be positively related to mental health.

Hypothesis 1e. Residents with positive perceptions of their financial status will have better mental health.

Hypothesis 1f. Physical disability is inversely related to positive mental health.

Hypothesis 1g. Residents who have lived in AL for more than 5 years will have better mental health than new residents.

I do not find support for Hypotheses 1a – 1c or 1g. However, some support is found for Hypothesis 1d in that having less education influences depression. Compared to college graduates, not completing high school results in a 1.798 increase in scores of depression (significant at $p<.01$), completing high school results in a 1.446 increase in scores of depression (significant at $p<.01$), and only completing some college or having a vocational/technical trade also increases depression scores by 1.059 (significant at $p<.05$).

Support is found for Hypothesis 1e. Compared to residents who believe their finances are suitable for their needs, residents who only somewhat believe that they are financially taken care of increase their depression score by 1.298 (significant at $p<.01$). Moreover, residents who do not feel that they have enough money to take care of their needs in AL report an increase of 2.041 on the depression index as compared to the comparison group (significant at $p<.01$). Support is also found for Hypothesis 1f, revealing that greater physical impairment increases depression scores by 0.162 (significant at $p<.01$). The variables in Model 1 only explain 9 percent of the variation in depression. Therefore, adding additional variables to the model (in Model 2) will increase the explanatory power.

Model 2: Hypotheses 2a-2e

Hypothesis 2a. Residents' positive perception of their ability to age in place is related to positive mental health.

Hypothesis 2b. Resident independence is positively related to mental health.

Hypothesis 2c. Resident privacy is negatively related to mental health.

Hypothesis 2d. Homelike environment is positively related to mental health.

Hypothesis 2e. Control is positively related to mental health of residents.

In Model 2, support is not found for Hypothesis 2b. Residents who feel that they are encouraged to do as much for themselves as they can (i.e., remain independent) report an increase of 1.824 on the depression index (significant at $p<.10$) as compared to those who do not feel as independent. However, the fact that the physical impairment variable continues to be a significant predictor of depression in this model (0.127, significant at $p<.05$) may explain the relationship between independence and depression. It may be the case that although residents are encouraged to do for themselves, their physical impairment limits their ability to be independent, thus producing greater depression.

I also found support for Hypothesis 2d. Consistent with research documenting the influence of environment on well-being (Lawton and Nahemow 1973), results indicate that feeling that AL is home is significantly reduces depression scores by 1.144 (significant at $p<.01$).

<u>Model 3: Hypothesis 3</u>

Hypothesis 3. Resident knowledge of facility policies is positively associated with resident mental health.

In Model 3, I test whether resident knowledge of facility policies is positively related to resident well-being (Hypothesis 3). No support is found that residents with knowledge of what could lead to their discharge from the facility are less depressed than those who do not have the understanding of the organizational/facility policies regarding discharge.

<u>Model 4: Hypotheses 4a and 4b</u>

Hypothesis 4a. Both actual and perceived friend support is positively related to resident mental health.

Hypothesis 4b. Actual and perceived support from family is related to positive mental health.

In Model 4, the social support variables are added, respectively to Model 1. Although I expected that both actual and perceived social support from friends would produce positive mental health outcomes in residents, no support was found for Hypothesis 4a. In fact, perceived support from friends inside of the facility increases depression scores by 2.4 (significant at $p<.10$). Therefore, residents who feel good about the amount of contact they have with friends inside of the facility are more depressed. Perhaps it may be the case that friends inside of the facility are limited in the resources they can provide, due to certain factors such as physical/functional limitations. Adding the social support variables to the model increases the

magnitude of the physical impairment coefficient by nearly 90 percent. This indicates that higher levels of depression are experienced primarily because residents are more functionally limited, on average.

On the other hand, residents who have greater amounts of perceived contact with family report lower rates of depression. Among AL residents, perceived support from family significantly decreases scores of depression by .40 (significant at $p<.01$). These findings provide further evidence on the importance of research examining the quality, not just quantity, of social support.

Quality of Life

Elderly resident quality of life is impacted slightly different than depression. Table 4.4 presents the results of quality of life regressed on assisted living resident demographics, perception of financial well-being, physical disability, length of time in AL, assisted living philosophical tenets, knowledge of facility policies, and social support.

Model 1: Hypotheses 1a-1g.

Hypothesis 1a. Age is inversely related to resident mental health.

Hypothesis 1b. Female residents will have worse mental health than their male counterparts.

Hypothesis 1c. I expect married residents will have better mental health than single residents.

Hypothesis 1d. Higher education will be positively related to mental health.

Hypothesis 1e. Residents with positive perceptions of their financial status will have better mental health.

Hypothesis 1f. Physical disability is inversely related to positive mental health.

Hypothesis 1g. Residents who have lived in AL for more than 5 years will have better mental health than new residents.

No support is found for Hypotheses 1a-1c or 1g. However, support is found for Hypothesis 1d. Compared to college graduates, not completing high school significantly lowers quality of life scores by 1.584 (significant at $p<.05$), having a high school degree lowers quality of life scores by 1.365 (significant at $p<.05$), and completing some college or have a vocational/technical trade also lowers quality of life scores by 1.339 (significant at $p<.05$). These findings reveal the importance of education for quality of life in AL, as residents with less education are likely to not be as happy with their lives as are residents with a college education.

Some support is found for Hypothesis 1e. Compared to residents who believe their

finances are suitable for their needs, believing that they are financially taken care of lowers residents' quality of life scores by 1.321(significant at $p<.01$). Evidence supports Hypothesis 1f, revealing that residents with greater physical impairment have .187 lower scores on the quality of life index than residents who are less impaired (significant at $p<.01$).

Model 2: Hypotheses 2a-2e

Hypothesis 2a. Residents' positive perception of their ability to age in place is related to positive mental health.

Hypothesis 2b. Resident independence is positively related to mental health.

Hypothesis 2c. Resident privacy is negatively related to mental health.

Hypothesis 2d. Homelike environment is positively related to mental health.

Hypothesis 2e. Control is positively related to mental health of residents.

In Model 2, three of the five AL philosophical tenets are significant predictors: independence, homelike environment, and control. Neither the aging in place nor privacy variable is statistically significant. Although Hypothesis 2b is not supported, findings show that residents who feel that they are encouraged to do as much for themselves as they can report a 1.539 decrease in the quality of life scores (significant at $p<.01$) as compared to those who do not feel as independent. Again, the continued significance of the physical impairment variable may help to explain this finding. Although individuals may be encouraged to remain independent, it may be the case that physical limitations present obstacles to independence.

I did find support for Hypothesis 2d. Results indicate that residents who feel that AL is their home report a 1.096 increase in their quality of life scores (significant at $p<.01$) than those who do not feel that AL is home. In addition, support was found for Hypothesis 2e. Previous research shows that control is negatively related to depression, anxiety and negative affect (Drozdick 2003); however, evidence from this study adds to this knowledge by revealing that residents with more control over the decision to move into AL report an increase of 1.090 quality of life scores than those with less decisional control (significant at $p<.01$).

Model 3: Hypothesis 3

Hypothesis 3. Resident knowledge of facility policies is positively associated with resident mental health.

In Model 3, I test whether resident knowledge of facility policies is positively related to resident quality of life (Hypothesis 3). No support is found that residents with information

providing them with knowledge of what could lead to their discharge from the facility have better quality of life than those who do not have the understanding of the organizational/facility policies regarding discharge.

Model 4: Hypotheses 4a and 4b

Hypothesis 4a. Both actual and perceived friend support is positively related to resident mental health.

Hypothesis 4b. Actual and perceived support from family is related to positive mental health.

In Model 4, the social support variables are added, respectively to Model 1. Some support is found for both Hypothesis 4a and 4b. However, only two of the social support variables reach statistical significance. Regression results show that perceived support from family increases quality of life scores by .60 (significant at $p<.01$). In addition, the perceived friend support variable also reaches marginal significance, revealing that residents' feeling as if they have a good amount of contact with friends inside the facility results in a decrease of 3.080 on the quality of life index (significant at $p<.10$). However, the decrease in the physical impairment coefficient from -0.185 to -0.216 may, in part, explain this relationship. As with the depression results, it may be the case that residents who are comfortable with the amount of support received from friends inside the facility are also less likely see these networks as a useful resource, due to physical impairments of the population.

These findings reveal a great deal about the mental health of residents in AL. Although much of the mental health research is in contradiction of this finding, there is no evidence here to support the hypotheses that women in AL have significantly worse mental health than men, older groups are at greater risk for poor mental health, or that living in AL for longer amounts of time influences better mental health. However, I did find some support for the education, perception of financial well-being, and physical impairment hypotheses. Having less than a college education, more physical limitations and negative perceptions of financial well-being did influence poor mental health outcomes. Among the philosophical tenets hypotheses, evidence from this study revealed that independence was negatively related to mental health, and feeling that AL is a homelike environment and having more decisional control positively influenced mental health. Although research has shown that social support networks are beneficial for the mental health of the elderly, I found only slight evidence to this effect. Among the social support variables, regression findings show that residents' positive perception of familial social

support is a positive influence on resident mental health. In addition, support from friends inside the facility is a significant predictor of worse mental health among AL residents.

Although startling, this finding opens up questions regarding the definition of friendship, in particular how do elderly residents in AL define and qualify the meaning of friendship? Are friends only those with whom one has something in common, or must friendship incorporate the ability to participate in activities, as well? As previously theorized, it may be the case that this variable negatively influences residents' mental health because the residents do not see these friendships as having quality beyond common living environment. Moreover, the physical limitations of the population also may provide an impediment for quality of friendships within the facility. These and similar questions are better suited for qualitative analysis, and should be addressed in future research.

Table 4.1. Means and Standard Deviations of Depression, Quality of Life, Philosophical Tenets, Knowledge of Facility Policies, Decisional Control, Physical Impairment, Social Support, Length of Stay, Resident Demographics and Financial Well-Being By Total Sample and Gender.

Variables	Total Sample	Men	Women
Depression Scores (n=272)	3.79 (2.42)	3.43 (2.52)	3.93 (2.37)
Quality of Life Scores (n=297)	7.62 (3.04)	7.81 (3.18)	7.54 (2.98)
Philosophical Tenets			
Aging in Place (n=394)	0.81 (0.39)	0.79 (0.41)	0.82 (0.39)
Independence (n=366)	0.96 (0.18)	0.96 (0.20)	0.97 (0.17)
Hominess (n=549)	0.59 (0.49)	0.61 (0.49)	0.59 (0.49)
Privacy (n=533)	0.27 (0.44)	0.28 (0.45)	0.26 (0.44)
Sense of Control (n=580)			
Complete Control	0.39 (0.49)	0.35 (0.48)	0.40 (0.49)
Some Control	0.30 (0.46)	0.33 (0.47)	0.29 (0.45)
Little Control	0.32 (0.47)	0.33 (0.47)	0.32 (0.47)
Facility Policy Knowledge (n=318)	0.34 (0.48)	0.36 (0.48)	0.33 (0.47)
Physical Impairment Scores (n=442)	9.08 (3.19)	8.55 (3.19)	9.28 (3.17) **
Social Support (Family)			
Actual (n=416)	7.33 (2.48)	6.63 (2.88)	7.60 (2.26) ***
Perceived (n=373)	8.54 (1.28)	8.51 (1.28)	8.56 (1.28)

*P<.10; **P<.05; ***P<.01

Table 4.1 (cont'd).

Variables	Total Sample	Men	Women
Social Support (Friend Support)			
Actual support outside Facility			
Visits (n=239)	0.59 (0.49)	0.68 (0.47)	0.57 (0.50)
Phone calls (n=227)	1.85 (0.35)	1.87 (0.34)	1.86 (0.35)
Perceived support inside Facility (n=323)	0.98 (0.12)	0.99 (0.11)	0.98 (0.13)
Perceived support outside Facility (n=225)	0.82 (0.39)	0.87 (0.34)	0.80 (0.40)
Length of Stay (n=578)			
Less than 1 year	0.35 (0.48)	0.47 (0.50)	0.31 (0.46)***
2-5 years	0.52 (0.50)	0.45 (0.50)	0.54 (0.50)*
More than 5 years	0.09 (0.29)	0.07 (0.25)	0.10 (0.30)
Demographics			
Age (n=578)	84.19 (7.19)	82.03 (9.11)	84.93 (7.32)***
Marital Status (n=576)			
Married	0.13 (0.33)	0.25 (0.44)	0.09 (0.28)***
Widowed	0.68 (0.47)	0.43 (0.50)	0.76 (0.43)***
Separated/Divorced	0.11 (0.32)	0.18 (0.38)	0.09 (0.29)***
Never Married	0.08 (0.27)	0.14 (0.35)	0.06 (0.23)***
Education (n=569)			
Did not complete HS	0.30 (0.46)	0.26 (0.44)	0.31 (0.46)
Completed HS	0.26 (0.44)	0.24 (0.43)	0.27 (0.44)
Did not complete college	0.29 (0.45)	0.30 (0.46)	0.28 (0.45)
Completed college	0.10 (0.30)	0.10 (0.31)	0.10 (0.30)
Professional Degree	0.05 (0.23)	0.10 (0.31)	0.04 (0.19)***

*P<.10; **P<.05; ***P<.01

Table 4.1 (cont'd).

Variables	Total Sample	Men	Women
Financial Well-Being (n=387)			
Very comfortable	0.61 (0.49)	0.60 (0.49)	0.61 (0.49)
Somewhat comfortable	0.28 (0.45)	0.30 (0.46)	0.27 (0.45)
Not comfortable	0.11 (0.31)	0.10 (0.30)	0.12 (0.32)

*P<.10; **P<.05; ***P<.01

Table 4.2. Correlations and Analyses of Variance Between Resident Demographics, Physical Impairment, Assisted Living Philosophical Tenets, Knowledge of Facility Policies, Social Support, Length of Stay, Financial Well-Being and Measures of Well-Being.

Variables	Depression (n=273)	Quality of Life (n=297)
Demographics		
Age	-.103	.146*
Sex	.094	-.041
Marital Status		
Married	-.134*	.109
Widowed	.093	-.015
Separated/Divorced	.017	-.016
Never Married	-.013	-.097
Education		
Did not complete HS	.181**	-.110
Completed HS	.049	-.006
Did not complete college	-.026	-.056
Completed college	-.188**	.172**
Professional Degree	-.138*	.101
Physical Impairment	.158*	-.154*
Philosophical Tenets		
Aging in Place	-.059	.031
Independence	.055	-.010
Privacy	.149*	-.044
Homelike Environment	-.273**	.226**
Sense of Control		
Complete	-.134*	.222**
Some	-.011	-.013
Little	.166**	-.240**
Knowledge of Facility Policies	-.168*	.111
Social Support (Family)		
Actual	-.132*	.200**
Perceived	-.245**	.289**
Social Support (Friend)		
Actual support outside facility		
Visits	-.123*	.068
Phone calls	-.039	.074
Perceived support inside facility	.066	-.028
Perceived support outside facility	-.056	.126*

**$p<.01$; *$p<.05$

Table 4.2 (cont'd).

Variables	Depression (n=273)	Quality of Life (n=297)
Length of Stay		
Less than 1 year	-.011	.055
2-5 years	.026	-.043
More than 5 years	-.029	-.028
Financial Well-Being		
Very comfortable	-.284**	.195**
Somewhat comfortable	.149*	-.161**
Not comfortable	.235**	-.072

***p*<.01; **p*<.05

Table 4.3. Depression Regressed on Length of Time in AL, Assisted Living Philosophical Tenets, Resident Demographics, Knowledge of Facility Policies, Physical Disability, Financial Well-Being and Social Support

Unstandardized Coefficient (Standard Error)

Variables	Model 1	Model 2	Model 3	Model 4
Age	-0.010 (0.022)	-0.018 (0.022)	-0.012 (0.022)	-0.013 (0.022)
Female	0.217 (0.351)	0.193 (0.348)	0.200 (0.350)	0.205 (0.353)
Widowed[a]	0.419 (0.477)	0.343 (0.477)	0.241 (0.488)	0.551 (0.474)
Separated/Divorced[a]	0.161 (0.643)	-0.072 (0.636)	0.021 (0.647)	0.195 (0.637)
Never Married[a]	0.419 (0.691)	0.470 (0.693)	0.184 (0.704)	0.413 (0.691)
Did not complete HS[b]	1.798 *** (0.551)	1.588*** (0.551)	1.784*** (0.549)	1.448*** (0.559)
Completed HS[b]	1.446*** (0.560)	1.109** (0.561)	1.306** (0.564)	1.097* (0.576)
Did not complete college[b]	1.059** (0.534)	0.831 (0.541)	0.987* (0.535)	0.920* (0.536)
Graduate Degree[b]	-0.064 (0.761)	-0.620 (0.765)	-0.054 (0.758)	-0.404 (0.765)
Somewhat comfortable financially[c]	1.298*** (0.372)	1.086*** (0.373)	1.248*** (0.372)	1.198*** (0.370)
Not comfortable financially[c]	2.041*** (0.535)	1.748*** (0.521)	1.977*** (0.535)	1.864*** (0.545)
Physical Impairment	0.162*** (0.050)	0.165*** (0.050)	0.162*** (0.050)	0.180*** (0.051)
n	*239*	*234*	*239*	*239*
Adjusted r-squared	0.159	0.214	0.164	0.182

Notes: [a]Reference group is married; [b]College degree is reference group; [c]Reference group is more than 5 years; [d]Reference group is very comfortable financially
*p<.10; **p<.05;***p<.01

Table 4.3 (cont'd).

Variables	Unstandardized Coefficient (Standard Error) Model 1	Model 2	Model 3	Model 4
Resident has been living in AL for less than 1 year[d]	0.618 (0.546)	0.303 (0.554)	0.482 (0.551)	0.846 (0.557)
Resident has been living in AL for 2-5 years[d]	0.616 (0.513)	0.317 (0.521)	0.559 (0.512)	0.658 (0.515)
Aging in Place		-0.112 (0.413)		
Independence		1.824* (0.934)		
Privacy		0.454 (0.346)		
Homelike Environment		-1.144*** (0.335)		
Control		-0.368 (0.302)		
Knowledge of Facility Policies			-0.587 (0.366)	
Perceived Familial Support				-0.403*** (0.152)
Actual Familial Support				0.010 (0.066)
Perceived Friend Support Inside of Facility				2.399* (1.396)
Perceived Friend Support Outside of Facility				-0.037 (0.555)
Actual Friend Support (Visits)				-0.416 (0.440)
Actual Friend Support (Phone calls)				0.050 (0.616)
n	*239*	*234*	*239*	*239*
Adjusted r-squared	0.159	0.214	0.164	0.182

Notes: [a]Reference group is married; [b]College degree is reference group; [c]Reference group is very comfortable financially; [d]Reference group is more than 5 years; *p<.10; **p<.05;***p<.01

Table 4.4. Quality of Life Regressed on Length of Time in AL, Assisted Living Philosophical Tenets, Resident Demographics, Knowledge of Facility Policies, Physical Disability, Financial Well-Being and Social Support

Unstandardized Coefficient (Standard Error)

Variables	Model 1	Model 2	Model 3	Model 4
Age	0.036 (0.027)	0.033 (0.027)	0.037 (0.027)	0.031 (0.026)
Female	-0.110 (0.427)	-0.221 (0.425)	-0.101 (0.427)	0.020 (0.422)
Widowed[a]	-0.389 (0.600)	-0.270 (0.608)	-0.212 (0.615)	-0.436 (0.581)
Separated/Divorced[a]	-0.160 (0.798)	-0.082 (0.799)	0.038 (0.812)	0.024 (0.771)
Never Married[a]	-1.350 (0.882)	-1.282 (0.935)	-1.088 (0.904)	-1.101 (0.878)
Did not complete HS[b]	-1.584** (0.665)	-1.163* (0.675)	-1.573** (0.664)	-0.981 (0.657)
Completed HS[b]	-1.365** (0.676)	-0.904 (0.685)	-1.272* (0.679)	-0.942 (0.672)
Did not complete college[b]	-1.339** (0.648)	-1.057 (0.659)	-1.283** (0.651)	-0.875 (0.639)
Graduate Degree[b]	0.053 (0.893)	0.451 (0.902)	0.046 (0.892)	0.465 (0.867)
Somewhat comfortable financially[c]	-1.321*** (0.438)	-1.130** (0.446)	-1.318*** (0.437)	-1.278*** (0.429)
Not comfortable financially[c]	-0.669 (0.615)	-0.442 (0.609)	-0.630 (0.615)	-0.346 (0.606)
Physical Impairment	-0.187*** (0.061)	-0.161*** (0.061)	-0.185** (0.061)	-0.216*** (0.059)
n	*269*	*263*	*269*	*269*
Adjusted r-squared	0.087	0.131	0.089	0.155

Notes: [a]Reference group is married; [b]College degree is reference group; [c]Reference group is more than 5 years; [d]Reference group is very comfortable financially ; *p<.10; **p<.05;***p<.01

Table 4.4 (cont'd).

Variables	Unstandardized Coefficient (Standard Error) Model 1	Model 2	Model 3	Model 4
Resident has been living in AL for less than 1 year[d]	0.061 (0.682)	0.572 (0.691)	0.147 (0.684)	-0.134 (0.665)
Resident has been living in AL for 2-5 years[d]	-0.189 (0.651)	0.306 (0.661)	-0.183 (0.650)	-0.249 (0.632)
Aging in Place		0.195 (0.480)		
Independence		-1.539*** (1.032)		
Privacy		0.036 (0.437)		
Homelike Environment		1.096*** (0.397)		
Control		1.090*** (0.371)		
Knowledge of Facility Policies			0.557 (0.431)	
Perceived Familial Support				0.607*** (0.163)
Actual Familial Support				0.056 (0.079)
Perceived Friend Support Inside of Facility				-3.080* (1.722)
Perceived Friend Support Outside of Facility				0.987 (0.663)
Actual Friend Support (Visits)				0.243 (0.525)
Actual Friend Support (Phone calls)				0.853 (0.721)
n	*269*	*263*	*269*	*269*
Adjusted r-squared	0.087	0.131	0.089	0.155

Notes: [a]Reference group is married; [b]College degree is reference group; [c]Reference group is more than 5 years; [d]Reference group is very comfortable financially; *p<.10; **p<.05;***p<.01

CHAPTER 5

UNDERSTANDING THE ROLES OF PREDICTORS ON RESIDENT MENTAL HEALTH OUTCOMES FOR THE ASSISTED LIVING INDUSTRY: RESEARCH AND POLICY IMPLICATIONS

Discussion

In this project, I pose four questions: Which resident characteristics affect the mental health of residents in assisted living, what is the relationship between assisted living philosophical tenets and resident mental health, does resident knowledge of organizational policies regarding resident discharge influence mental health, and how does social support impact resident mental health? In Chapter 5 I revisit the findings, discussing their sociological relevance, importance for resident mental health, and policy implications.

Sociodemographic Predictors of Resident Mental Health

While some research suggests that women in age-homogeneous settings adjust better to this environment than their male counterparts, in part because of their ability to form new, positive social support networks (Perkinson and Rockemann 1996), other research finds that women are more likely than men to have concerns about maintaining their previously established networks, with "the potential loss of proximity to friends being the major concern with moving" (Fogel 1992: 15-16). However, in these analyses I do not find evidence to support the claim that women have worse mental health than men, as the gender (female) variable was non-significant throughout the regression analyses.

Consistent with previous research, higher education is also found to be a significant predictor of positive mental health. Residents with a college education have greater quality of life and lower rates of depression than those with a high school degree or less. Studies of education and mental health have found that well-educated individuals have better mental health than those with less education (Ross and Mirowsky 1999), therefore it is surprising that results from this project find no significant difference in the mental health of those with college degrees and those with a post graduate degree (beyond the 4 year college degree). It seems that the further one increases their education the better they would fair psychologically. However, those with post-graduate degrees represent only 5.4% of the population sampled, so it may be that the

small percentage makes it difficult to discern statistical differences between those two groups.

Based on results from this study, support is found showing that residents who have positive perceptions of their financial well-being are better off with regard to mental health. Unfortunately, the income data from this project is problematic. As one of the research assistants on the project, I know first-hand that a number of residents are not truly knowledgeable about their financial resources, as many have financial guardians or children who take care of their finances; however, many tried to estimate (provide a best guess) their financial status (e.g., regular sources of income, total income before taxes, sources used to pay for AL expenses, etc.). As a result of the problematic nature of the income data, it is not used in the analyses presented. However, I feel that using the residents' perception of their financial well-being is useful, because it demonstrates the protective nature of positive outlook on mental health. So, although residents may, in reality, not have enough money to meet their needs, their believing that they are financially secure is beneficial to their mental health.

Physical impairment is found to be a significant predictor of negative mental health. This is consistent with other research findings reporting that higher levels of depression are found among older age groups with more disabilities (Alexopolous 1996; Turner and McLean 1989).

Resident Knowledge of Policies as a Predictor of Resident Mental Health

Although resident knowledge of facility discharge policies is not a statistically significant predictor of mental health in the regression analyses, its relevance for resident autonomy is emphasized here. According to the ALFA, assisted living should " … allow each resident choice of care and lifestyle." In this study it is revealed that close to 40 percent of the residents have not received any information regarding factors leading to discharge. Therefore, in an effort to adhere to the main philosophical premise of AL (aging in place in a homelike environment) organizational policies regarding resident understanding of conditions leading to discharge are noted. In the FALS, administrators are asked to report on what resident factors would result in discharge.

Table 5.1 reports the administrators' responses. Consistent with other research examining admission/retention policies in AL (Chapin and Dobbs-Kepper 2001), most of the administrators report that they are willing to admit and retain individuals who use a wheelchair to get around and need assistance with ADLs. Conversely, residents with behavioral problems

(such as verbally aggressive behavior, physically aggressive behavior, and socially aggressive behavior) are less likely to be admitted and retained.

In addition, administrators are asked what other organizational policies might affect admitting or discharging a resident. Table 5.2 presents the top reasons that residents might be discharged, which are: the facilities basic policy regarding the level of care they provide, amount of staff in AL, and liability insurance. Facilities with only the standard license (which are the majority of FALS participants) cannot provide resources beyond which they are licensed. That means that if a resident becomes too frail and can no longer be accommodated by the facility, they will have to be discharged from the facility.

Assisted Living Philosophical Tenets as Predictors of Resident Mental Health

This project demonstrates the importance of resident perception of the AL philosophy for resident mental health. Support is found for two of the five hypotheses regarding the philosophical tenets. Consistent with classic research that documents the mental health benefits of adjustment (Boykin 1957; Havighurst and Orr 1955), results from this study show that feeling that AL is home is good for mental health among AL residents. In addition, the fact that resident control is associated with better mental health supports the idea that facilities should adopt the general AL philosophy and incorporate it into their daily operations.

Aging in Place. Although the aging in place concept was not significant in the analyses, the majority of residents (81%) expected that they would be able to remain in their AL for as long as they wanted. However, close to 18 percent of the residents feel that the ability to stay depends on some additional factors. In the surveys, residents are provided an open-ended response option to list reasons as to why they may not be able to age in place. About thirteen per cent of the participants chose to list responses to the open-ended option.

Money and Health. The top two reasons respondents give as reasons they may have to leave AL are money (55.1%) and health (32.1%). Most of the respondents feel that they will have to leave AL if they can no longer pay for services or decline in health or physical functioning. In reality, however, the top three reasons for resident discharge are engaging in physically aggressive behavior (mean=.95), being confined to a bed (mean= .82) and engaging in verbally aggressive behavior (mean= .81) as reported in Table 5.3. So, although facilities will discharge based on extreme physical limitations, the main reasons for discharge are behavioral problems, according to administrators.

In addition, most facilities accept some form of governmental subsidy for payment of services. Approximately, fifty percent of the facilities report that they accept Medicaid reimbursements/waivers or Assistive care if it is available. Moreover, forty-two per cent of the facilities sampled also accept SSI or some other form of state supplemental payment on behalf of the resident, if it is available. Based on the information provided by administrators and residents, it seems as though there is some disconnect between actual resident ability to age in place and resident perception of their ability to age in place. Administrators/operators of facilities should clearly outline and address policies related to successful resident aging in place.

Does the AL industry in Florida allow for successful resident aging in place? Table 5.5 presents a summary of discharge destinations. Administrators are asked to identify the discharge destinations for residents, if known. The most popular resident discharge destinations from Florida assisted living facilities are: nursing home (mean=3.24), home (theirs or someone else's) (mean=2.70), or death (in the facility) (mean=2.57). The possibility of being discharged to a nursing home or another home indicates that residents are not always able to successfully age in place. This is consistent with previous research, which reports that although facilities attempt to keep residents with increasingly greater care needs, it is not always possible to do so (Chapin and Dobbs-Kepper 2001). However, the fact that death in the facility is the third most common reason for resident discharge indicates that residents may be able to age in place in some assisted living communities.

Project Limitations

This study has some limitations, which should be noted. First, the great deal of missing data on the mental health measures makes it difficult to get a realistic distribution of the mental health outcomes among residents. However, the lack of data is not surprising given that this is an elderly population (Newmann 1989). Further, because the data comes from a population of mostly cognitively intact residents (less than 7% of the respondents sampled had severe cognitive impairment), the results may be painting a more positive picture of mental health among AL residents than is actually the case. As a member of the research team collecting the data, I (in certain cases) chose not to burden the participants with the mental health questions. In a number of instances, after responding to the first few mental health questions, residents would reflect on previous years when they were happier (e.g., married, not physically impaired, not living in assisted living) and would then exhibit discomfort in answering subsequent questions.

In addition to those limitations the data are cross-sectional, which does not allow me to establish temporal ordering. It may be the case that the mental health outcomes used in the study leads to many of the factors that were considered predictors in this study. Longitudinal data allows researcher(s) to follow up on the original respondents and sort out causal order. Nor does this data allow for the assessment of selection effects. That is, the cross-sectional data does not allow us to distinguish between those who will eventually improve in mental health status.

Also, the sample is predominantly white (about 95 percent) and drawn exclusively from the state of Florida. However, despite these limitations, this project provides baseline information that is useful in gathering initial information about this understudied population.

Areas for Future Research

As assisted living communities market to elders and their families, they attempt to attract these consumers to the services they provide. According to Carder (2002):

> Health service organizations use several strategies for marketing their services: Educational strategies (newspaper articles, public meetings), product information strategies (brochures, open houses), product persuasion strategies, presentation of images (positive of one's own and negative of the alternatives), and client retention strategies (satisfaction surveys and perks) (from Leutz et al. 1985).

Carder (2002) utilizes the second type of marketing strategy (i.e., brochures) in a qualitative work, which examines the type of marketing materials assisted living communities use to attract potential residents. She analyzes brochures from 63 facilities in Oregon, collected in 1997 and then again in 2000. She finds that the brochures are slightly misleading, as they depict lower numbers of women as residents, more married couples as residents, and less people utilizing a mobility device than was statistically presented in Oregon state data.

Carder also finds that independence is the main theme throughout the written portion of the brochures and continues to be the main theme over the 3 years. However, she asserts that this is somewhat of a contradiction as individuals are made to believe that they are independent while receiving assistance from facility caregivers. She points out that the facilities may use the catch phrase "independent" as a way to let the potential resident know that although they may have to utilize the services of another person, they will have choice in how much assistance they will receive.

In addition, Carder's research points to the facilities lack of acknowledgement of the policies and procedures. Only one of the 63 facilities mentions the policies associated with moving. However, none of the brochures discuss the communities' commitment to allowing the resident to age in place. This seems most problematic as assisted living was built upon the premise that residents would be allowed to age in place in a home like setting (Begley and Klein 2001).

Carder's work is groundbreaking in that it examines the quality of information that prospective residents of assisted living are provided by marketers. According to Begley and Klein (2001):

> The U.S. General Accounting Office (GAO), after studying 721 assisted living facilities in four states (California, Florida, Ohio, and Oregon) reported that their contracts lacked essential information, were vague or even misleading, and were not routinely provided to prospective residents. These observations were reinforced recently by the AARP, which . . . discovered that significant discrepancies between marketing materials and contracts are common (15).

The fact that many of the marketing materials and contracts are perhaps misleading is a cause for concern. As evidenced by the current study, a number of elders are unaware of the actual assisted living policies or structure. It is often the case that consumers tend to believe what they read in brochures or what they are told by those selling a product (Begley and Klein 2001). Interestingly, "no state statutory and regulatory schemes address marketing issues; none require use of a standard contract; and in those states that even require a written contract, few specify what the contract should include" (Begley and Klein 2001: 14).

Current research on this topic has not examined if the mental health of residents is at all influenced by the marketing structure of the AL industry. For example, what do residents believe about AL as a result of marketing materials given to them (or family members)? Are their beliefs confirmed when they come into an AL community? Future research should qualitatively examine the impact that marketing materials may have on resident mental health.

Conclusion

As evidenced by its philosophy, the assisted living industry is a consumer driven market in which it is important for those involved in providing services to ensure consumer satisfaction

(e.g., resident outcomes, such as mental health). According to Dixon, et al. (2001) assisted living communities accounted for more than half of the senior housing built in the United States in 1996. Around the same time period, the number of elders occupying nursing homes dropped. This reflects a growing number of individuals moving into assisted living communities. This is an important population to be studied, and the findings from this project provide a clearer picture of residents in assisted living. My findings suggest that older residents participating in the FARLS are relatively healthy, in terms of mental health. However, there is still much to be learned about this population in terms of mental health.

These findings also have implications for policymakers who support the assisted living philosophical ideology. It may be beneficial for state government officials to push for expanding social welfare programs, like Medicaid/Medicare, to cover all costs pertaining to AL. Previous research suggests that the Medicaid ALE waiver is an effective program, with those in publicly funded (OSS) facilities reporting improved mental health (Street, et al. 2005). Unfortunately, not all states accept the Medicaid waiver as payment. The state of Florida is an exception, providing a statewide ALE waiver program. There are many conditions under which one might qualify for the waiver, such as:

> … must be age 65 and older or be ages 60 to 64 and be determined disabled according to Social Security standards; meet nursing facility level-of-care criteria as determined by CARES (Comprehensive Assessment and Review for Long-Term Care Services); meet Supplemental Security Income (SSI), or Medicaid waiver assistance income and asset requirements; and meet one or more of the following: require assistance with four or more activities of daily living (ADLs); require assistance with three ADLs plus supervision or administration of medication; require total help with one or more ADLs; have a diagnosis of Alzheimer's disease or another type of dementia and require assistance with two or more ADLs; have a diagnosed degenerative or chronic medical condition requiring nursing services that cannot be provided in a standard ALF, but are available in an ALF licensed for limited nursing or extended congregate care; or be a Medicaid-eligible

> recipient who meets ALF criteria; be awaiting discharge from a nursing facility placement; and be unable to return to a private residence because of a need for supervision, personal care, periodic nursing services, or a combination of the three (Agency for Healthcare Administration 2006).

Although stringent, these guidelines may allow for greater variation among the assisted living population. Therefore, accepting the waiver may provide greater opportunity for different groups to have an alternative to institutionalized care, in addition to better mental health outcomes.

As evidenced by the results from this project, resident feelings regarding the AL philosophy do impact mental health outcomes. Moreover, AL residents transitioning from nursing home care to publicly-funded AL facilities have better mental health. Thus, it seems that the mental health of older adults in need of residential long-term care will be greatly served by living in a more socially-oriented model, such as assisted living. Using federal funding, the government can ensure that a greater variety of older adults in need of LTC housing can move into AL communities by making it more financially accessible to vast groups of elders. In addition, the federal funding of these facilities may make it easier to stipulate specifics regarding contracts and sanction inaccurate or potentially deceptive materials given out to residents, potential residents, and their families. Federal oversight may control for some of the erroneous messages that residents, potential residents, and their families receive as they transition into assisted living communities, which may provide for better mental health among residents.

Table 5.1. Percentage of FALS Facilities That Admit or Retain by Condition

Condition		% Will admit	% Will retain
Physical			
Is confined to a bed		8.9	18.7
	N	*451*	*391*
Is confined to a chair		45.8	53.0
	N	*430*	*383*
Uses a wheelchair to get around		81.9	84.2
	N	*443*	*393*
Needs assistance with transfers		75.9	79.1
	N	*448*	*392*
Lacks bladder control but can manage own incontinence		97.2	95.5
	N	*463*	*421*
Lacks bladder control and needs help managing own incontinence		87.3	86.1
	N	*456*	*411*
Lacks bowel control but can manage own bowel incontinence		89.5	88.6
	N	*457*	*414*
Lacks bowel control and needs help managing own bowel incontinence		70.3	75.4
	N	*448*	*395*
Cognitive			
Has a recent history of mental illness		66.5	62.4
	N	*424*	*362*
Has severe memory or judgment problems		59.8	61.9
	N	*448*	*391*
Behavioral Problems			
Wanders		42.4	37.9
	N	*446*	*383*
Engages in verbally aggressive behavior		27.5	19.5
	N	*436*	*375*
Engages in physically aggressive behavior		6.7	4.9
	N	*446*	*405*
Engages in socially inappropriate behavior		27.9	26.9
	N	*441*	*387*
Resists nursing care (e.g., bathing, taking meds)		38.4	33.0
	N	*437*	*388*
Engages in screaming periodically		32.6	34.6
	N	*439*	*382*

Table 5.1 (cont'd).

Financial			
Would need Medicaid to pay for care or services		55.0	62.6
	N	*440*	*377*
Would need OSS or Assistive Care to pay for care or services		53.6	61.8
	N	*440*	*369*

Table 5.2 FALS Organizational Factors affecting Resident Admission/Discharge.

		%	
		Admission	Discharge
Liability insurance	yes	56.8	51.5
	no	37.1	32.2
	N	*443*	*395*
Requirements of your insurers	yes	55.1	46.1
	no	36.2	35.5
	N	*431*	*384*
Preferences of other residents	yes	44.5	40.0
	no	48.1	43.2
	N	*437*	*391*
Staffing level	yes	63.3	52.7
	no	29.2	30.4
	N	*437*	*391*
Basic policy about level of care provided	yes	82.0	70.6
	no	11.9	13.8
	N	*443*	*398*
Americans with Disability Act	yes	32.2	23.1
	no	53.6	54.1
	N	*405*	*365*

Table 5.3. Top Three Reasons Facilities Discharge Residents from Florida Assisted Living Settings.

Reason for Discharge	Mean
Resident:	
Engages in physically aggressive behavior (n=405)	.95
Is confined to a bed (n=391)	.82
Engages in verbally aggressive behavior (n=375)	.81

Table 5.4 Facility Policies when Resident Exhausts Finances.

		Percent (%)
Accept Medicaid reimbursements (waiver or Assistive care), if available (N=455)	yes	50.1
	no	46.9
Accept SSI and state supplemental payment, if available (N=455)	yes	42.0
	no	55.0
Discharge resident (N=456)	yes	40.2
	no	56.8

Table 5.5. Top Three Discharge Destinations from Florida Assisted Living Settings.

Destination	Mean
Nursing home (n=445)	3.24
Home (n=447)	2.70
Died in the facility (n=446)	2.57

APPENDIX A:

Cognitive Screen

Respondent Name ______________________ Facility Name __________________

Respondent ID# ________________________ Facility ID# ___________________

***Instructions: Ask question CG5 only if the individual does not have a telephone.

Interviewer: I'd like to ask you some questions to see how well you can remember things. If you do not know the answers to some of the questions, that's okay. It's very normal. If you DO know the answers, the questions may seem very simple.

CG1	What is the date today?
CG2	What day of the week is it?
CG3	What is the name of this place?
CG4	What is your phone number?
CG5	***What is your street address?
CG6	How old are you?
CG7	When were you born?
CG8	Who is the president of the United States right now?
CG9	Who was the president just before him?
CG10	What was your mother's maiden name?
CG11	Subtract 3 from 20 and keep subtracting 3 from each new number, all the way down to zero. (Answer: 17, 14, 11, 8, 5, 2)

Total incorrect answers _____________________

0-2 errors = intact
3-4 errors = mild intellectual impairment
5-7 errors = moderate intellectual impairment
8-10 errors = severe intellectual impairment

Allow one more error if subject had no grade school education.
Allow one fewer error if subject had education beyond high school.
Allow one more error for black subjects, using identical education criteria.

APPENDIX B:

Human Subjects Approval Letter

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2763
(850) 644-8633· FAX (850) 644-4392

REAPPROVAL MEMORANDUM

Date: 9/23/2004

To:
Jill Quadagno
MC: 1121

Dept.: **Pepper Institute on Aging**

From: **John Tomkowiak, Chair** John Tomkowiak M.D.

Re: **Reapproval of Use of Human subjects in Research:**
Medicaid Assisted Living Programs in the context of Medicaid LTC expenditures and NH reduction

Your request to continue the research project listed above involving human subjects has been approved by the Human Subjects Committee. If your project has not been completed by 9/19/2005 please request renewed approval.

You are reminded that a change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must report to the Chair promptly, and in writing, any unanticipated problems involving risks to subjects or others.

By copy of this memorandum, the Chairman of your department and/or your major professor are reminded of their responsibility for being informed concerning research projects involving human subjects in their department. They are advised to review the protocols of such investigations as often as necessary to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

Cc:
HSC No. 2004.643

APPENDIX C:

Florida Assisted Living Resident Survey (Long Form)

We would like to get started with a few questions about you.

DM1 **Are you male or female?**
(Mark only one)

O Male

O Female

DM2 **What is your date of birth?**

____
(month/day/year)

DM3 **What is your current marital status?**

O **Married** → a. How would you rate your spouse's health? Is it….

- O Excellent
- O Good
- O Fair
- O Poor

O **Widowed** → b. How long have you been widowed?

- O Less than 6 months
- O 6 months to 1 year
- O More than 1 year but less than 2 years
- O Between 2 and 5 years
- O Longer than 5 years

O **Separated/ Divorced** → c. How long have you been separated/divorced?

- O Less than 6 months
- O 6 months to 1 year
- O More than 1 year but less than 2 years
- O Between 2 and 5 years
- O Longer than 5 years

O **Never married** *(skip to DM5, page 2)*

DM4 **How many times have you been married?**

O **Only once**

O **More than once** → a. How many of your marriages ended in widowhood? ________

b. How many of your marriages ended in divorce or separation? ________

DM5 **Are you Hispanic or Latino?**

O **Yes** → a. How would you describe yourself?

O Cuban

O Mexican

O Latin American

O Puerto Rican

O Other *(please specify)* ______________________

O **No**

DM6 **What is your race?**

O White

O Black

O Asian/Pacific Islander

O Native American

O Other *(please specify)* ______________________

DM7 **What is the highest level of education you completed?**

O 8th grade or less

O Some high school

O High school graduate/GED

O Vocational/technical/trade school

O Some college or community college graduate

O 4-year college graduate

O Post-graduate (beyond 4-year college)

DM8 **Were you ever employed?**

O **Yes** → a. Did you usually work full-time or part-time?

O Full-time

O Part-time

→ b. How many years did you work? _________ years

→ c. Were you self-employed?

O Yes

O No

d. What was your job? ____________________

O **No** → e. Were you a full-time homemaker?

O Yes

O No

Next we have some questions about your move to assisted living.

R1 **How long have you lived here?**

O Less than 6 months

O 6 months to 1 year

O Over 1 year but less than 2 years

O Between 2 and 5 years

O Longer than 5 years

R2 **What was the <u>single most important factor</u> about this place that helped you decide to move here?**

____

R3 **Before you moved to assisted living, who did you live with?**
(Mark only one)

O Lived alone

O Lived with spouse only

O Lived with others → a. Were the people you lived with family members?

O Yes

O No

R4 **Where did you live before you moved into this facility?**
(Mark only one)

- O Your own home or apartment?
- O A relative's home or apartment?
- O A different assisted living facility/retirement home?
- O Another place? *(please specify)* → ______________________________

R5 **In what city and state did you live?**

a. City ______________________

b. State ______________________

R6 **How long did you live there?**

- O Less than 6 months
- O 6 months to 1 year
- O Over 1 year but less than 2 years
- O Between 2 and 5 years
- O Longer than 5 years

R7 **Why did you move from there to here?** I'll read a list of items and you tell me which apply to you.
(Please mark all that apply)

- O a. I preferred to move closer to family or friends.
- O b. I needed more help.
- O c. My health condition improved.
- O d. I moved because of a specific event, like a fall or accident, or an illness.
- O e. I was too isolated before I moved here.
- O f. I couldn't live alone any longer.
- O g. My health got worse.
- O h. I was not satisfied with the quality of the last place I lived.
- O i. I could no longer afford the last place I lived.
- O j. My children wanted me to move.
- O k. It was the right time for me to move.
- O l. Other reason *(please specify)* ______________________________

R8 **Did someone else help you decide to move here?**

- O **Yes** → a. Who helped you decide? (For example, son, sister, friend, etc.) ________________
- O No

R9 **How much control did you have over the decision to move here?**

- O Complete control
- O Some control
- O Little or no control

R10 **Were you admitted to this facility directly from …** *(Mark only one)*

- O A rehab or sub-acute care center?
- O A nursing home?
- O A hospital?
- O Your own home or apartment?
- O A relative's home or apartment?
- O A different assisted living facility/retirement home?
- O Another place? *(please specify)* → ____________________________________

R11 **In the 6 months before you moved to assisted living, did you use any of these community-based services?** (*Mark all that apply)*

O	a. Respite care	O	f. Meal service
O	b. Adult day care	O	g. Transportation service
O	c. Personal care	O	h. Homemaker services
O	d. Home health services	O	i. Financial/legal services
O	e. Home modification	O	j. Other (*please specify*) ____________________________

We're shifting gears a little bit now. We'd like to know what you think about different aspects of your living arrangements here. Remember, your answers are confidential—no one but the researchers will know how you answered.

	First, we'd like to know how you feel about the staff members who work here.	***Yes***	***No***
ST1	Are the staff members who care for you usually dependable?	O	O
ST2	Do you feel that you have friends among the staff?	O	O
ST3	Are you usually satisfied with the personal assistance you are getting here?	O	O

ST4	Do you sometimes see staff treating residents in a rude way?	O	O
ST5	Is the staff slow to respond to when you ask for things?	O	O
ST6	Do you usually feel that the staff treats you with respect?	O	O
ST7	Does staff usually take the time to talk and listen to you?	O	O
ST8	Do you feel that the staff shows affection and caring for you?	O	O
ST9	Are you comfortable talking to the staff when you have health concerns?	O	O
ST10	During the week, are there usually enough staff on duty?	O	O
ST11	On the weekends, are there usually enough staff on duty?	O	O
ST12	Does most of the staff seem to be well trained?	O	O
ST13	Does the facility manage to keep its good workers?	O	O
ST14	Are your complaints or concerns usually taken seriously?	O	O
ST15	Does staff knock on your door and wait for you to say "come in" before they enter?	O	O
ST16	Do staff call you by the name that you prefer they use when they speak to you?	O	O

AC1 **During the past month, have you done any of the following activities?**
Mark all that apply

O a. Cards, board games, or bingo
O b. Arts and crafts
O c. Exercise or sports
O d. Playing or listening to music
O e. Reading or writing
O f. Religious or spiritual activities
O g. Shopping
O h. Going on trips or to the movies
O i. Walking or getting outside
O j. Watching TV → jj. How many hours do you watch TV most days? ________
O k. Any other activities? *(please specify)* ___________________________

AC2 **About how much time do you spend by yourself?**

O Most of the time
O Some of the time
O Not much of the time

AC3 **During the past 2 weeks, how many times did you leave the facility for a <u>social activity</u> such as going out to eat, shopping or to the movies, visiting family or friends, or attending church?** _______

This <u>does not</u> include trips to the hospital or doctors' office.

Please tell me what you think about the activities offered at this assisted living facility.

		Yes	**No**
AC4	Does this facility usually offer activities that you enjoy doing?	O	O
AC5	Do you attend most social activities offered here?	O	O
AC6	On weekends, does the facility offer enough activities?	O	O
AC7	On weekends, does the facility offer enough transportation?	O	O
AC8	Does staff here ask what activities you like and provide them?	O	O
AC9	Do you have enough chances to participate in interesting activities?	O	O
AC10	Have you met residents here with similar interests to yours?	O	O
AC11	Do you have enough chances to participate in activities outside the facility?	O	O

Now we would like to know a little about your religious activities…

		Daily/ Almost every day	**About once a week**	**About once a month**	**About once a year**	**Never/ almost never**
AC12	About how often do you attend religious activities held here at this facility?	O	O	O	O	O
AC13	About how often do attend religious meetings/services held elsewhere?	O	O	O	O	O
AC14	About how often do you watch religious services on TV?	O	O	O	O	O
AC15	About how often do you listen to religious services on the radio?	O	O	O	O	O
AC16	How often do you do private religious activities like prayer, Bible-reading, or meditation?	O	O	O	O	O

The next set of questions is about your personal living space.

LS1 **Is your personal space here an apartment or a bedroom?**

O **Apartment** → a. What kind of apartment is it?

- O Studio/efficiency
- O One bedroom
- O Two bedroom
- O Other apartment*(please specify)* ________________________

O **Bedroom** → a. What kind of room is it?

- O Single bedroom (private room)
- O Double bedroom (2 residents share)
- O Group bedroom (more than 2 residents)
- O Other type room *(please specify)* ________________________

LS2 Which of the items on this list do you have in your room or apartment?
(Mark all that apply)

- O a. Separate kitchen or kitchenette
- O b. A refrigerator
- O c. Microwave or toaster oven
- O d. Cupboards you can reach
- O e. Call button in bedroom
- O f. Lock on bedroom door
- O g. Seat in shower or tub
- O h. Safety railings in shower or tub
- O i. Railings beside toilet
- O j. Call button in bathroom
- O k. Lock on bathroom door
- O l. Medicine cabinet
- O m. Enough towel racks
- O n. A television
- O o. A telephone

LS3 **Do you share your personal living space with anyone?** That includes your bathroom, bedroom, and/or living room (if you have one).

O **Yes** → a. Are you sharing because you chose to or because you were assigned a roommate?

- O Chose to share
- O Assigned a roommate

b. With whom do you share your living space?

- O Spouse
- O Brother
- O Sister
- O Other relative *(please specify)* ______________________
- O Non-relative

c. How do you like your roommate(s)? Would you say you

- O Like your roommate
- O Neither like nor dislike your roommate
- O Dislike your roommate

d. Do you share a bedroom with anyone?

- O Yes → e. With how many other people? ________
- O No

f. Do you share a bathroom with anyone?

- O Yes → g. With how many other people? ________
- O No

O **No**

Now we would like to know about some of your experiences living here.

		Yes	No
LS4	Can you control your own heat or cooling?	O	O
LS5	Can you lock your bedroom or apartment door?	O	O
LS6	Can you arrange furniture the way you want it?	O	O
LS7	When you moved in, could you bring your own furniture?	O	O
LS8	Is there enough storage space for all of your belongings?	O	O
LS9	Are you generally satisfied with your living space?	O	O
LS10	Does this place feel like home to you?	O	O
LS11	Would you like to have more privacy?	O	O
LS12	Do you feel safe and secure here?	O	O
LS13	Have any of your belongings been lost or stolen?	O	O
LS14	Can you sleep late if you want to?	O	O
LS15	Are you encouraged to do as much for yourself as you can?	O	O
LS16	Do you feel like a member of the family here?	O	O
LS17	Can you set your own daily schedule?	O	O
LS18	Do you help out here, like greeting people who come here or helping other residents?	O	O
LS19	Does the way other residents behave often bother you?	O	O
LS20	Is it quiet enough here at night so that you sleep okay?	O	O
LS21	Do you get as much help as you need here?	O	O
LS22	Do other residents usually respect your privacy?	O	O
LS23	Is the facility in general well-maintained and clean?	O	O
LS24	Is it easy to get transportation to places you need to go, such as shopping or to the doctor or dentist?	O	O

M1 **How would you rate the quality of the food here? Is it…**
(Mark only one)

O Excellent

O Good

O Fair

O Poor

		Yes	No
M2	Are there usually at least two choices for main courses?	O	O
M3	Is there something you like to eat served at most meals?	O	O
M4	Are snacks available any time you are hungry?	O	O
M5	Is food that should be served hot usually served hot?	O	O
M6	Are you served enough food to fill you up?	O	O

M7	Can a visitor join you for a meal here at the facility?	O	O
M8	Are your special diet needs met (like diabetic meals, low fat meals or soft food when necessary)?	O	O
M9	At most meals, can you choose who to sit and eat with?	O	O
M10	Would you say you usually like the food here?	O	O
M11	If you don't feel well, can you get a meal served in your room?	O	O

P1 **Can you come and go from here as you please?**

O **Yes** → *Please mark all that apply.*

- O a. Do you have to sign out and back in?
- O b. Do you have to tell staff where you are going?
- O c. Do you have to tell staff when you will return?

O **No** → *Please mark all that apply.*

- O d. Must you sign out and back in?
- O e. Must you have permission from a staff member to leave?
- O f. Must you have permission from anyone else to leave? *(please specify)* ________________
- O g. Any other restrictions? *(please specify)* ______________________

P2 **Can you have any visitors you want to have, any time you wish?**

O **Yes** → *Please mark all that apply.*

- O a. Do visitors have to sign in and out?
- O b. Do you have to tell staff when you expect visitors to arrive?
- O c. Do you have to tell staff who will visit you?
- O d. Can you have overnight guests?

O **No** → *Please mark all that apply.*

- O e. Visitors can come only during visiting hours.
- O f. Visitors can come only on certain days.
- O g. You need permission from staff to have visitors.
- O h. Other visitor restrictions? *specify* → __________________

P3 **Do you expect to be able to live here as long as you want to?**

O Yes

O No

O Depends → (*Please specify*) ______________________________

P4 **Has anyone from this facility given you information about what could lead to discharge from here because of the type of care you need?**

O Yes

O No

O Don't know

P5 **Do you know how much your monthly charges or bills for the facility are?**

O **Yes** → a. How do current monthly charges, including extras, compare to what you expected when you moved in?

O About what you expected

O Lower than you expected

O Higher than you expected

→ b. What are your current monthly charges, including extras? $ ______________

O **No**

The questions in this section of the survey are about your health and your general views towards life. <u>There are no right or wrong answers to these questions.</u> Select the answer that describes you best.

I'm going to read the following statements about how you are feeling right now. Please tell me whether yo agree or disagree with each statement. (<u>Do not offer don't know</u> as a response category)

		Agree	Disagree
I1	I have skills that I can pass along to others.	O	O
I2	People come to me for advice.	O	O
I3	I feel that other people need me.	O	O
I4	I have a good influence on the lives of other people.	O	O
L1	I have little control over the things that happen to me.	O	O
L2	There is really no way I can solve some of the problems I have.	O	O
L3	There is little I can do to change many of the important things in my life.	O	O
L4	I often feel helpless in dealing with problems of life.	O	O
L5	Sometimes I feel that I am being pushed around in life.	O	O
L6	What happens to me in the future mostly depends on me.	O	O
L7	I can do just about anything I really set my mind to.	O	O

H1 **In general, how is your health at this time? Is it….**
(Mark only one)

O Excellent

O Good

O Fair

O Poor

H2 **How is your health compared to a year ago? Is it …**
(Mark only one)

O Better?

O About the same?

O Worse?

H3 **Do any health problems you have stand in the way of doing all of the things you want to do?**

O Not at all

O A little bit or sometimes

O A great deal

H4 **Compared to most people your age, how is your health? Is it…**

O Better?

O About the same?

O Worse?

H5 **How often do you feel sad or depressed?**
(Mark only one)

O Rarely

O Sometimes

O Often

O Almost always

H6 **During the past week, has pain interfered with your normal activities, such as visiting with friends, going out, and so on?**
(Mark only one)

O Rarely

O Sometimes

O Often

O Almost always

H7 **During the last 3 years, have you had…**
(Please mark all that apply)

O a. A heart attack?

O b. A hip fracture?

O c. Cancer?

O d. A stroke?

H8 **Do you have any of these health conditions?**
(Please mark all that apply)

O a. Hearing problems

O b. Vision problems (more than just needing glasses)

O c. Glaucoma

O d. Respiratory problems (like asthma or emphysema)

O e. Rheumatism or arthritis

O f. Osteoporosis

O g. Paralysis

O h. Parkinson's disease

O i. Diabetes, high blood sugar, or sugar in urine

O j. Hypertension or high blood pressure

O k. Heart problems (other than a heart attack)

O l. Urinary or bladder problems

O m. Foot trouble (like bunions or ingrown toenail)

O n. Trouble with your teeth

O o. Any other health problem? ___________________________

H9 **Did you ever fall, either to the ground or against some object, during the past year?**

O **Yes** → a. How seriously were you injured?
(Mark only one)

- O Very seriously, needing medical attention.
- O Seriously, but did not need medical attention.
- O Not very seriously
- O Not injured at all

O **No**

H10 **Have you been hospitalized overnight during the past year?**

O **Yes** → a. How many times were you hospitalized? → __________

b. Why were you hospitalized? ______________________________

O **No**

H11 **Since you moved here, have you ever needed temporary nursing care?**
For instance, were you ever ill or injured, or experienced something where you needed injections, woun
care, or monitoring by a nurse?

O **Yes** → How was your need for nursing care met?
(Mark all that apply)

- O a. I went to the hospital until I recovered.
- O b. I went to a nursing home or rehab facility until I recovered.
- O c. This facility provided the care with a staff nurse.
- O d. A home health nurse cared for me here.
- O e. Other *(please specify)* → ______________________

O **No**

**Next, we'd like to know how you have been feeling about your life over the past week.
Thinking back over the past seven days ….**

		Yes	**No**
H12	Are you basically satisfied with your life?	O	O
H13	Do you feel that your life is empty?	O	O
H14	Do you often get bored?	O	O
H15	Are you in good spirits most of the time?	O	O
H16	Are you afraid that something bad is going to happen to you?	O	O
H17	Do you feel happy most of the time?	O	O
H18	Do you often feel helpless?	O	O
H19	Do you prefer to stay here, rather than going out and doing new things?	O	O
H20	Do you feel you have more memory problems than most people?	O	O
H21	Do you think it is wonderful to be alive now?	O	O
H22	Do you feel full of energy?	O	O
H23	Do you feel that your situation is hopeless?	O	O
H24	Do you think that most people are better off than you are?	O	O
H25	Do you often feel lonely?	O	O

H26 **Thinking back to just before you moved here, how is your quality of life now?**

O Better?

O About the same?

O Worse?

Researchers also need to know how residents get along with some of the things each of us need to do every day.

AD1 **How hard is it for you to get dressed by yourself, without using special equipment (like hooks to pu up zippers or special clothing)?**

O Very hard

O Somewhat hard

O Not hard at all

		Yes	No
AD2	**Does someone usually help you get dressed?**	O	O
AD3	**Do you usually wear special clothing or use special equipment (like hooks to close zippers) to get dressed?**	O	O

AD4 **How hard is it for you to eat and drink by yourself, without using special equipment (like special utensils or dishes)?**

O Very hard

O Somewhat hard

O Not hard at all

		Yes	No
AD5	**Does someone usually help you eat or drink?**	O	O
AD6	**Do you usually use special utensils or dishes to help you eat or drink?**	O	O

		Very hard	Some what hard	Not hard at all
AD7	**How hard is it for you to get out of <u>bed or a chair</u> by yourself, without using special equipment (like a cane, walker or a wheelchair)?**	O	O	O
AD8	**How hard is it for you to <u>get around indoors</u> by yourself, without using special equipment (like a cane, walker, or wheelchair)?**	O	O	O

		Yes	No
AD9	**Does someone usually help you get out of bed or a chair?**	O	O
AD10	**Does someone usually help you get around indoors?**	O	O

AD11 **Do you usually use any special equipment, like a cane or a walker, either to help get out of bed or out of a chair, or to get around?**

O **Yes** → What special equipment do you use? *(Mark all that apply)*

O	a. Cane	O	f. Orthopedic shoes
O	b. Walker	O	g. Brace/prosthesis
O	c. Wheelchair	O	h. Oxygen/respirator
O	d. Crutches	O	i. Ramps
O	e. Handrails	O	j. Other *(please specify)* ____________________

O **No**

AD12 **How hard is it for you to bathe or shower by yourself, without using special equipment (like a shower seat or grab bars)?**

O Very hard
O Somewhat hard
O Not hard at all

		Yes	No
AD13	**Does someone usually help you bathe or shower, for instance, by staying nearby or by helping you wash?**	O	O
AD14	**Do you usually use special equipment, like grab bars or a shower seat, to help you in the bathtub or shower?**	O	O

AD15 **How hard is it for you to get to the bathroom or use the toilet by yourself, without using special equipment?**

O Very hard
O Somewhat hard
O Not hard at all

		Yes	No
AD16	**Does someone usually help you get to the bathroom or use the toilet?**	O	O
AD17	**Do you usually use special equipment, like grab bars or a bedside commode, or a raised toilet, to help you get to the bathroom or use the toilet?**	O	O

IAD1 **Do you sometimes do light work around your room or apartment, like straightening things up or putting things away?**

O Yes

O No

IAD2 **Does someone else usually help with light work?**

O **Yes** → Who helps you with light work? *(Mark all that apply)*

- O a. Facility staff
- O b. Friend
- O c. Family *(relationship?)* ______________________________

O **No**

IAD3 **Do you sometimes do your own laundry?**

O Yes

O No

IAD4

Does someone else usually do the laundry?

O **Yes** → Who helps you with laundry? *(Mark all that apply)*

- O a. Facility staff
- O b. Friend
- O c. Family *(relationship?)* ______________________________

O **No**

IAD5 **Do you sometimes prepare your own meals?**

O Yes

O No

IAD6 **Does someone else usually prepare your meals?**

O **Yes** → Who prepares the meals?
(Mark all that apply)

O a. Facility staff

O b. Friend

O c. Family*(relationship?)* ____________________________

O **No**

IAD7 **Do you sometimes grocery shop?**

O Yes

O No

IAD8 **Does someone else usually do your grocery shopping?**

O **Yes** → Who gets groceries?
(Mark all that apply)

O a. Facility staff

O b. Friend

O c. Family *(relationship?)* ____________________________

O **No**

IAD9 **Do you get around outside at all, either with or without help?**

O Yes

O No

IAD10 **Do you usually manage your money by yourself, including things like keeping track of bills?**

O Yes

O No

IAD11 **Does someone else help you manage your money?**

O **Yes** → Who helps you manage money?
(Mark all that apply)

O a. Facility staff

O b. Friend

O c. Family *(relationship?)* ____________________________

O **No**

IAD12 **Do you usually make your own phone calls?**

O Yes

O No

IAD13 **Does someone else help you make telephone calls?**

O **Yes** → Who helps you with the phone? *(Mark all that apply)*

O a. Facility staff

O b. Friend

O c. Family *(relationship?)* ____________________________

O **No**

IAD14 **Do you use email or the internet?**

O Yes

O No

RX1 **During the past month, have you taken any medicines prescribed by a doctor?**

O **Yes** → a. How many prescriptions do you take daily? _______

b. How many prescriptions do you take only as needed (such as, only when in pain)? _______

O **No**

RX2 **During the past month, have you taken any medicines that you can buy over the counter like aspirin, laxatives, vitamins, or antacids?**

O **Yes** → a. Please estimate how many different over the counter medications you have taken during the past month. _______

O **No**

RX3 **Does someone usually help you with medications, either by reminding you when to take them or by getting it ready for you to take?**

O **Yes** → Who helps you with medications? (*mark all that apply)*

O a. Facility staff

O b. Friend

O c. Family *(relationship?)* ____________________________

O **No**

RX4 **Do you need additional help with your medications?**

- O Yes
- O No

How hard is it for you to do the following tasks?

		Very hard	*Somewhat hard*	*Not hard at all*
IAD16	Climb a flight of stairs?	O	O	O
IAD17	Walk to the end of a room and back?	O	O	O
IAD18	Lift a package like a bag of groceries and hold it for a few minutes?	O	O	O
IAD19	Wash your own hair?	O	O	O
IAD20	Use your fingers to grasp and handle small objects?	O	O	O
IAD21	Turn your faucets on or off?	O	O	O
IAD22	Sit for more than 2 hours?	O	O	O

IAD15 **Do you have a driver's license?**

O **Yes** → a. About how often do you usually drive?

- O Once a day or more
- O Once a week or more
- O Once a month or more
- O Hardly ever
- O I don't drive any more

O **No** → a. Why not?

- O Never had a license
- O Gave up the license

We're almost finished.
We just need to ask a few questions about your contact with family and friends.

		Daily/ Almost every day	About once a week	About once a month	About once a year	Never/ almost never
FA1	About how often do family members visit you here?	O	O	O	O	O
FA2	About how often do you speak on the phone with a family member?	O	O	O	O	O

		None	1	2-3	4-5	More than 5
FA3	About how many relatives live within an hour's drive of here?	O	O	O	O	O
FA4	In a typical month, about how many **different** family members do you see?	O	O	O	O	O
FA5	In a typical month, about how many **different** family members do speak with on the phone?	O	O	O	O	O

FA6 **Which family members visit most often (such as sister, son, granddaughter, nephew)?**

a. ______________________________

b. ______________________________

c. ______________________________

FA7 **Which family members call most often (such as sister, son, granddaughter, nephew)?**

a. ______________________________

b. ______________________________

c. ______________________________

FA8 **How is the amount of contact you have with your family since living here? Is it…**

O Too much?

O About right?

O Not enough?

FA9 **In times of trouble, how often can you count on at least some of your family?**

O Most of the time

O Sometimes

O Hardly ever

FA10 **Compared to before you moved here, how often do you see your family?**

O More often

O About as often

O Less often

FA11 **Compared to before your move here, how are your relationships with your family?**

O Better

O About the same

O Worse

FA12 **Besides the people who work here, who would you turn to if you had a problem and needed help?**

a. Name ________________________________

b. What is that person's relationship to you? ________________________________
(such as child, doctor, guardian, friend)

O c. No one helps me with problems except the people who work here.

Because this person knows someone in assisted living, we would also like to contact them to find out what their views are about assisted living.

FA13 **What is this person's telephone number?**

Area code and phone number ________________________

Now we have just a few questions about your **friendships**. The first questions apply only to your friends who **live here** at this facility, **not** your friends who live elsewhere.

FR1 **Do you regard any of the people who live here as your friends?**

O **Yes** → a. About how many people who live here do you regard as friends? ________

O **No** → ***Skip to question FR3.***

FR2 **How do you feel about the amount of contact you have with your friends who live here? Is it….**

O Too much?

O About right?

O Not enough?

FR3 **Do you have regular contact with friends that do not live here?**

O **Yes**

O **No** → ***Skip to question IN1, next page.***

FR4 **Have you visited with any of your friends who do not live here, either at this facility or somewhere else, in the past month?**

O **Yes**

O **No**

FR5 **Have you spoken on the phone with any of your friends who do not live here in the past month?**

O **Yes**

O **No**

FR6 **How do you feel about the amount of contact you have with your friends who do not live here? Is it…**

O Too much contact?

O About the right amount of contact?

O Not enough contact?

One great thing about family and friends is that sometimes they can help each other out. Researchers are interest in whether people who are in assisted living help others financially, and whether others help them.

IN1 **Did you give financial help to anyone in the past year?** That is, did you give gifts of money, or pay bills for, or make loans to anyone?

O **Yes** → ***To whom did you give financial help last year?***
Mark all that apply

O	a. Friend	O	e. Son
O	b. Sister	O	f. Grandson
O	c. Brother	O	g. Granddaughter
O	d. Daughter		
O	h. Someone else *(Who?)* ________________________		

O **No**

IN2 **Did you receive financial help from anyone last year?**
Did someone help you out with gifts of money, or pay bills for you, or lend you money?

O **Yes** → ***Who gave you financial help last year?***
Mark all that apply

O	a. Friend	O	e. Son
O	b. Sister	O	f. Grandson
O	c. Brother	O	g. Granddaughter
O	d. Daughter		
O	h. Someone else *(who?)* ________________________		

O **No**

IN3 People often use funds from several sources to pay for assisted living.
Please mark all sources that pay any portion of your assisted living expenses.

O	a. Your own income and savings	O	d. Medicaid
O	b. Long-term care insurance	O	e. Veteran's benefits
O	c. Your family	O	f. Optional State Supplementation (OSS)

O g. Some other source *(please specify)* ______________________

IN4 **How well does the money that you have take care of your needs?**
(Mark only one)

O Very well
O Somewhat well
O Not well at all

Some people find the following questions about income and assets very sensitive. Remember your answers are confidential. No one but the researchers will ever see the information you give. Your answers won't affect your eligibility for state programs, the care you receive, or your living arrangements at this facility.

We ask these questions because it is the only way researchers can gain accurate information about assisted living resident's income. We will understand if you prefer not to answer, but it is very helpful to us if you do.

IN5 **What are your regular sources of income? What are payments do you receive every month?**
(Please mark all that apply)

O a. Employment
O b. Social Security
O c. Supplemental Security Income (SSI)
O d. Pensions or annuities
O e. Military pension
O f. Veteran's benefits
O g. Optional State Supplementation (OSS)
O h. Other regular income *(please specify source)* ______________________

IN6 **For last year, the year beginning January 2003 and ending in December 2003, which category comes closest to the total income before taxes or any deductions for you (and your spouse, if applicable)?**
(Mark only one)

O Less than $5000
O Between $5000 and $9999
O Between $10,000 and $14,999
O Between $15,000 and $19,999
O Between $20,000 and $24,999
O Between $25,000 and $29,999
O Between $30,000 and $39,999
O Between $40,000 and $49,999
O Between $50,000 and $74,999
O More than $75,000

Some people get along financially because they have things of value other than just income or money. This information helps researchers understand the general financial status of residents of assisted living.

IN7 **Please indicate whether or not you have any of the following items.**
(Please mark all that apply)

O a. A checking account

O b. A savings account

O c. Certificates of deposit

O d. Savings bonds or treasury bills

O e. Mutual funds or shares of stock

O f. Other savings

IN8 **Please indicate whether or not you have any of the following items.**
(Please mark all that apply)

O a. Your own home

O b. A second home

O c. Rental real estate

O d. Personal vehicles like cars or trucks

O e. A motor home

O f. A boat

O g. Bond funds

O h. Cash value in a life insurance policy

O i. Valuable collections for investment purposes

O j. Rights in a trust or an estate

These are all of the questions in the survey.

Thank you very much for taking the time to provide information for this important study.

APPENDIX D:

Additional Regression Tables: Standardized Regression Coefficients Only

Table D.1. Depression Regressed on Length of Time in AL, Assisted Living Philosophical Tenets, Resident Demographics, Knowledge of Facility Policies, Physical Disability, Financial Well-Being and Social Support

Variables	Model 1	Model 2	Model 3	Model 4
Resident Characteristics				
Age	-0.033	-0.059	-0.038	-0.041
Female	0.040	0.035	0.037	0.038
Widowed[a]	0.079	0.065	0.046	0.104
Separated/Divorced[a]	0.020	-0.009	0.003	0.025
Never Married[a]	0.047	0.053	0.021	0.046
Did not complete HS[b]	0.328***	0.290***	0.325***	0.264***
Completed HS[b]	0.247***	0.191**	0.223**	0.188*
Did not complete college[b]	0.198**	0.155	0.185*	0.172*
Graduate Degree[b]	-0.006	-0.061	-0.005	-0.040
Somewhat comfortable financially[c]	0.218 ***	0.183***	0.210***	0.201***
Not comfortable financially[c]	0.246***	0.213***	0.238***	0.225***
Physical Impairment	0.200***	0.200***	0.200***	0.223***
Resident has been living in AL for less than 1 year[d]	0.118	0.058	0.092	0.161
Resident has been living in AL for 2-5 years[d]	0.124	0.064	0.112	0.132
Assisted Living Philosophical Tenets				
Aging in Place		-0.017		
Independence		0.125*		
Privacy		0.080		
Homelike Environment		-0.216***		
Control		-0.074		
Knowledge of Facility Policies			-0.102	
Social Support				
Perceived Familial Support				-0.172***
Actual Familial Support				0.010
Perceived Friend Support Inside of Facility				0.108*
Perceived Friend Support Outside of Facility				-0.004
Actual Friend Support (Visits)				-0062
Actual Friend Support (Phone calls)				0.005
n	*239*	*234*	*239*	*239*
Adjusted r-squared	0.159	0.214	0.164	0.182

Notes: [a]Reference group is married; [b]College degree is reference group; [c]Reference group is very comfortable financially; [d]Reference group is more than 5 years; *p<.10; **p<.05;***p<.01.

Table D.2. Quality of Life Regressed on Length of Time in AL, Assisted Living Philosophical Tenets, Resident Demographics, Knowledge of Facility Policies, Physical Disability, Financial Well-Being and Social Support

Variables	Model 1	Model 2	Model 3	Model 4
Resident Characteristics				
Age	0.093	0.085	0.095	0.080
Female	-0.017	-0.032	-0.015	0.003
Widowed[a]	-0.059	0.041	-0.032	-0.066
Separated/Divorced[a]	-0.017	-0.008	0.004	0.002
Never Married[a]	-0.116	-0.108	-0.093	-0.094
Did not complete HS[b]	-0.233**	-0.171*	-0.232**	-0.144
Completed HS[b]	-0.189**	-0.124	-0.176*	-0.130
Did not complete college[b]	-0.203**	-0.160	-0.194**	-0.133
Graduate Degree[b]	0.004	0.037	0.004	-0.038
Somewhat comfortable financially[c]	-0.187***	-0.159 **	-0.186***	-0.181***
Not comfortable financially[c]	-0.070	-0.046	-0.065	-0.036
Physical Impairment	0.185***	0.157***	-0.183***	-0.213***
Resident has been living in AL for less than 1 year[d]	0.010	0.090	0.023	-0.021
Resident has been living in AL for 2-5 years[d]	-0.031	0.050	-0.030	-0.041
Assisted Living Philosophical Tenets				
Aging in Place		0.025		
Independence		0.096		
Privacy		0.005		
Homelike Environment		0.171***		
Control		0.177***		
Knowledge of Facility Policies			0.080	
Social Support				
Perceived Familial Support				0.230***
Actual Familial Support				0.046
Perceived Friend Support Inside of Facility				-0.106*
Perceived Friend Support Outside of Facility				0.090
Actual Friend Support (Visits)				0.028
Actual Friend Support (Phone calls)				0.070
n	*269*	*263*	*269*	*269*
Adjusted r-squared	0.087	0.131	0.089	0.155

Notes: [a]Reference group is married; [b]College degree is reference group; [c]Reference group is more than 5 years; [d]Reference group is very comfortable financially; *p<.10; **p<.05;***p<.01

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RESEARCH IN PROGRESS

Reynolds, John, Emily Boyd, Stephanie Burge, **Brandy Harris**, and Cheryl Robbins.
"Mastery and the Fulfillment of Occupational Expectations by Midlife." (planned for *Social Psychology Quarterly*, Fall 2006).