

ASSESSMENT OF HOUSING, NEIGHBORHOOD, LIFE  
AND FAMILIAL SATISFACTION OF URBAN  
AND RURAL ELDERLY OKLAHOMANS

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## PREFACE

This study was undertaken to determine the degree to which Oklahoma urban and rural elderly perceive that their current housing situation meets their needs. Additionally, the study accesses how an Oklahoma sample derived for real estate assessment rolls and voter registration records compares with a state, regional, and national sample of elderly Americans. The research investigates housing/neighborhood satisfaction, health, life satisfaction, activity level, family relationships, demographics, and housing characteristics of the elderly population.

The format of this dissertation deviates from the prescribed thesis format at Oklahoma State University. The reason for the style deviation is to create manuscripts suitable for publication as well as to complete the requirements for the traditional thesis. Three manuscript styles have been used in the writing of this thesis. Each manuscript follows the style requirements of the specific journal with minor alterations for presentation in the thesis. The manuscript style for the Social Indicators Research journal was used for Chapter IV. Chapter V uses The Chicago Style Manual as is necessary for publication in

the Journal of Home Economics. Chapter VI uses the Publication Manual of the American Psychological Association, the style indicated by the Housing and Society journal. Chapters I,II,and III use the Publication Manual of the American Psychological Association along with the Oklahoma State University thesis style. The cooperation of the Graduate College and Dean Norm Durham is appreciated for the allowance of this deviation.

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than words can express. They have always allowed me to make my own decisions and pursue my dreams and for that I will always be grateful.

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## CHAPTER I

### INTRODUCTION

#### The Research Problem

The population of the United States is aging. This is due, in part, to an increased life expectancy of persons in this country and a large post-war generation moving through the life cycle.

The post-war generation or the "Baby Boom" generation has created a demographic shift in our population. This is the large group of children born during 1946-1964 after the Second World War. As this group moves through the life cycle the elderly population will continue to grow (Belsky, 1984). The birthrate has dropped significantly since this "Baby Boom" period, contributing to a larger portion of the population being elderly. As Dibner (1983) points out, the population of the United States was only 2 percent elderly in 1910, but is expected to be 25 percent by the year 2030. In 1986, 29.2 million persons or 12 percent of the population was aged 65 or older (American Association of Retired Persons, 1987). This is not a trend occurring solely in the United States, but also all over the world.

As Wall (1986) says, "The whole world is aging at an awesome and sobering rate" (p. 28).

The second contributor to the high elderly population is life expectancy. Life expectancy has risen from 48.2 years at the beginning of the century to 73.8 years in 1978 (Butler, 1981). The life expectancy numbers will continue to grow in future years. This increase is largely due to advances in medical technology and health knowledge that has helped to eradicate numerous diseases (Belsky, 1984). A futuristic look at life expectancy predicts that by 2025, life expectancy at birth will increase by more than 20 years to near 95 years of age (Wall, 1986). The numbers of this elderly group will continue to increase in the future. As a nation, the United States must come to recognize and deal with the special needs of this aged group.

Forty-three percent of all the country's elderly reside in the Southern Region of the nation, the region of which Oklahoma is a part. In 1980, the percentage of elderly inhabitants in Oklahoma was 12.4 percent. Figure 1 illustrates those counties in Oklahoma with the largest elderly populations.

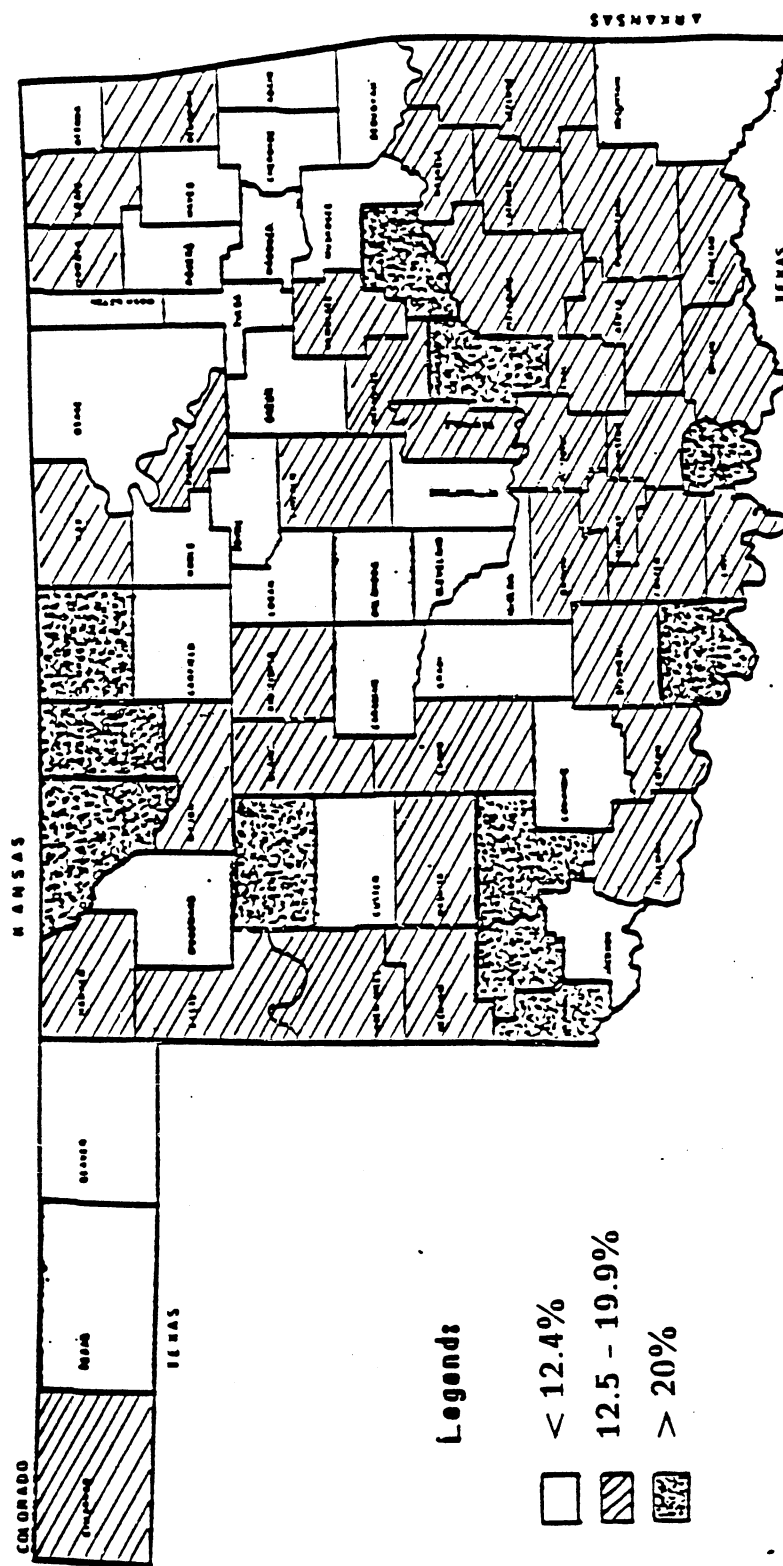


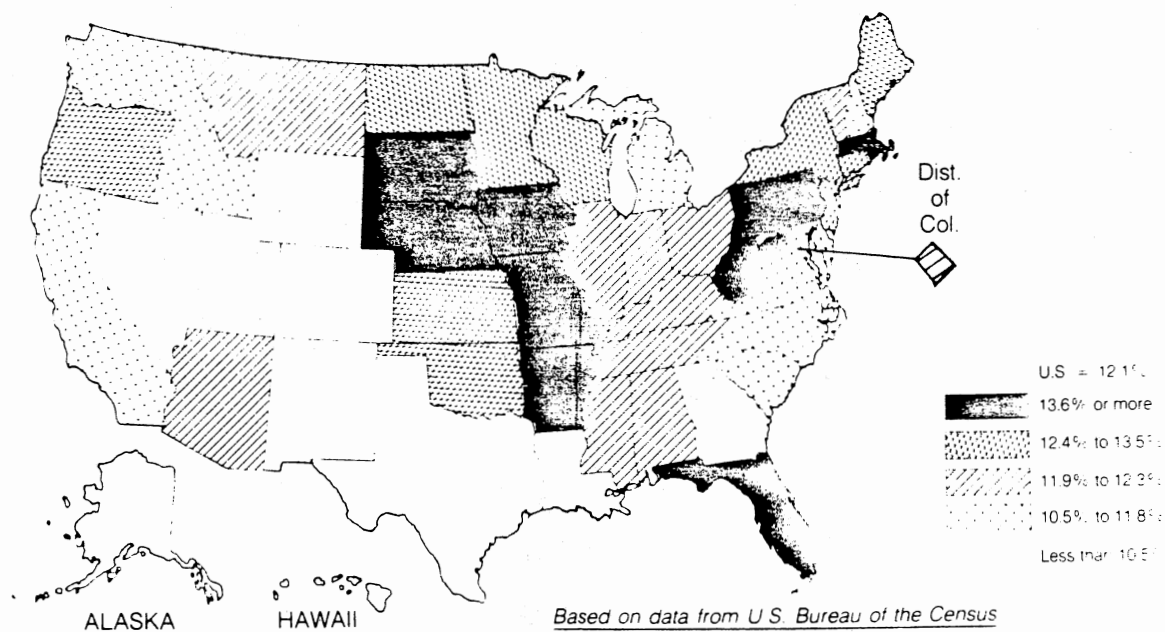
Figure 1. Percentage of Persons 65 Years and Over, Oklahoma by County, 1980

This is a 26 percent increase since 1970, and places Oklahoma 12th in the nation for its percentage of elderly. Figure 2 represents those states with the largest elderly populations in the United States.

Many older people live alone instead of in family situations. Because women generally out live men, it is predominately the elderly female that is living alone. Thirty percent of all rural elderly household heads are single females (Arnold, 1984). Although there are more aged males in rural farm areas, the "most rapidly growing rural elderly category is the nonfarm, and these are mostly women" (Dibner, 1983, p.97).

Not only do elderly people live alone, but many have lived in the same residence for many years. They also reside in older housing units. In 1979, almost half of all elderly home owners had lived in their present dwelling for 20 years or more (Arnold, 1984). In 1983, 36 percent of housing units owned by the elderly were built prior to 1939 (American Association of Retired Persons, 1987). Elderly renters also tend to occupy their rental units for many years (Engler & Spohn, 1985).

The median family income of the rural elderly is lower than that for rural non-elderly. Nation wide, the median income for the rural elderly in 1979 was less than \$7,000 dollars. In the Southern Region of the United States the median income for the rural elderly was \$5,779 (Arnold, 1984).



Source: American Association of Retired Persons (1987). A profile of older Americans (AARP Publication No. PF3049 (1187) D996). Washington, DC: American Association of Retired Persons.

Figure 2. Persons 65+ as Percentage of Total Population:  
1986



The rural elderly are at a distinct disadvantage when it comes to housing. Many of the elderly are living in homes that are old and in need of repair. Unfortunately, often incomes are small and fixed, making maintenance and repair a burden that the aged can not afford financially (Mayer & Lee, 1981). In addition, in many cases there are not enough financial resources to move to different housing. Also, because the rural elderly are often isolated they may not have anyone to help them with housing needs such as maintenance and repair. At a time when physical abilities and financial resources are limited the elderly need the most assistance from society with their housing.

#### Statement of the Problem

The needs of the rural elderly are not well documented because of a lack of research in the area. According to Lawton, Newcomer, and Byerts (1976, p.330), "the gerontological literature is surprisingly thin in its treatment of the special problems of aging in nonmetropolitan areas of the country". Atchley and Miller (1975) highlight rural elderly housing as an area that has been relatively unstudied. Issues in housing are "intimately connected with other aspects of the lives and lifestyles of the rural elderly" (Lee, 1986, p.33). Therefore housing issues should be explored in the rural populations of the elderly as well as in the urban populations. This is especially true in Oklahoma where a

large proportion of the state's elderly population lives in rural areas. Not only are benefits derived from the exploration of urban and rural elderly housing, but also through the comparison of the housing situations in both locations.

### Purpose and Objectives

The purpose of this study is to determine the degree to which Oklahoma rural elderly perceive that their current housing situation meets their needs and to assess how Oklahoma elderly compare with the region's and nation's elderly. Specifically the objectives include:

1. Analyze the relationship between housing/neighborhood satisfaction, and the variables of life satisfaction, family satisfaction, and individual activity level.
2. Determine the relationship between health, and the variables of life satisfaction, family satisfaction and housing/neighborhood satisfaction.
3. Examine the relationship between individual activity level, and the variables of life satisfaction, family relationships and housing/neighborhood satisfaction.
4. Compare housing and demographic data of selected Oklahomans with a state, regional and national sample.

### Definitions

The following definitions clarify the terms used in this study:

**Elderly** - Any individual over the age of 65.

**Life Satisfaction** - A self-evaluation that measures the degree to which an individual "takes pleasure from the round of activities that constitutes his everyday life; regards his own life as meaningful and accepts resolutely that which life has been; feels he has succeeded in achieving his major goals; holds a positive image of self; and maintains happy and optimistic attitudes and moods" (Neugarten, Havinghurst, and Tobin, 1961, p. 137).

**Social Interaction** - the interpersonal exchange that takes place between an individual and his or her relatives, friends, church, recreational involvement, and community behavior, (Bell, 1976).

#### Assumptions

The following assumptions are included in this study:

1. Respondents answered the self-administered questionnaire truthfully and accurately.
2. The instrument used accurately measures life, familial, neighborhood and housing satisfaction.
3. The Annual Housing Survey data, the Census data and the Oklahoma data have comparable measures for housing and demographic variables.

#### Limitations

The limitations affecting the results of this study include:

1. The use of voter registration and property tax rolls may limit the ability to generalize about the findings of the study because of the unique characteristics of registered voters and property owners.
2. The instrument may not tap all factors that influence housing satisfaction. Few open-ended questions were included in the instrument. Therefore, respondents were not given the opportunity to express further information regarding factors that influence their overall satisfaction.
3. Respondents only rate satisfaction with general features of the living environment. The housing satisfaction measures used in this study do not include detailed analysis of the physical structure of the living unit.

## CHAPTER II

### REVIEW OF LITERATURE

#### Introduction

A variety of factors influence the living environment of elderly Americans. Demographic characteristics such as income, sex, and marital status play an important role. Income directly affects the housing an elderly person can afford to buy, rent, or maintain. Marital status and sex also have a significant impact on the type and quality of living units in which aged persons reside.

The elderly person's living environment extends beyond the physical structure of the home itself. Housing and the surrounding environment includes the living unit, the social and physical aspects of the neighborhood and community as well (Golant, 1986). The reason for the importance of the living environment is often due to health problems. As people age their physical abilities decline. Both sight and hearing diminish leading many elderly to feel a loss of control over their environment. Therefore, the aged restrict their movements to those areas where they feel most secure. The restriction to secure areas -- most often the home -- limits the elderly persons activity. The home can

either serve to encourage or discourage positive social interaction and life satisfaction.

### Demographic Shifts

#### The Rural Population

In the past many family members lived together as an extended family. In rural areas this was especially true, because family members were needed to contribute to the livelihood and business of the family unit.

As society changed and became industrialized and more mobile, the family structure changed. Extended families became nuclear families. Children no longer continued to live at home after they started their own family, instead they formed separate households. Studies conducted since World War II have found that for the first time in world history, all societies are experiencing some form of the conjugal family system (Photiadis & Simoni, 1983).

Young people, particularly, became attracted to jobs and other opportunities in urban areas. The rural parts of the country were vacated by many young persons. Ahearn (1979) emphasizes this aging of the rural population. When writing of the rural regions of the United States this researcher summarizes the point stating that it is the retired population, not the youth of the country that are settling and remaining in rural areas. Dibner (1983, p.97), further substantiates this point stating that "over one-third of the nation's total older population lives in rural

areas". In addition, elderly living in rural areas tend to reside most often in small towns. Almost one fourth of the elderly live in counties with no city of 25,000 or more (U.S. Bureau of the Census, 1982a)

The mobility changes and family structure changes are contributors to the high concentration of elderly in the rural parts of the country. The rural elderly often have many problems with housing. Influences to the housing problems can be found in demographic characteristics such as income, tenure, housing maintenance, and other characteristics such as life satisfaction and the neighborhood community of the rural elderly.

#### The Urban Population

In 1980 more elderly lived in suburbs (10.1 million) than in the central cities (8.1 million). This marks the first occasion for such an occurrence. Of those elderly living in suburbs, most live in older suburbs established prior to World War II (U.S. Senate Special Committee on Aging, 1986).

Some elderly, however, have remained in the central cities. Cowgill (1978) discusses the out-migration of younger families from both rural and inter-city areas of the country. The movement of this group has left "gray ghettos" in cities and rural communities. Cowgill expands noting,

"Old people are concentrated  
toward the center of cities  
largely because they moved  
there years ago and have been

"aging in place" (Golant, 1972) while their children and other young families have gravitated toward the suburbs. Cities grow centrifugally and young families are on the growing edges while older persons stay behind in shrinking households and aging housing structures" (Cowgill, 1978, p.447).

Figure 3 represents the distribution of elderly living inside metropolitan and nonmetropolitan areas of the country.

#### Demographic Characteristics

##### Income

In much of society it is the elderly that have very low incomes. The New York Senate Research Service (1980) found that the average income of a rural elderly couple is 20 percent lower than that of a similar elderly couple living in an urban area. In addition, rural elderly have the added disadvantage because of the scarcity of available jobs in rural regions. Although rural aged may want to supplement their lower income with participation in the labor force, employment is difficult to find.

Almost 21 percent of elderly Oklahomans are lacking in basic necessities because their annual incomes fall below the official poverty level (Ingraham, 1981). Ingraham further states that by counting groups such as the poor, the near poor, and the hidden poor, approximately 31 percent of



Type of Residence, by Population Size	Percentage Distribution of the Population 65+	Percent 65+ in Total Population
Metropolitan	62.7	9.7
In Central Cities	31.0	11.4
Of 1 million or more	17.0	11.8
Of less than 1 million	13.9	10.9
Outside central cities	31.7	8.4
Of 1 million or more	19.6	8.6
Of less than 1 million	12.1	8.2
Nonmetropolitan	37.3	11.9
Counties of 25,000+	4.6	11.4*
Counties of 2,500-24,999	23.7	12.1*
Counties of 2,500-	9.0	11.8*
Total	100.0%	10.4%

\* Counties with place = n.

Source: U.S. Bureau of the Census.(1978). Social and economic characteristics of the metropolitan and nonmetropolitan population: 1977 and 1970. Current Population Reports. Series P-23. No. 75. Washington, DC: U.S. Government Printing Office.

Figure 3. Percentage of Total Population Sixty-Five Years of Age and Over, by Type of Residence: 1977

elderly Oklahomans or an estimated 112,962 individuals have inadequate incomes. A great portion of this group live in the rural areas of the state.

Housing is an expense that is incurred by all segments of our population. The elderly, however, are paying a high proportion of their income for this basic need. An excessive expenditure on housing is considered to be more than 25 percent of a renter's monthly income or for homeowners with no mortgage payments, and 35 percent of the monthly income for a homeowner with mortgage payments. But the elderly are paying more. As Struyk, (1977, p.447), found when looking at housing expenditures, "overall, the rate among elderly is about double that of all households". In addition elderly renters have "a much higher incidence of excessive housing expense burden" than do owners (Struyk, 1977, p.452). Arnold (1984) expands upon the housing affordability problem of the rural aged. In 1979, even though 83 percent of the rural elderly homeowners own their homes free and clear, 20 percent of elderly homeowners spent 30 percent of their income on housing needs. In addition, 48 percent of elderly renters spent 30 percent or more of their income on adequate housing. Twenty-nine percent of elderly living in substandard housing and 25 percent of elderly homeowners living in substandard housing met or exceeded the 30 percent level for housing expenditures.

Not only do the aged usually have lower incomes and pay a higher proportion of that income towards housing, but they

also live on fixed incomes. Although in some ways the rural elderly are compensated for their low income and high expense because of lower rural housing costs (Arnold, 1984), housing does require expenditures in a number of areas. These areas include mortgage payments; rental payments; maintenance; utilities such as gas, water, and electricity; taxes; and insurance. The costs add up quickly for those on limited incomes. The population aged 65 and over rarely have the opportunity to supplement or replace current or past income to help with housing expenses (Engler and Spohn, 1985). In fact, in 1981 only 18 percent of males over the age of 64, and just below 10 percent of females age 65 and over continued to participate in the labor force, (Schulz, 1985). After paying for medical care, utilities, food, and housing there is very little disposable income left.

Aged women have more problems related to income than do aged men. In an article on women and pensions, Peck and Webster, (1985, p.10) state that, "elderly women are almost twice as likely as elderly men to be poor". Elderly women have a longer life expectancy than men, therefore they are more likely to be widowed than are aged men. Widowhood is one elderly characteristic that not only causes women to live alone, but also causes them to have lower incomes. As the researchers write, the poverty rate among women who are single, divorced, separated, or widowed is "disproportionately high", in comparison to other segments of the population, (Peck and Webster, 1985, p.11).

## Associated Housing Problems

### Tenure

The majority of the elderly living in independent households own their own homes. In fact, the elderly, more than any other age group, are more likely to be homeowners (Struyk, 1977). Newman (1986) predicts this trend to continue and states, "elderly homeownership rates are higher than ownership rates for all households", and projects that, "roughly 80 percent of elderly-headed households would own their own homes by 1995", (Newman, 1986, p.27). This figure is in comparison to 1980's percentage of 73 (Pitkin & Masnick, 1981).

The rural elderly's home ownership rates are higher than those of their urban counterparts. The Annual Housing Survey of 1980 found that over 80 percent of the elderly living outside of Standard Metropolitan Statistical Areas were homeowners. The rate for those living in SMSA's was 76.5 percent for areas outside of a central city and 57.5 percent for those elderly living in a central city (U.S. Bureau of the Census, 1982a).

In a study of the housing environment of the rural elderly one group of researchers found further support for rural elderly home ownership. Almost 90 percent of the rural elderly couples and 81 percent of the rural elderly women owned their present home (Montgomery, Stubbs, & Day,

1980). Although the percentages in this study are higher than the national rate, it does show that homeownership is the norm for the rural elderly.

Although the elderly as a whole tend to be homeowners more than the remaining population, there is one group of elderly that is often found to be renters. That group is elderly women living alone. A little under 28 percent of the total elderly population are renters (Birch, 1985). Over half of these elderly renters (56.6 percent) are women headed households (Engler and Spohn, 1985). Women have a longer life expectancy than men, which accounts for the higher proportion of elderly women single headed households (Newman, 1986). The greatest majority of elderly single headed households are those headed by women aged 65 and over (O'Bryant & McGloshen, 1987). In addition, a study of elderly renters by Engler and Spohn, (1985) showed that aged women report themselves as living in one-person households three times more often than men. This seems to indicate that not only are elderly women more likely to rent than elderly men, but are also more likely to be living alone in that rental unit.

In a study by Dillman, Tremblay, and Dillman (1979) it was found that the majority of Americans preferred ownership of a single family dwelling as the best choice of housing and tenure. However in the case of the elderly and widowed, less than half listed this type of housing. This group of respondents more often choose renting an apartment, duplex,

or lot, or owning a mobile home as the preferred housing and tenure choice (Dillman, et al., 1979). This may indicate that although the elderly often live in single family homes they would prefer to live in a different type of housing. One reason that the elderly may continue to live in single family housing units even though they prefer another housing type is availability of housing options. In many communities, especially in rural areas, housing options are limited. Elderly persons, like others in the population must live in the type of housing that is available in a community, unless they have the resources to construct their preferred living unit.

#### Type of Living Unit

As discussed earlier in this review, the elderly population is a group whose home ownership levels are higher than any other group of households. The elderly not only own homes, but they own single-family homes. In 1980, 62 percent of elderly homeowners owned single-family dwellings. This percentage is expected to rise to 67 percent by 1995 (Pitkin & Masnick, 1981). For those urban elderly who do rent their housing units, there is a larger inventory of housing types from which to choose. In rural areas the rental units in which the elderly live are more likely to be a single-family unit than any other housing type (Struyk & Soldo, 1980). There are advantages and disadvantages to the high incidence of single-family ownership among the elderly.

Homeowners are able to draw upon their home's equity, if necessary, while renters cannot. However, homeownership among elderly is often accompanied by expensive housing costs such as upkeep and maintenance (Newman, Zais, and Struyk, 1984). "In general, rural housing units, renter or owner-occupied are larger and older than dwelling units in urban areas" (Struyk & Soldo, 1980, p.59).

### Maintenance

Many studies have shown that the elderly tend to live in their housing units for many years at a time. This is true for both renters and owners, and for the rural and urban aged.

Almost half of the rural elderly homeowners in this country have lived in their current home for 20 years or more (Arnold, 1984). Engler and Spohn, (1985) found the same characteristic in studying elderly renters. Over 60 percent of their sample had lived in the same rental units for 11 years or more. In a study by Cantor (1975) of the New York City elderly, the majority were long term residents of their neighborhoods. Over half of the respondents had lived in the neighborhood 20 years or more, with the remainder of the sample having lived in the neighborhood for at least 10 years.

The aged not only live in homes for a long period of time, but they live in older homes, too. Thirty-six percent of the homes owned and lived in by older people were built

in 1939 or earlier. A high proportion of these homes are those of the rural elderly. Because the homes are very old they are more frequently in need of repair (Lee, 1986). The combination of older housing stock and many years of residence contributes to the deterioration of housing stock. Older homes have more structural and maintenance problems than do newer homes. Because of the limits in income mentioned before, the elderly "often lack the financial means to maintain or upgrade" their housing (Mayer and Lee, 1981, p.312).

The rural elderly have more housing maintenance problems than the urban elderly. The types of rural housing problems Lee (1986) lists includes lack of complete water facilities, sewage systems, central heat, and bath and kitchen facilities. In a study by Merrill and Norris (1986) on competencies needed by older adults for independent living, researchers found that housing maintenance was perceived to be a necessary component for independent living. In this study, both home economists and elderly persons felt "selecting and working with repair and maintenance professionals" and "securing someone to help with part-time house repairs and maintenance" was very important to maintaining independence, (Merrill and Norris, 1986, p.84).

The Department of Housing and Urban Development (HUD) defines inadequate housing as a home that has one or more of



the following deficiencies:

- "- incomplete or shared plumbing facilities;
- incomplete or shared kitchen facilities;
- no public sewer, septic tank, cesspool, or chemical toilet;
- inadequate maintenance (the unit suffers from any two of these defects): leaking roof, open cracks or holes in the interior walls or ceilings, holes in the interior floors, or broken plaster or peeling paint on interior walls or ceilings;
- few or no light fixtures; loose, broken, or missing steps; or a loose or missing stair railing in public areas of multiple housing units;
- inadequate toilet access -- access to sole flush toilet is through one of two or more bedrooms used for sleeping (applies only to households with children under 18); and
- inadequate electrical facilities -- exposed wiring, blown fuses, or tripped circuit breakers three or more times in last 90 days, and no working wall outlet in one or more rooms" (Arnold, 1984, p.8-9).

Using the HUD guidelines as a measure, Arnold (1984) studied the housing maintenance problems of the rural elderly. Fifteen percent of the rural elderly were found to live in inadequate housing, with 27 percent of those housing units being rental units. Thirty-one percent of inadequate rural housing was headed by single elderly men. Overall, the researcher states that 45 percent of the inadequate

rural housing units are defined as "severely inadequate, with two or more housing flaws", (Arnold, 1984, p.v).

Housing of elderly persons living alone is of special concern. This group of elderly is increasing at 3 times the rate of the rest of the elderly population (American Association of Retired Persons, 1987). The finding that elderly male headed single households have more maintenance problems than elderly women is similar to a previous study by Soldo (1978). In the study, Soldo states that although single elderly women have higher poverty levels than single elderly men, the women's homes are in much better condition. This was also consistent with a finding by Lawton (1981). In studying living arrangements and household characteristics Lawton, (1981, p.62), states that, "despite the highly unfavorable economic condition of not-married women, their housing quality is astonishingly better than that of men". Lawton speculates on the reasoning for this finding, theorizing that women may search with more care for their housing, that they may be more motivated to use their income to maintain their housing, that women may receive more help from relatives or friends, and that women are more motivated to perform ordinary maintenance tasks themselves. These characteristics then lead elderly single women to have better quality housing than elderly single men.

Lipman (1968) studied housing maintenance problems and public housing problems of the rural elderly. Findings indicate that elderly are disadvantaged because their homes

are often in need of repair, and they receive little assistance from younger family members in making those repairs. In addition, the option of public housing is often not available for the rural elderly. Public housing access is more limited in rural areas while it is more available in urban areas. So although rural elderly do have housing that is often inadequate, they are limited in their options to change housing.

Chen and Newman (1987) studied the validity of elderly homeowner's reports of the repair status of their homes. The researchers found that, after controlling for chance, the homeowner's assessment of needed housing repairs and the home inspection records were quite varied. The researchers were not able to distinguish whether reporting of repairs by the elderly was under or over-reported. The findings, however, have serious implications for the under-reporting of needed repairs. "If the older homeowner is not reporting about needed repairs due to a lack of awareness, then concerns about the elderly's safety and welfare appear warranted" (Chen & Newman, 1987, p. 313). General housing satisfaction explains why some elderly may not report needed repairs. "Apparently the rural elderly tend to perceive the locations of their houses as advantageous at least in terms of the absence of environmental annoyances. These locational advantages may compensate to some degree, for the qualitative deficiencies of the houses themselves" (Newman, 1986, p.35). This satisfaction may cause them to "overlook"

deficiencies and under-report needed repairs. Limited housing stock may be a second reason for overlooking deficiencies. The elderly may be more accepting of housing quality if available housing is of the same quality. A third explanation is that the older individual may not know that repairs are required because the home they are living in is better than what they had at some earlier period in their lives.

Lawton (1980, p.58), summarizes the housing conditions of the elderly stating they are, "most adequate in urban metropolitan areas, less adequate in towns outside metropolitan areas, and least adequate in rural areas (most often but not always poorer in farm than nonfarm residences)" Clearly, the rural aged do reside "in lower-quality housing than do either the urban elderly or younger rural residents" (Lee, 1986, p.34).

#### Life Satisfaction and Neighborhood Community

Housing is one of the many factors that influence quality of life. Not merely a physical structure, housing also has a social and psychological component. Housing can "enhance or impede elderly persons' abilities to attain their goals" (Lee, 1986, p.33).

The physical aspect of housing makes up a part of the total home environment. The home environment is the physical setting such as the home or community, the social setting which deals with human interaction in the physical

setting, and the psychological setting which is how the total environment makes an individual feel. Each has a profound influence on a person's satisfaction and quality of life.

The community or physical setting of the housing unit greatly affects the way people interact.. Montgomery, Stubbs, and Day (1980, p.444) state that "the neighborhood often becomes the elderly's social and service world and the dwelling, their physical world". The researchers further state that the elderly, especially the poor elderly, "tend to live their lives in small social and physical spaces", (Montgomery, et al., 1980, p.444). This lends support to the fact that elderly tend to live in their neighborhoods and homes for lengthy time periods, and that the same neighborhood and housing setting will influence much of the elderly's life.

#### Activity Level

Salisbury and Beer (1982) examined barriers to independence and mobility of the aged. The researchers found that the setting of the housing had a great effect on the elderly's movement. Some factors in the setting that were found to influence mobility and independence were sidewalk inclines, automobile and pedestrian traffic, difficulty of mass transit use, and fear of crime. Satisfaction or ease of use of these factors and the ability

to interact in the community can influence happiness within the living environment.

Pollack and Newcomer (1986) address the relationship between the elderly and neighborhoods. The researchers write that because the elderly are not as mobile and have more physical limitations than the younger population they are, "at risk of becoming increasingly dependent on their residential environment for regulation of behavior and satisfaction", (Pollack and Newcomer, 1986, p.122). Four neighborhood aspects that have been found to influence the elderly's behavior and satisfaction are, "aesthetics and amenities, transportation and access, safety and fear of crime, and social characteristics or neighborhoods", (Pollack and Newcomer, 1986, p.121). The lack of or the presence of these aspects are what contribute to an elderly person's interaction and satisfaction with the neighborhood community.

#### Family Relationships

Lawton, Brody, and Turner-Massey (1978) researched the relationship of environmental factors and well-being. The researchers found that a "favorable neighborhood and residential factors are associated with positive effects on the well-being of the elderly", (Lawton, et al., 1978, p.137). However, the researchers further this thought and state that human factors, such as family, friends, and institutional support services also do a great deal to

positively affect the well-being of older individuals. Lindamood and Hanna, (1979, p.3), write that "housing affects people in psychological and social ways". This psychological and social aspect of housing influences "attitudes, mental health, inter-personal relationships, and satisfaction with family life" (Lindamood and Hanna, 1979, p.3). Therefore, the housing and neighborhood community of the aged elderly influence the overall life satisfaction.

### Summary

The human factors mentioned by Lawton, Brody, and Turner-Massey (1978) help make up the psychological and social aspects of the home environment. When looking at the housing satisfaction of older individuals all aspects of the home environment must be explored. As Lawton, (1981, p.59) states, the living arrangement can be an "indicator of things that have happened or of things yet to happen in the life of an older person and thus worthwhile to try to understand better".

Demographic factors such as age, sex, and income play an important role in the quality of housing that rural elderly have. The physical structure of the living unit of the rural elderly tends to deteriorate because of long tenure and limited ability to maintain the dwelling. Social factors such as physical setting, social interaction, and neighborhood community can be barriers or facilitators to life satisfaction.

## CHAPTER III

### METHODOLOGY

#### Introduction

The previous chapter reviewed prior studies related to housing of rural and urban elderly, their demographics, and the relationship between housing and life satisfaction. Chapter III describes the methods and procedures of this research study. Included in this chapter are methods of sample selection, description of the instrument, and methods of data collection and analysis. Also described is the population from which the sample was taken.

#### Description of the Population and Sample

A proportionate stratified sampling method was utilized in this study. When using proportionate stratified sampling, "the number of cases are selected from each stratum that will result in a sample that reflects proportions of the strata in the population (McAuley, 1987, p. 134). To compare urban and rural elderly, Oklahoma's 77 counties were listed by population size. The counties were then divided into equal quartiles of 19 counties each with the final quartile having 20 counties. For each county in the quartile the percentage of elderly was indicated (U.S.



Bureau of the Census, 1982c). One county from each of the three smallest quartiles was selected at random and one county from the largest quartile was randomly selected. The sample size was limited to 1000. Five hundred respondents were selected from the 3 rural counties proportional to the population and 500 respondents from the urban county. An equal number of rural and urban respondents was desired because approximately half of Oklahoma's elderly population lives in urban areas with the other half residing in rural areas (U.S. Bureau of the Census, 1982c). Table I illustrates the distribution of the population, percentage of elderly in the county, and the number of elderly in each of the four counties.

TABLE I  
POPULATION DISTRIBUTION

County	Population	Percentage of Elderly	Number of Elderly
County A	4,519	19.5	881
County B	13,443	17.2	2,312
County C	32,011	14.6	4,673
County D	461,552	9.9	45,693

The sample for each of the counties was drawn proportionate to the number of elderly to have 500 respondents in rural counties and 500 respondents in the urban county. Therefore, the sample size of 500 was proportionately drawn from A, B, and C counties with County D, the urban county.

Different sampling methods were used in selecting the sample of the elderly. The two methods utilized were real estate assessment rolls for personal property and voting registrations which list the date of birth of all voters within the county. In County B the real estate assessment rolls for personal property tax were utilized as ages were listed for each individual. This roll had been updated in 1986; therefore, all individuals aged 64 and over were utilized for the population. A systematic sampling procedure was used to pull every nth name by age of all those 65 and over. In counties A, C, and D the real estate assessment rolls for personal property did not include ages; therefore, voting registrations were utilized. A systematic sampling procedure was used for selecting every nth name proportionate to the sample size of all individuals 65 and over.

#### The Instrument

The questionnaire (Appendix A) was developed to assess life satisfaction, family and interpersonal relationships, health, housing satisfaction and convenience, as well as

demographic information including income, sex, and age. This instrument was a modification of a previous instrument used by Braun (1985) for a study examining the areas of housing and family relations. The Braun study explored life satisfaction, housing satisfaction, and attitudes toward family. Some of the questions from that instrument were adapted to this research.

Life satisfaction was measured using the Life Satisfaction Index Z developed by Wood, Wylie, and Sheafor (1969). The LSI-Z is a shortened version of the Life Satisfaction Index A developed by Nuegarten, Havinghurst, and Tobin (1961). The LSI-Z discarded seven questionable statements from the LSI-A leaving thirteen statements. Respondents are to indicate whether they agree with, disagree with, or are uncertain about each statement. A "right" answer scored 2, and uncertain answer scored 1, and a "wrong" answer scored 0. On 100 scores, Wood, Wylie, and Sheafor (1969) found the test for reliability was .79. In addition, the researchers recommended that the LSI-Z be used for rural elderly populations, especially males, to measure life satisfaction.

The self-administered instrument consisted of multiple choice questions, open ended questions, and true and false questions. The instrument was pilot tested for content, format, and understanding. The pilot test determined the questionnaire to be satisfactory with only minor changes needed.

As an aid to the respondents the questionnaire was printed in bold type and on yellow paper. The lens of the eye yellows with age and filters out colors at the blue end of the light spectrum. Because of this aged persons may not be able to discriminate between blues, greens, and violets and differing shades of blues. Yellows, oranges, and reds are more easily distinguished by the aged.

### Data Collection

A modified version of Dillman's Total Design Method was utilized in data collection. The method is concerned with the maximization of quantity and quality of responses (Dillman, 1978). Data was collected for the rural sample in the fall of 1987. Urban sample data was collected in the spring of 1988. The instrument was mailed to all individuals in the sample along with a letter (Appendix A) explaining the importance of the study. Each questionnaire was coded with an identification number. The number was used solely to identify persons who had responded to the questionnaire. In addition, a postage paid return envelope was included with the questionnaire and letter.

Ten days after the first mailing, a postcard (Appendix A) was sent to each respondent in the sample. The postcard thanked those persons who had returned completed questionnaires and served as a reminder to those respondents who had not yet returned the questionnaire. A follow-up letter (Appendix A), questionnaire, and postage paid return

envelope was sent three weeks after the initial mailing to those in the sample who had not responded. The letter reminded respondents to complete and return the instrument and emphasized the importance of their participation. Data collection methods yielded 483 usable questionnaires for a total response rate of 48.3%. Table II lists the response rate for the four counties.

TABLE II  
RESPONSE RATE BY COUNTY

County	Sample Size	n	%
County A	56	15	26.8
County B	147	90	61.2
County C	297	133	44.8
County D	<u>500</u>	<u>245</u>	<u>49.0</u>
Total	1000	483	48.3

#### U.S. Census Data

The U.S. Census data was in this research was collected in 1980. The U.S. Census data was used to determine whether or not the information found from this research study can be

used to generalize about a state, regional or national sample. The data was compared using demographic and housing variables present with all samples.

## A SELECTED BIBLIOGRAPHY

- Aheran, M.C. (1979). Health care in rural America. Washington, DC: U.S. Department of Agriculture, Economics, Statistics and Cooperative Services.
- American Association of Retired Persons (1987). A profile of older Americans (AARP Publication No. PF3049 (1187) D996). Washington, DC: American Association of Retired Persons.
- Arnold, G.D. (1984). Housing of the rural elderly. Rural Development Research Report. United States Department of Agriculture.
- Atchley, R.C. & Miller, S.J. (1975). Housing and the rural aged. In R.C. Atchley and T.O. Byerts (Eds.), Rural environments and the aging. Washington, DC: Gerontological Society.
- Bell, B.D. (1976). The impact of housing relocation on the elderly: An alternative methodological approach. International Journal of Aging and Human Development. 7, 27-37.
- Belsky, J.K. (1984). The psychology of aging. Belmont, CA: Brooks/Cole Publishing Company.
- Birch, E.L. (1985). The unsheltered woman: Definition and needs. In E.L. Birch (Ed.), The unsheltered woman. (pp. 21-45). New Brunswick, NJ: Center for Urban Policy Research.
- Braun, W.J. (1985). Life satisfaction and relocation among the elderly: A case study. Unpublished doctoral dissertation, Oklahoma State University, Stillwater, OK.
- Butler, F.N. (1981). Overview on aging: Some biomedical, social and behavioral perspectives. In J.C. March (Ed.), Aging, social change. New York, NY: Academic Press, Inc.
- Cantor, M.H. (1975). Life space and the social support system of the inner city elderly of New York. The Gerontologist. 15, 23-26.

- Chen, A. & Newman, S. (1987). Validity of older homeowners' housing evaluations. The Gerontologist. 27(3), 309-313.
- Cowgill, D.O. (1978). Residential segregation by age in American metropolitan areas. Journal of Gerontology. 33(3), 446-53.
- Dibner, A.S. (1983). Is there a psychology of the rural aged? In A.W. Childs & G.B. Melton (Eds.), Rural psychology, (pp. 95-112). New York: Plenum Press.
- Dillman, D.A. (1978). Mail and telephone surveys: The total design method. New York, NY: Wiley.
- Dillman, D.A., Tremblay, K.R. Jr., & Dillman, J.J. (1979). Influence of housing norms and personal characteristics on stated housing preferences. Housing and Society, 6, 2-29.
- Engler, M. & Spohn, R.R. (1985). The elderly in New York City: Demographic characteristics. In E.L. Birch (Ed.), The unsheltered woman. (pp. 53-67). New Brunswick, NJ: Center for Urban Policy Research.
- Golant, S.M. (1972). The residential location and spatial behavior of the elderly (Paper No. 143). Chicago, IL: University of Chicago.
- Golant, S.M. (1986). Subjective housing assessments by the elderly: A critical information source for planning and program evaluation. The Gerontologist, 26 (2), 122-126.
- Ingraham, S. (1981). Impact: Aging in Oklahoma. Oklahoma Conference on Churches.
- Lawton, M.P. (1980). Environment and aging. Monterey, CA: Brooks/Cole Publishing Company.
- Lawton, M.P. (1981). An ecological view of living arrangements. The Gerontologist. 21(1), 59-66.
- Lawton, M.P. Brody, E.M., & Turner-Massey, B. (1978). The relationships of environmental factors to changes in well-being. The Gerontologist. 18(2), 133-137.
- Lawton, M.P., Newcomer, R.J., & Byerts, T.O. (1976). Conclusion. In M.P. Lawton, R.J. Newcomer, and T.O. Byerts (Eds.), Planning for an aging society. Stroudsburg, PA: Dowden, Hutchinson, and Ross.



- Lee, G.R. (1986). Rural Issues in Elderly Housing. In R.J. Newcomers, M.P. Lawton, and T.O. Byerts (Eds.), Housing an aging society. (pp. 33-41). New York, NY: Van Nostrand Reinhold Co.
- Lindamood, S. & Hanna, S.D. (1979). Housing, society, and consumers. St. Paul, MN: West Publishing Company.
- Lipman, A. (1968). Public housing and attitudinal adjustment in old age: A comparative study. Journal of Geriatric Psychiatry. 2, 88-101.
- Mayer, N.S. & Lee, O. (1981). Federal home repair programs and elderly homeowners needs. The Gerontologist. 21(3), 312-322.
- McAuley, W.J. (1987). Applied research in gerontology. New York, NY: Van Nostrand Reinhold Company.
- Merrill, C.D. & Norris, C.K. (1986). Perceptions of competencies needed by older adults for independent living. Home Economics Research Journal. 15(2), 79-89.
- Montgomery, J.E. Stubbs, A.C. & Day, S.S. (1980). The housing environment of the rural elderly. The Gerontologist. 20(4), 444-451.
- Neugarten, B.L., Havighurst, R.J. & Tobin, S.S. (1961). The measurement of life satisfaction. Journal of Gerontology. 16, 134-143.
- New York Senate Research Service. (1980). Old age and ruralism . . . a case of double jeopardy. Albany, NY: New York Senate Research Service.
- Newman, S., Zais, J., & Struk, R. (1984). Housing older America. In I. Altman, J. Wohlwill, & M.P. Lawton (Eds.), Elderly people and the environment. New York, NY: Plenum Press.
- Newman, S.J. (1986). Demographic influences on the future housing demand of the elderly. In R.J. Newcomers, M.P. Lawton, and T.O. Byerts (Eds.), Housing an aging society. (pp. 21-32). New York, NY: Van Nostrand Reinhold Co.
- O'Bryant, S.L. & McGloshen, T.H. (1987). Older widow's intentions to stay or move from their homes. Home Economics Research Journal. 15(3), 177-183.
- Peck, C.J. & Webster, G. (1985). Women and pensions. Journal of Home Economics, 10-15, 37.

- Photiadis, J.D. & Simoni, J.J. (1983). Characteristics of rural America. In A.W. Childs & G.B. Melton (Eds.), Rural psychology. New York, NY: Plenum Press.
- Pitkin, J. & Masnick, G. (1981). Linking projections of households with housing consumption: An exploration of alternative series. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.
- Pollack, L.M. & Newcomer, R.J. (1986). Neighborhoods and the aged. In R.J. Newcomers, M.P. Lawton, and T.O. Byerts (Eds.), Housing an aging society. (pp. 119-126). New York, NY: Van Nostrand Reinhold Co.
- Salisbury, P.A. & Beer, R.A. (1982). Social segregation: Barriers to mobility in urban domiciliary care. Housing and Society. 9(1), 12-19.
- Schulz, J.H. (1985). The economics of aging. Belmont, CA: Wadsworth Publishing Co.
- Soldo, B.J. (1978). The housing and characteristics of independent elderly: a demographic overview. Occasional papers in housing and community affairs. No. 1, Washington, D.C.: U.S. Department of Housing and Urban Development.
- Struyk, R.J. (1977). The housing expense burden of households headed by the elderly. The Gerontologist. 23(2), 180-184.
- Stryuk, R.J. & Soldo, B.J. (1980). Improving the elderly's housing: A key to preserving the nation's housing stock and neighborhoods. Washington, DC: National Council on Aging.
- U.S. Bureau of the Census (1982a). Annual housing survey: 1980 Part A: General housing characteristics. Washington, D.C.: U.S. Government Printing Office.
- U.S. Bureau of the Census (1982b). Characteristics of the population: 1980. (PC80-1-A38 Number of Inhabitants). Washington, DC: U.S. Government Printing Office.
- U.S. Bureau of the Census (1982c). General population characteristics, Oklahoma: 1980 (PC80-1-B-38). Washington, DC: U.S. Government Printing Office.
- U.S. Senate Special Committee on Aging (1986). Development in aging, 1985. Vol. 3. Washington, DC: United States Government Printing Office.

- Wall, R.W. (1986). Aging and economics: The future is now. Journal of Home Economics. 28-31, 64.
- Wood, V., Wylie, M.L. & Sheafor, B. (1969). An analysis of a short self-report measure of life satisfaction: correlation with rater judgements. Journal of Gerontology, 24(4), 465-469.

CHAPTER IV

POPULATION AND SAMPLING PROCEDURES  
FOR ELDERLY RESPONDENTS

MANUSCRIPT FOR PUBLICATION

JOURNAL TITLE: SOCIAL INDICATORS RESEARCH

## POPULATION AND SAMPLING PROCEDURES FOR ELDERLY RESPONDENTS

ABSTRACT: The process of choosing a sampling frame that will give an adequate representation of the housing of the elderly in the United States is difficult. The major purpose of this study is to explore methodological situations related to sampling the elderly population. Specifically the objective is to explore similarities and differences between locally collected samples from voter registration records and property tax rolls and state, regional and national samples on characteristics that influence housing of the older population.

### INTRODUCTION

The "graying" of America has far reaching and important implications on the goods and services available to the elderly. A particular good and service area of particular importance is housing. Approximately 40% of the homes owned by the elderly were built prior to 1940 and 9% of those are considered inadequate. In comparison only 22% of the homes owned by younger households were built before 1940 and only 6% of those are inadequate. Elderly persons also tend to live in their housing units longer than other groups. The

combination of older housing stock and many years of residence contributes to the deterioration of the dwelling. Older homes have more structural and maintenance problems than do newer homes. An additional problem the elderly have is that they pay a higher proportion of their income for housing. Because of this, the elderly "often lack the financial means to maintain or upgrade" their housing (Mayer & Lee, 1981, p. 312).

Lawton (1981, p. 59) states, the living arrangement can be an "indicator of things that have happened or of things yet to happen in the life of an older person and thus worthwhile to try to understand better". The elderly have special needs in housing such as social interaction, maintenance, repair, activity, alternative housing, cost restrictions, and adaptable housing are just a few. Therefore, it is necessary to study the elderly and assess their housing environments to determine what their housing situation is and how it can best be remedied. Problems, however, arise when researchers wish to examine the housing of the elderly population.

Researchers have pointed to the elderly as a difficult group to sample (Atchley, 1988; Hooyman & Kiyak, 1988; and Earhart, 1987). Shanas (1968) noted the difficulties of sampling the elderly in an essay pertaining to the organization and design of cross-national studies in aging. In a discussion of sample choice, Shanas stated that the decision of whom to sample lies in the availability of

sampling frames. The important requirement of a selected sampling frame is that it include all units from which the sample is to be chosen. In this way each elderly individual in the population has an equal chance of selection. Because national samples are often difficult to obtain (due to cost, time, and frame) researchers will often decide to restrict the study to a "typical" unit; for example a typical town, or typical elderly housing unit (Shanas, 1968). Yet the problem of defining "typical" is unresolved, especially in an extremely heterogeneous group such as the elderly.

Atchley (1988) wrote that sampling the elderly is difficult especially when a researcher seeks information that only occurs in a minority of the elderly. Gerontologist often settle for using samples that are available to them instead of the samples they would truly like to examine. While this problem arises at certain times in almost all fields, it is particularly true of the gerontological field (Atchley, 1988).

The difficulties involved in obtaining an unbiased elderly sample are evident. It is relatively easy to obtain a sample if one is to study special groups of elderly such as those occupying nursing homes, elderly day care facilities, low-income housing units, and retirement villages. However, the use of these samples tend to over-represent those elderly people with low-incomes or chronic impairments. Additionally, these groups give an unrepresentative sample of the total population and they

also exclude a large proportion of elderly who maintain their own housing units and/or live with family members. Without access to the group who maintain their own units, research of housing of the elderly is based on those samples with special characteristics. In addition, numerous researchers have stated that the elderly population is an extremely diverse group (Atchley, 1988; and Hooyman & Kiyak, 1988). Therefore, reliance on "special" samples to characterize the elderly population is unjustified.

Various sampling frames have been utilized for determining an adequate research population for the elderly. Until 1980, social security records provided a useful frame for determining an elderly population, as 90% of the elderly receive social security payments (Bureau of Labor Statistics, 1983). However, because of changes in the law, social security information is private and is no longer available for research purposes.

Past elderly sampling techniques have included some of the following:

- personal property tax rolls
- voter registration records
- sub-sample of elderly from a larger sample
- purposive sampling of known elderly groups

Personal property tax rolls in some states are an excellent source of information if they contain date of birth. Many, particularly rural counties, include information on age in personal property tax rolls.



Additionally, in the state of Oklahoma information is available from the county assessor records for the low income elderly defined as those with an annual income of \$8,500 or less. This sampling frame covers a large majority of the elderly population as over 70 percent of the elderly own their own homes (Pitkin & Masnick, 1981).

Another sampling frame is voter registration records. Voting records include names and addresses of all registered voters within a specific jurisdiction. These records also include date of birth, therefore it is relatively easy to select a sampling frame of elderly from voting registrations. This may cause a problem because the elderly may not be registered voters within a community. Research indicates that 76.9 percent of the elderly population are registered voters (U.S. Department of Commerce, 1985).

A general sample of the population such as the U.S. Census, Annual Housing Survey, or Consumer Expenditure Survey have also been utilized for study of elderly. When a random sample of the population is conducted, then all of the respondents who are elderly are analyzed as a sub-sample. This often provides excellent information on elderly respondents. One difficulty with this type of sample is that when the elderly are selected from the larger sample, the number may not be proportional to the number of elderly in the population. Also the specific nature of the original research must be considered.

Purposive sample is often used in selecting samples. This method of sampling involves selecting individuals on the basis of known characteristics (McAuley, 1987). Examples of purposive sampling include selecting elderly at nutritional meal sites, senior citizen centers, or retirement communities. Organizations such as the American Association of Retired Persons (AARP) and Retired Teachers groups are also examples of samples used in purposive sampling. However, as Hooyman and Kiyak (1988) point out this type of sampling frame may over-represent financially secure and healthy older persons. Utilization of these groups is appropriate to provide information about the elderly only if the researcher is aware that they are selective samples and may not be representative of the elderly population as a whole.

While all of these samples can help to produce answers to the questions a researcher is asking, there are great concerns about the research questions related to this type of population. What may be true for one group of elderly persons living in a small retirement community in Oklahoma may not be true for the larger population of elderly Oklahomans or elderly Americans. The question remains: Is it possible to find representative information about the housing of the elderly in the United States without performing a census?

## PURPOSE

With the increasing numbers of elderly and the requisite condition to understand the housing situations of this group, this study focuses on methodological situations related to sampling. Specifically, the research will explore similarities and differences of a national, regional, state and two locally collected samples on specific characteristics that affect the housing situation of the elderly. If there are similarities among samples it lends credibility for researchers to use specific types of elderly samples and to generalize about a larger or smaller population of elderly.

Previous studies have indicated several characteristics that influence housing of the elderly. Age affects housing in that elderly couples tend to be younger than the rest of the elderly population and younger elderly live in newer housing. Newer housing is generally in better condition than older housing. Younger elderly are also better able to maintain their housing units. Sex and marital status have an effect on the type of housing older persons live in. Married couples live in higher quality housing than those who are unmarried. Elderly who live with younger families tend to live in better quality housing. Older persons who live alone tend to live in poorer quality housing. Housing that is occupied by unmarried men living alone is of poorer quality than housing occupied by unmarried older women

living alone. There is a slight tendency for deficits to be more frequent among older men who live alone as one goes from widower to divorced/separated to never married (Lawton, 1981).

The housing of older persons is also affected by tenure. Married couples have the highest homeownership rates of all elderly. Housing tenure has a consistently strong age effect for different types of households. Husband-wife families, households headed by men and households headed by women all exhibit higher rates of homeownership among elderly headed households than among households in general (Newman, 1986). Housing that has ownership as a form of tenure is of better quality and has a lower incidence of housing deficits than those housing units rented by the elderly (Soldo, 1986). The educational level of older persons also affects the type of housing because it has a direct affect on the older individual's type of previous occupation and therefore level of income both previous to and during retirement. In addition, educational level may have an affect on the older individuals knowledge of alternative kinds of housing or housing assistance.

#### METHODOLOGY

For the two locally collected samples, in this study, a proportionate stratified sampling method was utilized to obtain an equal number of urban and rural respondents from a sample of 1000. Oklahoma's 77 counties were listed by

population size and divided into equal quartiles of 19 counties each with the final quartile having 20 counties. For each county in the quartile, the percentage of elderly were indicated (U.S. Bureau of the Census, 1982). One county from each of the three smallest quartiles was selected at random and one county from the largest quartile was randomly selected. This resulted in an equal number of rural and urban respondents with 500 each. The sample for each of the counties was drawn proportionate to the number of elderly to have 500 respondents in rural counties and 500 respondents in the urban county.

Different sampling techniques were used in selecting the sample of the elderly. The two methods used were real estate assessment rolls for personal property and voting registration records which list the date of birth of all voters within the county. In one rural county, the real estate assessment rolls for personal property tax were used for each individual because ages were listed. This roll had been updated in 1986; therefore, all individuals aged 63 and over were included in the sample. A systematic sampling procedure was used to select every nth name by age of all those 63 and over. In the urban county and two remaining rural counties, the real estate assessment rolls for personal property did not include ages; therefore, voting registrations were utilized. A systematic sampling procedure was used for selecting every nth name

proportionate to the sample size of all individuals 65 and over.

An instrument was developed to collect basic demographic, housing, family, life, and health satisfaction data. A modified version of Dillman's Total Design Method was utilized in data collection. The method is concerned with the maximization of quantity and quality of responses (Dillman, 1978). Data collection methods yielded 483 usable questionnaires for a total response rate of 48.3%. Comparative data for the state of Oklahoma, the Southern region, and the United States was obtained from the U.S. Bureau of the Census\*.

## RESULTS AND DISCUSSION

Chi-square analysis was used to determine if the samples are similar along characteristics most often related to housing of older persons. The four characteristics studied are age, sex, marital status, and educational level. Other variables that influence housing situation of elderly persons could not be studied because comparable data was not available in all of the data sets.

Chi-square analysis revealed significant differences among the five samples on the characteristic of age. Table III shows the age characteristics of the respondents in the 5 sample groups. Those respondents in the voter registration sample were more likely to be younger than the other respondents as is evidenced by the high percentage of

individuals in the 65-69 age group and the lower percentages in all other categories.

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Insert Table III about here

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Perhaps those who register to vote are younger, more active and in better health -- older elderly persons are more likely to have disabilities that keep them from participating in activities. The property tax sample had the lowest percentage of respondents in the lowest age category, but the highest representation of individuals in the age 85 and over group. In all five categories, both the voter registration sample and the property tax roll sample appear to be very different from the state, regional, and national categories, as well as from each other. The only two notable differences among the state, regional and national samples are the higher percentage of state respondents in the 75-79 age category and the slightly lower number of respondents in the regional sample in the 85 and over group.

Table IV presents the gender distribution of the 5 samples. Once again, the state, regional, and national samples are all very similar with almost 60% of the respondents female and slightly more than 40% male. Although apparently different from each other, both the voter registration sample and the property tax roll sample

have an under-representation of females and over representation of males.

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Insert Table IV about here

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In the general population of elderly persons it has been noted that women outlive men. Therefore, it is not uncommon to expect a higher percentage of women in most samples. Perhaps the higher percentage of men in the voter registration and property tax roll sample reflects lower ages which could lead to more males in the sample. Additionally, property is often listed in the males name, thereby resulting in a greater proportion of males in the property tax roll sample.

Significant differences were found among all five samples in the marital status category. Table V shows the incidence of married, divorced/separated, widowed, and never married persons in the samples.

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Insert Table V about here

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There appear to be differences were found in all four sub groups of marital status. Slightly over half of the state and national sample reported being married. The voter registration and property tax sample reported over 60% of the respondents being married. This may be a reflection of



the earlier characteristics -- the young age and higher percentage of men. Younger elderly are more likely to be married and older men are more likely to be married than the rest of the population. The regional sample has less than 40% of its sample reporting that they were married.

Divorced/separated status appears to differ in all groups. The lowest incidence of divorce or separation occurred in the property tax roll while the highest occurred in the voter registration sample. The highest incidence of widowhood was present in the regional sample. This may be a reflection of the lower percentage of married status. Voter registration and property tax roll sample had the lowest incidence of widowhood with approximately 27% and 33%. The state and regional samples were similar with 36% and 37%. The lowest occurrence of never married individuals was in voter registration and property tax rolls samples. The highest incidence of never married individuals was present in regional and national samples with 6%. The state sample had slightly less than 4% of its elderly who had never married.

Significant differences among the various samples were noted in the educational attainment of respondents (Table VI). In all categories except that of no education through the eleventh grade the voter registration sample has the

largest percentage of respondents.

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Insert Table VI about here

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The voter registration sample is better educated than all of the others. Property tax roll sample has a higher percentage of respondents who are high school graduates and college graduates than the state, regional or national sample. It would appear that by choosing an elderly sample from either voter registration or property tax rolls a researcher is tapping a better educated sample than one chosen from the general population.

#### SUMMARY AND IMPLICATIONS

The analysis of the data suggests that characteristics which influence housing of the elderly vary with the type of elderly sample used. The voter registration sample tends to be younger, mostly female, married and of a higher educational level than the other four samples. Almost 50% of the sample was between the ages of 65 and 69. Over 52% of the sample was female and almost 63% were married. The sample had a higher level of educational attainment with over 37% high school graduates and over 20% college graduates.

The property tax roll sample seems similar to the voter registration sample in its higher level of educational

attainment with over 35% high school graduates and almost 19% college graduates and its high level of married respondents (63.33%). The sample differed from the other four in age. Property tax rolls had the highest percentage of 85 and over individuals (12.5%) and age 70 to 74 individuals (36.36%). In addition, the highest number of male respondents was record for this sample with over 52%.

The state, regional, and national samples did not appear to differ greatly on the characteristic of age. Each sample had the greatest number of respondents in the age category of 65 to 69 years. The percentages then reduced similarly for each older age category. Similarly the three samples did not seem to differ along the characteristic of sex. Each had slightly over 59% female respondents.

In the marital status category there appear tp be differences among the five samples. The regional sample recorded the lowest percentage of married respondents with slightly over 39%. The national sample recorded the lowest number of divorced/separated of the three samples with just less than 4%. The regional sample consisted of almost 48% widows and widowers, a lower percentage was recorded for state, national, property tax roll, and voter registration samples. The state sample recorded the lowest percentage of never married in the three samples with almost 4%, however this was still higher than either the voter registration sample or the property tax roll sample.

The educational characteristics of the state, regional, and national sample appear similar to each other, but different than the voter registration or property tax roll samples. One exception was found among the state, regional, and national samples in the categories of educational attainment for the respondents. The regional sample had a higher percentage of respondents in the category of none to eleventh grade education with 66.4%. This sample also recorded the lowest percentage of the five samples in high school graduates with 16.7%.

In all comparable categories that affect the housing situation of the elderly significant differences among the five samples were found. Because of the differences a researcher can take neither a small population of older people and generalize about the entire elderly population or take U.S. Census data and generalize about a small group of specific elderly. A researcher must be aware of the types of differences that occur among various samples and realize the impact they have on research questions and findings. The differences are significant especially when studying the housing of the elderly because housing is greatly influenced by many demographic, economic, and social characteristics of individuals. Using an inappropriate sample to generalize trends can inaccurately portray the housing situation of the elderly.

Perhaps one solution to the problem of sampling the elderly is the concept of cluster sampling. While a single

choice for a sampling frame may lead to a biased sample, the use of a variety of sampling frames may lead to a better representation of the elderly population. By choosing small clusters of samples from a collection of sources such as AARP membership, voter registration records, public housing for the elderly, senior citizen centers, retirement communities, congregate meal programs, and real estate assessment rolls the researcher may increase the likelihood of finding certain characteristics that may not be present using only one sampling frame. The mixture of respondents that cluster sampling produces can lead to greater insight and a more accurate depiction of the elderly population.

#### NOTES

\* Data for the state, regional, and national came from the following U.S. Bureau of the Census sources:

- U.S. Bureau of the Census: 1982, 'General population characteristics, Oklahoma: 1980', No. PC80-1-B38 (U.S. Government Printing Office: Washington, DC).
- U.S. Bureau of the Census: 1983, 'Detailed population characteristics, Oklahoma: 1980', No. PC80-1-D38 (U.S. Government Printing Office: Washington, DC).
- U.S. Bureau of the Census: 1983, 'General social and economic characteristics, Oklahoma: 1980, No. PC80-1-C38 (U.S. Government Printing Office: Washington, DC).
- U.S. Bureau of the Census: 1983 'General social and economic characteristics, U.S. Summary: 1980, No. PC80-1-C1 (U.S. Government Printing Office: Washington, DC).
- U.S. Bureau of the Census: 1983, 'General population characteristics, U.S. Summary: 1980, No. PC80-1-B1 (U.S. Government Printing Office: Washington, DC).

U.S. Bureau of the Census: 1984, 'Detailed population characteristics, Regions: 1980', No. PC80-1-D1-B (U.S. Government Printing Office: Washington, DC).

U.S. Bureau of the Census: 1984 'Detailed population characteristics, U.S. Summary: 1980', No. PC80-1-D1-A (U.S. Government Printing Office: Washington, DC).

TABLE III

Chi-square values for samples and age of respondents

	Voter Registration	Property Tax Rolls	State Sample	Regional Sample	National Sample
Age	%	%	%	%	%
65 - 69	49.74	26.14	32.39	35.13	34.39
70 - 74	23.16	36.36	27.42	27.57	26.76
75 - 79	15.00	17.05	19.77	18.87	18.81
80 - 84	8.95	7.95	11.49	10.71	11.45
85 +	3.16	12.50	8.93	7.72	8.60

$$\chi^2 = 12434.104, \text{ DF} = 16, p = 0.000$$

TABLE IV

Chi-square values for samples and sex of respondents

	Voter Registration	Property Tax Rolls	State Sample	Regional Sample	National Sample
Sex	%	%	%	%	%
Female	52.48	47.19	59.84	59.46	59.75
Male	47.52	52.81	40.16	40.54	40.25

$$\chi^2 = 238.793, \text{ DF} = 4, p = 0.000$$

TABLE V  
Chi-square values for samples and marital status of  
respondents

	Voter Registration	Property Tax Rolls	State Sample	Regional Sample	National Sample
Marital Status	%	%	%	%	%
Married	62.95	63.33	53.53	39.24	53.08
Divorced Separated	7.77	1.11	5.66	6.68	3.97
Widowed	27.20	33.33	37.05	47.92	36.76
Never Married	2.70	2.22	3.76	6.17	6.19

$$\chi^2 = 452677.000, DF = 12, p = 0.000$$

TABLE VI  
Chi-square values for samples and education of respondents

	Voter Registration	Property Tax Rolls	State Sample	Regional Sample	National Sample
Education	%	%	%	%	%
None - 11th	24.63	40.70	63.42	66.40	61.15
High School Graduate	37.54	34.88	19.48	16.70	21.47
College	20.82	18.60	8.98	8.64	9.09
College Graduate	13.20	3.49	4.47	4.84	4.71
Post College	3.81	2.33	3.65	3.42	3.58

$$\chi^2 = 101732, DF = 16, p = 0.000$$



## BIBLIOGRAPHY

- Atchley, R.C.: 1988, *Social Forces and Aging* (Wadsworth Publishing Co., Belmont, CA).
- Bureau of Labor Statistics: 1983, *Handbook of Labor Statistics* (Government Printing Office, Washington, DC).
- Dillman, D.A.: 1978. *Mail and Telephone Surveys The Total Design Method* (Wiley, New York, NY).
- Earhart, C.C.: 1987, *Energy Conservation Decisions of Elderly Homeowners* (Unpublished M.S. Thesis, Oklahoma State University).
- Hooyman, N.R. and Kiyak, H.A.: 1988, *Social Gerontology A Multidisciplinary Perspective* (Allyn and Bacon, Inc., Needham Heights, MA).
- Lawton, M.P.: 1981, 'An ecological view of living arrangements', *The Gerontologist* 21, 1, pp.59-66.
- Mayer, N.S. and Lee, O.: 1981, 'Federal home repair programs and elderly needs', *The Gerontologist* 21,3, pp. 312-322.
- McAuley, W.J.: 1987 *Applied Research in Gerontology* (Van Nostrand Reinhold, Co., New York, NY).
- Newman, S.J.: 1986, 'Demographic influences on the future demand of the elderly', in R.J. Newcomer, M.P. Lawton, and T.O. Byerts (eds.): *Housing an Aging Society* (Van Nostrand Reinhold Co., New York, NY), pp.21-32.
- Pitkin, J. and Masnick, G.: 1981, *Linking Projects of Households with Housing Consumption: An Exploration of Alternative Series* (U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Washington, DC).
- Shanas, E.:1968, 'Problems in the organization and design of cross-national studies in aging', in E. Shanas and J. Madge (eds.): *Methodological Problems in Cross-National Studies in Aging* (S. Karger), pp. 1-13.

- Soldo, B.J.: 1986, 'Housing types, housing needs, and disability', in R.J. Newcomer, M.P. Lawton, and T.O. Byerts (eds.): *Housing an Aging Society* (Van Nostrand Reinhold Co., New York, NY), pp. 10-20.
- U.S. Bureau of the Census: 1982, 'General population characteristics, Oklahoma: 1980', No. PC80-1-B38 (U.S. Government Printing Office: Washington, DC).
- U.S. Department of Commerce: 1985, 'Voting and registration in the election of November 1984', in *Current Population Reports, Population Characteristics Series P-20*, No. 397 (Bureau of the Census).

CHAPTER V

HEALTH AS A FACTOR IN OLDER PERSONS' LIFE, FAMILIAL  
AND HOUSING/NEIGHBORHOOD SATISFACTION

MANUSCRIPT FOR PUBLICATION

JOURNAL TITLE: JOURNAL OF HOME ECONOMICS

## Health as a Factor in Older Persons' Life, Familial and Housing/Neighborhood Satisfaction

### Introduction

Health is an important factor in the lives of older persons. The presence of chronic disease or physical disabilities can keep older persons from feeling satisfied with their lives, enjoying their families, and finding pleasure in their housing and neighborhood environments. The relationship between health and other factors of an individual's life can have important implications for home economists and the type of services they provide for individuals and families.

Health status has been defined as: 1. The presence or absence of disease in an individual; and 2. the degree of disability in a person's level of functioning (1). Additionally, in 1947 the World Health Organization defined health as a state of complete mental, physical, and social well-being (1).

### Life Expectancy and Health

Life expectancy has risen dramatically during this century. At the turn of the century an individual could expect to live 48.2 years (2). Recent research indicates

that a child born in 1986 can expect to live 74.9 years (3). Average life expectancies are predicted to increase even more in future years. In fact, if an individual reaches 65 years of age in today's society he or she can expect to live another 17 years (4). Moss, writes that life expectancy will have doubled by the end of the 20th century, or increased to 86 years of age (5).

The increase in life expectancy is due largely to advances in medical technology and improved health care, both of which have helped to eradicate numerous diseases (6). According to Hooyman & Kiyak, "A hundred years ago, adults generally died from acute diseases, with influenza and pneumonia as the principle killers. Few people survived these diseases long enough to need care for chronic conditions. Today, death from acute diseases is rare" (1).

Home economists have been actively involved in the health arena since the beginning of the home economics profession. Human nutrition and sanitation, two factors that contribute to the increase of good health and life expectancy, were early thrusts in home economics research and application. This continues to be of major concern, for home economists working in both developed and Third World Countries.

While longevity is a status our society strives for, and a status that home economists have worked to increase, it is also a state that brings with it a number of serious consequences. One consequence is increased disability and

incidence of illness with age. Most older people have at least one chronic/disabling condition, and many have more than one. According to Blake (7) more than 80 percent of all older persons suffer from at least one chronic condition. Many older individuals suffer from multiple chronic conditions. Chronic health conditions are defined as "Long term (more than 3 months) often permanent, and leaving a residual disability that may require long-term management or care rather than cure" (1). Chronic conditions that are most frequently reported include: arthritis (48%), hypertension (39%), heart disease (30%), hearing impairments (29%), orthopedic conditions (17%), sinusitis (17%), cataracts (14%), diabetes (10%), visual impairments (10%), and tinnitus (9%) (3).

The older an individual is, the more likely he or she is to experience a chronic health condition or severe activity limitation. This is important to note because according to the American Association of Retired Persons (3) (1987) persons 85 years of age and older are the fastest growing group in the older population. This group was 22 times larger in 1986 (2.8 million people) than it was in 1900. During that same time period the population of those aged 65-74 and 75-84 grew 8 and 12 times larger, respectively. With the increase in the number of persons over 85 the number of persons requiring care for chronic conditions should also rise.

As previously stated, health is not only a physical state, but also a mental and emotional state. If the health of an individual is poor, either physical, mental, or social, it can effect other aspects of the older person's life.

## Health and Related Variables

### Life Satisfaction

Researchers have found a strong relationship between an older person's health and life satisfaction. Weaver and Ford (8) write, "Chronic health conditions, more prevalent with age, and a decline in income resulting from retirement, generally decrease overall life satisfactions of the elderly". Myles (9) wrote that the single most important predictor of life satisfaction was the self-assessed health of the older person. Markides and Martin found that health was a strong predictor of an older person's life satisfaction. The researchers developed a model for life satisfaction that included the four predictor variables of self-reported health, income, education and activity. Both health and activity were found to be strong predictors of life satisfaction. The researchers stated, "health influences life satisfaction not only directly but also indirectly by permitting or preventing individuals from engaging in essential life satisfying activities" (10).

### Family Relationships

Health may influence an older person's familial satisfaction and relationships. In a 1986 study, Deimling and Bass (11) examined the relationship of older parent's symptoms of mental health and caregiver stress. An important finding of this research is that family relationships may be most affected by the impairment of an older person. Also, stress effects may differ according to the older parent's specific type of impairment (11).

Baruch and Barnett (12) found that adult daughters felt they would have better feelings about their older mothers if their mothers had better health. This finding is consistent with a study by Johnson and Bursk (13). The research assessed the quality of the relationships between older parents and adult children. Four factors are relevant to the relationship and include: they are health, finances, living environment and attitude indicators. Health has been found to be important to the quality of parent-child relationships. The researchers recorded a "significant association between a positive elderly-parent adult-child relationship and health" (13). Continuing further, Johnson and Bursk state that, "intervention strategies for elderly who experience poor health should not only be developed but should be considered essential given that poor health may exacerbate poor family relationships"(13).

The relationship of declining health and family relationships has been inadequately considered. According



to Troll and Stapley (14) most research with children does not look at the effects of health and well-being on family interactions. Researchers have not explored the relationships of older parents and children and their changes with the declining health and financial resources of the parent (15).

### Neighborhood/Housing Satisfaction

Lawton and Nahemow wrote about the effects of environmental press and an older individual's competence level (16). According to Lawton and Nahemow's Competence Model, when an older person's competencies in the areas of biological health, social behavior and cognition are not congruent with the demands of the environment; the community, neighborhood, and home, then individuals experience high environmental press. Environmental press refers to the demand quality of the environment. If a person cannot adapt to high environmental press, then the individual encounters stress (16).

Health status and domestic competence have been shown to be constraints on the choice of living arrangements of older persons (17). Although health and competence are not the only constraints to choice, they tend to be more age specific than do other constraints of income and availability of kin. The constraining forces of health status and domestic competence affect the feasibility of

various living alternatives by influencing coping ability (17). If an individual's health and domestic competencies limit his/her housing options, then the individual may not be able to live in the type of housing he/she desires. In turn, this restriction of housing choice may lead to dissatisfaction with the living unit.

Pollack and Newcomer (18) address the relationship between an older person's limitations and their neighborhood. As older persons become less mobile and have more physical limitations they are "at risk of becoming increasingly dependent on their residential environment for behavior and satisfaction" (18).

Toseland and Rasch (19) explored older persons and their community satisfaction. Findings indicate that physical safety, health care facilities, and recreational facilities are all important variables in predicting community satisfaction. "The community environment becomes increasingly important as physical mobility declines, and, as a person ages mobility tends to decline" (19). Carp (20) found that a decrease in mobility produces an increase in dependence on the surrounding community for physical, psychosocial, and health needs. Health may become a significant factor in determining satisfaction if the community fails to meet the older person's needs as health declines.

Few researchers have explored the relationship of health to housing, however, attention has mainly focused on

the relationship of housing to health. Lawton (21) suggests that improved housing serves "to buffer the individual against a decline in health so that attitudes, affect, and even some forms of social involvement could remain at relatively favorable levels". Housing and housing environment not only include the living unit, but the social and physical aspects of the neighborhood and community as well.

#### Purpose of the Study and Methodology

The purpose of this research has been to determine the relationship between the health of an older individual and that individual's level of life satisfaction, family relationships, and neighborhood convenience.

A proportionate stratified sampling method has been used in this study to compare urban and rural elderly. Oklahoma's 77 counties have been listed by population size. The counties have then been divided into quartiles of 19 counties each with the final quartile having 20 counties. One county from each of the quartiles has been selected at random. The percentage of elderly for each county in the quartile have been indicated (22). The sample size has been limited to 1000 with 500 selected from the 3 rural counties and 500 from the urban county. The response rate for the sample was 48.3% with a total of 483 respondents.

The questionnaire includes several scales related to health status, social interaction, life satisfaction, family

relationships, and neighborhood convenience and satisfaction. A general measure of health has been assessed through a self-perception rating and ability to perform specific activities over the past month.

Life satisfaction has been measured using the Life Satisfaction Index Z (LSI-Z) developed by Wood, Wylie, and Sheafor (23). This is a thirteen item index that measures the psychological well-being of older persons. Family relationships were measured through a series of questions that ask the older person to rate their relationships with their children and their perception of how their children felt about them. The respondents indicated their agreement or disagreement with statements such as, "I consider myself close to my children" and "I believe my children have respect for my opinions".

Housing and neighborhood satisfaction has been indicated through response to various indicators pertaining to neighborhood location and satisfaction with their living unit and neighborhood convenience. Respondents rated their levels of satisfaction on eight items such as the amount of space in the living unit and amount of privacy. In addition, convenience of the neighborhood has been rated on eight points including convenience of visiting friends and relatives, doctors or other medical service, and places of entertainment.

## Findings and Conclusions

Frequencies and means have been used to analyze general characteristics of the sample. A health score, life satisfaction score, family relationship score, and housing/neighborhood scores have been obtained by summing the responses to questions in each of the four categories. Using Spearman's correlation coefficient the life satisfaction score, family relationship score and housing/neighborhood score have been compared separately with the health score. This statistic has been used to test for a possible relationship between health and the three other scores. The maximum possible score for each of the three variables is as follows: life satisfaction, 26; family relationships, 20, and housing/neighborhood satisfaction, 28. Each variable had a minimum score of 0.

Health scores from the sample ranged from the highest possible score of 30 to the lowest possible score of 0. However, the majority of the older persons considered themselves very healthy, as shown by a mean score of 25.83.

Health was found to have a statistically significant relationship to life satisfaction, family satisfaction and housing/neighborhood satisfaction (Table 7).

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Insert Table 7 about here

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The analysis suggests that there is a strong relationship between good self assessed health and life

satisfaction, family relationships and housing/neighborhood satisfaction. If an older individual is healthy he or she tends to be more satisfied with life, to have better relationships with family members, and to express more satisfaction with his or her housing/neighborhood. This finding indicates that maintenance of good health in later years can positively affect levels of life satisfaction, family relationships, and housing/neighborhood satisfaction. Successful aging can be facilitated by the proper assistance in health maintenance and care from home economists and health practitioners.

#### Implications for Home Economists

Home economists have been extremely active in the area of health maintenance, and should continue to work in this area. Palmore (24) writes that many programs, both public and private, have had a direct or indirect effect on the health of older persons. Programs include: Supplemental Security Income, Medicare, Medicaid, Senior Centers, Congregate Nutrition Programs, Meals on Wheels, and Public Housing for Older Persons (24). Home economists can participate in a number of arenas concerning these programs. Active participation in public policy formation can ensure that these programs continue and that new programs are developed to meet the health needs of the older population. Referrals of older persons to specific programs are another role for home economists. Additionally, the professional

home economist may be an employee in one of the mentioned programs or in other programs of this type. Education and extension programming in specific content areas concerning health, housing, nutrition and family relationships can be conducted by home economists.

Wall wrote "Families also provide a social network for companionship and nutrient care. This is especially important for aged persons who may have limited mobility and physical ability and who may otherwise lead unkempt lives of quiet desperation" (25). Encouraging family members to help the older person as he or she adjusts to declining health is a role for home economists. If family members are better able to understand the changes that are likely to or have taken place, they may be more accepting or tolerant of the older person. In addition, home economists can assist in the education of coping techniques for family members, and the older person. Johnson and Bursk emphasize the family relationship by stating that as independent functioning declines with age, practitioners and policy makers must determine ways to alleviate the burden placed on the family by offering respite to the family and independence to the older parent (13).

The area of neighborhood and housing design has practical application for home economists. As the older person declines in function ability, home economists can provide important information relating to safety and design features in the home. Education will allow the older person

to compensate for his/her physical declines with specific structural or interior design changes. Such changes can help the older person master his/her environment and may lead to increased satisfaction. Home economists can also inform clientele of housing options that correspond to the various functioning levels of older persons.

As home economics researchers continue to study the elderly with the goal of applying findings to improve lives, two other questions require attention. First, what other important aspects of an older persons life influence life satisfaction, family relationships, and housing/neighborhood satisfaction? Secondly, what other aspects of an older individuals life does health affect? Finding the answers to those questions and implementing innovative solutions will help to fulfill the goal of improving the older population's lives.



**Table 7 Health with Life Satisfaction, Family Relationships  
and Housing/neighborhood Satisfaction**

Score	Mean	Standard Deviation	Corr	Prob> [R]
Life Satisfaction	19.99	6.20	.37337	.0001
Family Relationships	16.71	3.17	.19175	.0001
Housing/ Neighborhood Satisfaction	20.91	5.32	.20294	.0001

## References

1. Hooyman, N.R. and Kiyak, H.A. Social Gerontology. Needham Heights, MA: Allyn and Bacon, 1988.
2. Butler, F.N. "Overview on Aging: Some Biomedical, Social, and Behavioral Perspectives." In Aging, Social Change, ed. J.C. March. New York, NY: Academic Press, 1981.
3. American Association of Retired Persons. A Profile of Older Americans. Washington, DC: American Association of Retired Persons, 1987.
4. Long Term Care Education Coalition. Long-term Care: Services for the Individual. Washington, DC: American Council of Life Insurance, 1986.
5. Moss, F.E. "Long Term Care: A Crisis in the Making." Caring (October 1987), 6-12.
6. Belsky, J.K. The Psychology of Aging. Belmont, CA: Brooks/Cole Publishing Company, 1984.
7. Blake, R. "What Disables the American Elderly?" Generations 8, (1984), 6-9.
8. Weaver, C.D., and Ford, I.M. "Living Arrangements of the Elderly: Social Participation and Life Satisfaction." Housing and Society 15 (1988), 3-14.
9. Myles, J.F. "Institutionalization and Sick Role Identification Among the Elderly." American Sociological Review 43 (1978), 508-521.
10. Markides, K.S., and Martin, H.W. "A Causal Model of Life Satisfaction Among the Elderly." Journal of Gerontology 34 (1979), 86-93.
11. Deimling, G.T., and Bass, D.M. "Symptoms of Mental Impairment Among Elderly Adults and Their Effects of Family Caregivers." Journal of Gerontology 41 (1986), 778-784.

12. Baruch, G., and Barnett, R.C. "Adult Daughters Relationship with Their Mothers." Journal of Marriage and the Family **45** (1983), 601-606.
13. Johnson, E.S., and Bursk, B.J. "Relationships Between the Elderly and Their Adult Children." The Gerontologist **17** (1977), 90-96.
14. Troll, L.E., and Stapley, J. "Elders and the Extended Family System: Health, Family, Salience, and Affect." In A Gerontological Perspective. eds. J.M.A. Munnichs, E. Olbrich, and P.G. Coleman. Orlando, FA: Academic Press, Inc., 1985.
15. Blieszner, R. "Trends in Family Gerontology Research." Family Relations **35** (1986), 555-562.
16. Lawton, M.P., and Nahemow, L. "Ecology and the Aging Process." In The Psychology of Adult Development. eds. C. Eisdorfer and M.P. Lawton, Washington, DC: American Psychological Association, 1973.
17. Wister, A.V., and Burch, T.K. "Values, Perceptions, and Choice in Living Arrangements of the Elderly." In Critical Issues in Aging Policy. eds. E.F. Borgatta and R.J.V. Montgomery, Beverly Hills, CA: Sage, 1987.
18. Pollack, L.M., and Newcomer, R.J. "Neighborhoods and the Aged." In Housing an Aging Society. eds. R.J. Newcomer, M.P. Lawton, and T.O. Byerts, New York, NY: Van Nostrand Reinhold Co., 1986.
19. Toseland, R., and Rasch, J. "Factors Contributing to Older Persons Satisfaction with Their Communities." The Gerontologist **18** (1978), 395-402.
20. Carp, C.E. "Mobility of Old Slum-Dwellers." The Gerontologist **12** (1972), 57-65.
21. Lawton, M.P. "Housing Preferences and Choices: Implications." In Housing an Aging Society. eds. R.J. Newcomer, M.P. Lawton, and T.O. Byerts. New York, NY: Van Nostrand Reinhold Co., 1986.
22. U.S. Bureau of the Census. General Population Characteristics, Oklahoma: 1980. Publication no. PC80-1-B-83. Washington, DC: U.S. Government Printing Office, 1982.
23. Wood, V., Wylie, M.L., and Sheafor, B. "An Analysis of a Short Self-Report Measure of Life Satisfaction Correlation with Rater Judgements." Journal of Gerontology **24** (1969), 465-469.

24. Palmore, E.B. "Trends in the Health of the Aged." The Gerontologist 26 (1986), 298-302.
25. Wall, R.N. "Aging and Economics: The Future is Now." Journal of Home Economics (1986), 28-31, 64.

CHAPTER VI

THE RELATIONSHIP OF HOUSING/NEIGHBORHOOD SATISFACTION  
TO LIFE SATISFACTION AND ACTIVITY LEVEL  
OF OLDER PERSONS

MANUSCRIPT FOR PUBLICATION

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THE RELATIONSHIP OF HOUSING/NEIGHBORHOOD SATISFACTION  
TO LIFE SATISFACTION AND ACTIVITY LEVEL  
OF ELDERLY PERSONS

Abstract

Previous research has indicated that a number of variables other than housing quality affect housing/neighborhood satisfaction of the elderly. Demographic variables as well as life satisfaction, family relationship, and activity level variables all have an influence on overall housing/neighborhood satisfaction. This paper investigates determinants of housing/neighborhood satisfaction of elderly persons. The data are from 483 older Oklahomans surveyed in 1987 and 1988. The sample was derived from voter registration records and real estate assessment rolls for personal property tax. The variables used in the assessment of housing/neighborhood satisfaction included life satisfaction, family relationships, activity level, age, sex, education, marital status, tenure, housing type, living situation, length of residence, and annual income.

The mean housing/neighborhood satisfaction scores for the sample were 20.91. Pearson's correlation

coefficients identified a strong relationship between housing/neighborhood satisfaction and the variables of life satisfaction, family relationships, activity level, education, and annual income. Regression analysis indicated that the following four variables were significant contributors to housing/neighborhood satisfaction: life satisfaction, activity level, marital status, and annual income. No significant contribution was found for the other demographic, housing, and family satisfaction variables.

#### Introduction

The proportion of elderly, aged 65 and above, will increase dramatically in future years and their accompanying needs must be met. The post-war generation has created a demographic shift in our population. Evidence of the demographic influences of the baby-boom generation can be found in examining the specific segments of our population. In 1910 the elderly made up 4.3% of the population. Today the percentage of elderly is 12% (American Association of Retired Persons, 1987) By 2030 this percentage is expected to increase to 25% (Dibner, 1983).

This aging of the population in the United States will have far reaching and important implications on the goods and services available to the elderly and the level of the older person's satisfaction with those services. One service of particular importance is

housing. There are two aspects that must be discussed when reviewing housing for the elderly. Most frequently studied is the physical structure. Approximately 40% of the homes owned by the elderly were built prior to 1940 and 9% of those are considered inadequate (American Association of Retired Persons, 1987). In comparison only 22% of the homes owned by younger households were built before 1940 and only 6% of those are inadequate. Older persons tend to live in their housing units longer than other groups. The combination of older housing stock and many years of residence contributes to the deterioration of the dwelling.

When studying subjective ratings of housing quality among older people, Lawton and Hoover (1979) found that only 21% of the perceived quality variance was due to the real features present in the housing unit. A substantial contribution to the perception of quality in housing is interpersonal, transactional, and physical (Lawton, 1980b). When exploring housing satisfaction of older people, researchers must look past the physical structure itself. Hence a critical component of housing that deserves study is psychological.

The psychological setting provides the basis for how the total environment makes an individual feel. Living environment satisfaction is crucial to the well-



being of older people. Montgomery, Stubbs, and Day (1980) state that "the neighborhood often becomes the elderly's social and service world and the dwelling, their physical world"(p. 4). The housing and neighborhood environment is of particular importance to older persons because of the great amount of time they spend in their homes and neighborhoods.

In general, older people express a high degree of satisfaction with their living environments (LaGory, Ward, & Sherman 1985; Lawton, 1980a). This is a reflection not only of the older person's positive view of their neighborhood area, but also their strong attachment to their present housing unit. Researchers have found this satisfaction to be high even when the quality of the housing is low or inadequate. LaGory et al. (1985) supports this concept, "Environmental satisfaction is the result of a complicated process involving ecological, biological, and social components" (p. 406). Many variables appear to be related to housing satisfaction, and because of the importance of housing and neighborhood to an older individual it is worthwhile to investigate those variables further.

#### Relevant Literature

Housing is one of the many factors related to quality of life. Not merely a physical structure, housing also has a social and psychological component.

Housing and the surrounding environment includes the living unit, the social and physical aspects of the neighborhood and community as well (Golant, 1986). The physical setting, the human interaction, and the emotional component of the housing and neighborhood contributes largely to an older individual's life satisfaction and quality of life. Housing can "enhance or impede elderly person's abilities to attain their goals" (Lee, 1986, p. 33).

#### Life Satisfaction

Many researchers have found that housing/neighborhood environment has at least a limited effect on life satisfaction (Lawton, Brody, and Turner-Massey, 1978; Campbell, Converse, and Rodgers, 1976). Residents of a community housing project were examined in a study of environmental factors and changes in the well-being of older person's (Lawton, et al., 1978). Researchers found that favorable housing/neighborhood characteristics have a positive effect on the well-being of older individuals.

Carp (1975) studied the effects of the living environment on life satisfaction and morale of older people. Increased satisfaction with the housing/living arrangement resulted in a reduction of total problems perceived by the older person in their life. Researchers had previously believed that an improvement in poor quality housing would result in an increased

awareness of other major problems. The hypothesis theorized that if one major problem (housing) was successfully treated other sources of dissatisfaction in the individual's life would gain more focus. The findings of this study do not support that hypothesis, but do confirm the relationship of the living environment to life satisfaction. It appears that, "good living arrangements hold great promise as a means of improving the quality of life during its later years", (Carp, 1975, p. 515).

#### Neighborhoods

The physical or community setting of the housing unit may affect the way people interact in housing. As individuals age their access to the rest of the world is often limited due to poor health or diminished physical energy. Older people, "tend to live their lives in small social and physical spaces" (Montgomery et al., 1980, p. 444). The housing situation of older persons can either support or prevent social participation (Weaver & Ford, 1988).

Salisbury and Beer (1982) found that the setting of the housing had a great effect on the elderly's movement and found those factors in the setting that influenced mobility and independence were sidewalk inclines, automobile and pedestrian traffic, difficulty of mass transit use, and fear of crime. Satisfaction or ease of use of these factors and the ability to

interact can alter happiness within the living environment. Pollack and Newcomer (1986) found four neighborhood aspects that influence the elderly's behavior and satisfaction: "aesthetics and amenities, transportation and access, safety and fear of crime, and social characteristics of neighborhoods" (p. 122).

#### Activity Level

When living environments do not exhibit positive features the activities of older people suffer. The inability to participate in activities is reflected in expressed housing/neighborhood satisfaction. Carp (1978) studied housing satisfaction and its impact on activity. The researcher asked two basic questions: 1. Can the living environment change activity levels? and 2. Is it desirable to manipulate the environment to expand activity? The study suggested maintenance of activity among older persons resulted in greater satisfaction with the living environment, increased life satisfaction, higher morale, better self-assessments of health, and longer life. As Carp (1978) stated, "a living environment which provides for and expects an active life-style can be a beneficial setting which to grow old" (p. 88).

#### Family Relationships and Personal Characteristics

Lawton, (et al., 1978) reported that human factors, such as family, friends, and institutional support services also positively affect the well-being

of older people. The housing and neighborhood are the location for informal, intimate social relations and family life. Atchley and Miller (1975) found that larger living units were more desirable to older people because they have space that accommodates visits from family members.

In addition to life satisfaction, family relationships, and activity level other variables have been found to influence housing/neighborhood satisfaction. Older people of higher social and economic status and those who are homeowners also tend to express greater satisfaction with their housing (Lawton, 1980b).

Housing satisfaction has been shown to increase as chronological age increases (Lawton, 1980b; Montgomery et al., 1980; Campbell et al., 1976). Those older persons who have lived in an area for longer periods of time are more likely to express strong community bonds and positive community experiences (Golant, 1984; Windley & Scheidt, 1982). Older people who have lived in their residences for an extended period of time express more satisfaction than do younger populations (Lawton, 1978; Campbell et al., 1976). Length of residence has been found to have a significant positive association with community social bonds. Berry and Kasarda, (1977) found that an important factor contributing to community attachment was length of

residence. Longer residence may result in greater community satisfaction (Golant, 1984).

Most older couples tend to be homeowners and live in better quality housing (Lawton, 1981). Although in survey questionnaires older people express high satisfaction with their housing, they are the least likely to choose single family homes as their housing preference (Lee, 1986). This is an interesting point because older people are more likely than the younger population to own single family homes.

#### Purpose and Procedures

Previous studies have explored the relationship of housing quality and it's relationship to housing satisfaction. Results indicate that quality is only a small contributor to overall satisfaction and other variables may have a significant effect. Current research should focus on remaining components that make up the total living environment. The purpose of this research is to determine the relationship between the housing and neighborhood satisfaction of an older individual and that individual's level of activity, life satisfaction, family relationships, demographic variables and housing characteristics. Although past research made a distinction between housing satisfaction and neighborhood satisfaction; this research combines these two related variables.

### Sample and Data Collection

A proportionate stratified sampling method was used to select a sample of urban and rural elderly in Oklahoma's 77 counties. The counties were listed according to population size. The counties were then divided into quartiles of 19 counties with the final quartile having 20 counties. The percentage of elderly for each county was estimated utilizing data from the 1980 U.S. Census (U.S. Bureau of the Census, 1982). One county from each of the quartiles was selected at random. The sample size was set at 1000, with half of the sample from the urban county. The other 500 respondents were selected proportionately to the elderly population in the rural counties.

The total sample was selected from voter registration records and real estate assessment roles for personal property tax. A systematic sampling procedure was used for selecting every  $n$ th name proportionate to the sample size of all individuals 65 and over in each of the selected counties.

A modified version of Dillman's Total Design Method was utilized in data collection (Dillman, 1978). The instrument was mailed to all individuals in the sample along with a letter explaining the importance of the study. A postage paid return envelope was included along with the questionnaire and letter. Ten days after the first mailing, a postcard was sent to each

respondent in the sample. The postcard thanked those persons who had returned completed questionnaires and served as a reminder to those respondents who had not yet returned the questionnaire. A follow-up letter, questionnaire, and postage paid return envelope was sent three weeks after the initial mailing to those in the sample who had not responded. The letter reminded respondents to complete and return the instrument and emphasized the importance of their participation. Data collection methods yielded 483 usable questionnaires for a total response rate of 48.3%.

### Instrument

The questionnaire utilized was modified from a previous instrument (Braun, 1985) which studied health status, social interaction, life satisfaction, family relationships, and neighborhood satisfaction. A general measure of housing and neighborhood satisfaction was assessed through a series of questions pertaining to satisfaction with specific features and attributes of the individual's living unit and neighborhood.

Life satisfaction was measured using the Life Satisfaction Index Z (LSI Z) developed by Wood, Wylie, and Sheafor (1969), and is a thirteen item index that measures the psychological well-being of older persons. Family relationships were measured through a series of questions that asked the older person to rate their



relationships with their children and their perception of how their children felt about them.

Activity level was indicated through response to the frequency of engaging in specific activities. Activities included visiting friends or relatives, talking on the phone with friends or relatives, and attending social or civic functions.

#### Sample Characteristics

The sample ranged in age from 65 to 99 years. Fifteen percent of the sample had an 8th grade education or less. The highest level of educational attainment for over one-third of the respondents was high school graduation (37%). Approximately 11% of the sample graduated from college and 3.5% of the respondents had post-graduate college. Over half (65%) of the sample had an annual income of over \$9600. Less than 4% had an annual income of less than \$3600.

Over half (51.5%) of the sample was female. Sixty-three percent of the respondents were married. More than half (59.4%) reported that they lived with their spouse. Almost 33% lived alone in their own home. Over one-fourth (28.4%) of the sample reported that they were widows or widowers. Almost 90% of the sample owned their own homes, 10% were renters. Most (88.3%) lived in single family homes with the next highest percentage (5.5%) indicating that they lived in an apartment. Over half of the sample had lived at the

same residence for 15 years or more (56.5%) with length of residence ranging from 1 to 76 years and a mean of 19.94 years.

### Analysis and Findings

Most of the respondents expressed satisfaction with their housing and neighborhood. The mean score was 20.91 and over 50% of the sample scored 21 or over. However the scores ranged from a low of 0 to a high of 28.

Pearson's correlation coefficient was used to determine the association between selected variables with housing/neighborhood satisfaction, housing/neighborhood satisfaction and was found to have a significant positive relationship with life satisfaction (.3551), family relationships (.2411), and activity level (.1398) at the .05 level. The data suggest a strong linear relationship between the three variables and housing/neighborhood satisfaction.

Housing/neighborhood satisfaction was also assessed for association with age, sex, marital status, education, income, tenure, housing type, living situation, and length of tenure. Two variables, education and annual income are significantly related to housing/neighborhood satisfaction (Table 8). In order to ascertain which variables contribute most in the determination of housing/neighborhood

satisfaction regression analysis was used.

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Insert Table 8 about here

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Three regression models were used to help explain the variance of housing/neighborhood satisfaction scores among respondents. The first regression analysis involved the variables of life satisfaction, activity level, and family relationships. Stepwise regression analysis revealed that life satisfaction and activity level are significant contributors to housing/neighborhood satisfaction (Table 9). The two variables explain 21 percent of the variance of housing/neighborhood satisfaction scores.

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Insert Table 9 about here

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The second regression model included the demographic variables of age, sex, marital status, education, monthly income, tenure, housing type, living situation, and length of tenure. Two variables, monthly income and education, were found to be significant contributors to housing/neighborhood satisfaction (Table 10). Together monthly income and education helped to explain almost 6

percent of the variance in housing/neighborhood satisfaction scores.

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Insert Table 10 about here

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The final regression model included the four variables found to be significant contributors in the previous analysis (Table 11). Of the four variables, only three variables were found to contribute significantly to housing neighborhood satisfaction and entered the model as follows: life satisfaction, activity level, and monthly income. In this third regression analysis, education was dropped from the explanatory model. The three remaining variables explained 25% of the variance among the housing/neighborhood satisfaction scores of the respondents.

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Insert Table 11 about here

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This analysis reveals that housing/neighborhood satisfaction of individuals increases as life satisfaction, activity level and monthly income increases. Therefore, those older individuals who express a high degree of satisfaction with their lives, who remain active, and who have an above average income

are more likely to be satisfied with their current housing and neighborhood environment.

#### Summary and Conclusions

Life satisfaction has a statistically significant impact on housing/neighborhood satisfaction. In this study, life satisfaction explained almost 23% of the variance among the housing/neighborhood satisfaction scores of the respondents. This finding is consistent with existing literature (Carp, 1975). The finding that activity level has a significant affect on housing/neighborhood satisfaction is also similar to other research findings (Carp, 1978). Together with life satisfaction, activity level explains 24% of the housing/neighborhood satisfaction variance.

The monthly income of the sample was found to make a significant contribution to housing/neighborhood satisfaction. Annual income was previously cited as a contributor to housing/neighborhood satisfaction (Lawton, 1980b).

Lack of variability among characteristics of the respondents may have contributed to the findings in this study. The sample had similar housing characteristics, specifically in the categories of tenure, housing type, length of tenure, and living situation. The sample had an above average education and annual income level. In addition, most were married and lived with their spouses. Greater

variability among the sample may have yielded different results in the explanation of housing/neighborhood satisfaction. The lack of variability may have contributed to the lack of significance in age and length of tenure as major variables in housing/neighborhood satisfaction.

Although this study found no significant relationship between housing/neighborhood satisfaction and family relationships perhaps future studies should focus on this association. The ability of the family to visit conveniently, the proximity of family, and the quality of family interaction may have an influence on housing/neighborhood satisfaction. Additionally, an important variable to consider is neighbor/friend relationships. This study did not address the relationship of neighbors and friends to housing/neighborhood satisfaction. Neighbors have a significant role in an older person's life. "Proximity and frequent contact with families may not be as critical if neighbors and nearby friends can provide the necessary social support for older persons" (Hooyman & Kiyak, 1988, p. 349). This is especially true if older persons and their families do not live in close proximity to one another.

Future studies should consider additional variables to help explain the housing/neighborhood satisfaction of the elderly. In this study only 25

percent of the variance among elderly individuals was explained suggesting that other factors -- either individually or working as a group influence the satisfaction derived from the housing and neighborhood environment.

Table 8.

Pearson Product Moment Correlation Matrix

1	2	3	4	5	6	7	8	9	10	
1	1.00									
2	-0.05	1.00								
3	-0.02	0.06	1.00							
4	-0.04	0.33***	0.41***	1.00						
5	0.14**	-0.15**	0.06	-0.05	1.00					
6	-0.05	0.12**	0.06	0.21***	-0.04	1.00				
7	-0.06	0.13**	0.08	0.19***	0.03	0.55***	1.00			
8	0.01	-0.12**	-0.20***	-0.39***	-0.09	-0.18***	-0.05	1.00		
9	-0.02	0.20***	0.06	0.06	-0.05	-0.23***	-0.28***	-0.06	1.00	
10	0.21***	-0.02***	-0.22***	-0.35***	0.41***	-0.11*	-0.04	0.07	-0.06	1.00

1 = housing/neighborhood satisfaction, 2 = age, 3 = sex, 4 = marital status,  
 5 = education, 6 = tenure, 7 = housing type, 8 = living situation, 9 = length of residence, 10 = monthly  
 income

\*p < .05

\*\*p < .01

\*\*\*p < .001



Table 9.

Regression Analysis of Housing/NeighborhoodSatisfaction and Related Variables

Variable	b	SE
Life Satisfaction	0.3553	0.0410 ***
Activity Level	0.3403	0.0781 **
Family Relationships	0.0048	0.1268

 $R^2 = 0.2192$ 
 $df = 3, 418$ 
 $F\text{-ratio} = 39.11 \text{ ***}$ 
 $*p < .05$ 
 $**p < .01$ 
 $***p < .001$

Table 10.

Regression Analysis of Housing/Neighborhood  
Satisfaction and Related Demographic and Housing  
Variables

Variable	b	SE
Age	-0.0029	0.0443
Sex	0.0318	0.5810
Marital Status	0.04080	0.3521
Education	0.1491	0.1003
Tenure	0.0826	1.0334
Housing Type	-0.5312	0.4308
Living Situation	0.1646	0.4009
Length of Residence	-0.0002	0.0189
Monthly Income	0.4115	0.1421 *

$R^2 = .0480$   
 $df = 9, 384$   
 $F\text{-ratio} = 2.02 *$

\* $p < .01$

Table 11.

Regression Analysis of Housing/NeighborhoodSatisfaction and Significant Contributing Variables

Variable	b	SE
Life Satisfaction	0.3514	0.0408 **
Activity Level	0.3135	0.1235 *
Monthly Income	0.2033	0.1144 *
Education	0.0862	0.0851

 $R^2 = .2520$ 
 $df = 4, 384$ 
 $F\text{-ratio} = 32.35 **$ 
 $*p < .05$ 
 $**p < .001$

## References

- American Association of Retired Persons (1987). A profile of older Americans (AARP Publication No. PF3049 (1187) D996). Washington, DC: American Association of Retired Persons.
- Atchley, R. C. & Miller, S. J. (1975). Housing and the rural aged. In R. C. Atchley & T. O. Byerts (Eds.), Rural environments and the aging (pp. 95-143). Washington, DC: Gerontological Society.
- Berry, B. J. L. & Kasarda, J. D. (1977). Contemporary urban ecology. New York: Macmillan.
- Braun, W. J. (1985). Life satisfaction and relocation among the elderly: A case study. Unpublished doctoral dissertation, Oklahoma State University, Stillwater, OK.
- Campbell, A., Converse, P. G., & Rodgers, W. (1976). The quality of American life. New York: Russell Sage.
- Carp, F. M. (1975). Impact of improved housing on morale and life satisfaction. The Gerontologist, 15, 511-515.
- Carp, F. M. (1978). Effects of the living environment on activity and use of time. International Journal of Aging and Human Development, 9(1), 75-91.
- Dibner, A. S. (1983). Is there a psychology of the rural aged? In A. W. Childs & G. B. Melton (Eds.), Rural psychology (pp. 95-112). New York: Plenum Press.
- Dillman, D. A. (1978). Mail and Telephone surveys: The total design method. New York: Wiley.
- Golant, S. M. (1984). The effects of residential and activity behaviors on old people's environmental experiences. In I. Altman, M. P. Lawton, & J. F. Wohlwill (Eds.), Elderly people and the environment (pp. 239-278). New York: Plenum Press.

- Golant, S. M. (1986). Subjective housing assessments by the elderly: A critical information source for planning and program evaluation. The Gerontologist, 26(2), 122-126.
- Hooyman, N. R. & Kiyak, H. A. (1988). Social gerontology. Needham Heights, MA: Allyn and Bacon.
- LaGory, M., Ward, R., & Spearman, S. (1985). The ecology of aging: Neighborhood in an older population. The Sociological Quarterly, 26(3), 405-418.
- Lawton, M. P. & Hoover, S. L. (1979). Housing and neighborhood subjective quality. Philadelphia: Philadelphia Geriatric Center.
- Lawton, M. P. (1978). Thirty years of research on subjective well being of older Americans. Journal of Gerontology, 33, 109-129.
- Lawton, M. P. (1980a). Environment and aging. Belmont, CA: Wadsworth.
- Lawton, M. P. (1980b). Residential quality and residential satisfaction among the elderly. Research on Aging, 2, 309-328.
- Lawton, M. P. (1981). An ecological view of living arrangements. The Gerontologist, 21(1), 59-66.
- Lawton, M. P., Brody, E. M., & Turner-Massey, B. (1978). The relationships of environmental factors to changes to well-being. The Gerontologist, 18(2), 133-137.
- Lee, G. R. (1986). Rural issues in elderly housing. In R. J. Newcomer, M. P. Lawton, and T. O. Byerts (Eds.), Housing an aging society (pp. 33-41). New York: Van Nostrand Reinhold.
- Montgomery, J. E., Stubbs, A. C., & Day, S. S. (1980). The housing environment of the rural elderly. The Gerontologist, 20(4), 444-451.
- Pollack, L. M. & Newcomer, R. J. (1986). Neighborhoods and the aged. In R. J. Newcomer, M. P. Lawton, & T. O. Byerts (Eds.), Housing an aging society (pp. 119-126). New York: Van Nostrand Reinhold.

- Salisbury, P. A. & Beer, R. A. (1982). Social segregation: Barriers to mobility in urban domiciliary care. Housing and Society, 9(1), 12-19.
- U.S. Bureau of the Census. (1982). General population characteristics, Oklahoma: 1980 (PC80-1-B-38). Washington, DC: U.S. Government Printing Office.
- Weaver, C. D. & Ford, J. M. (1988). Living arrangements of the elderly: social participation and life satisfaction. Housing and Society, 15(1), 3-14.
- Windley, P. G. & Scheidt, R. J. (1982). An ecological model of mental health among small-town rural elderly. The Journal of Gerontology, 37, 235-242.
- Wood, V., Wylie, M. L. & Sheafor, B. (1969). An analysis of a short self-report measure of life satisfaction: Correlation with rater judgments. Journal of Gerontology, 24(4), 465-469.

## **APPENDIXES**

**APPENDIX A**

**QUESTIONNAIRE AND CORRESPONDENCE**



**GENERAL INFORMATION**

1. Age: \_\_\_\_

2. Sex: \_\_\_\_ M \_\_\_\_ F

3. Martial Status:

\_\_\_\_ Married

\_\_\_\_ Widow/Widower

\_\_\_\_ Separated Divorced

\_\_\_\_ Never married

4. Highest level of education completed: \_\_\_\_\_

**HOUSING INFORMATION**

5. Do you own or rent your present housing unit?

\_\_\_\_ Own

\_\_\_\_ Rent

\_\_\_\_ Other, specify \_\_\_\_\_

6. What type of housing unit do you live in?

\_\_\_\_ Single Family

\_\_\_\_ Duplex

\_\_\_\_ Apartment

\_\_\_\_ Specialized Living Arrangement, Describe: \_\_\_\_\_

\_\_\_\_\_

**7. What is your living situation?**

- ☐ Live alone  
☐ Your spouse lives with you  
☐ Non-relatives live with you  
☐ Other relatives live with you or you live with relative,  
 specify: \_\_\_\_\_

**8. How long have you lived at this address? \_\_\_\_\_**

**9. Check how satisfied you are with the following items in your living unit and neighborhood.**

	<b>Very Satisfied</b>	<b>Somewhat Satisfied</b>	<b>Not Satisfied</b>
<b>Amount of space in living unit</b>	_____	_____	_____
<b>Overall feeling of present living unit</b>	_____	_____	_____
<b>The safety of your neighborhood</b>	_____	_____	_____
<b>Your neighborhood at night</b>	_____	_____	_____
<b>Amount of privacy you have</b>	_____	_____	_____
<b>Your neighborhood as a place to live</b>	_____	_____	_____
<b>The noise level of your neighborhood</b>	_____	_____	_____

10. Check how convenient your neighborhood location is in relation to the following items.

	Very Convenient	Fairly Convenient	Not Convenient
For visiting with friends	_____	_____	_____
For visiting with family	_____	_____	_____
For doctors or other medical care	_____	_____	_____
Churches	_____	_____	_____
Places of entertainment	_____	_____	_____
Supermarkets or grocery stores	_____	_____	_____
Clubs or organizations you belong to or would like to belong to	_____	_____	_____

11. If you could live wherever you wanted, would you like to live here or elsewhere?

\_\_\_\_\_ Here

\_\_\_\_\_ Elsewhere

## LIFE SATISFACTION INFORMATION

Please answer every question by placing a check mark under "Agree, Disagree or Not Sure" about life in general.

	Agree	Disagree	Not Sure
12. As I grow older things seem better than I thought they would be.	_____	_____	_____
13. I have gotten more of the breaks in life than most of the people I know.	_____	_____	_____
14. This is the dreariest time of my life.	_____	_____	_____
15. I am just as happy as when I was younger.	_____	_____	_____
16. These are the best years of my life.	_____	_____	_____
17. Most of the things I do are boring or monotonous.	_____	_____	_____
18. The things I do are as interesting to me as they ever were.	_____	_____	_____
19. As I look back on my life, I am fairly well satisfied.	_____	_____	_____
20. I have made plans for things I'll be doing a month or a year from now.	_____	_____	_____

	Agree	Disagree	Not Sure
21. When I think back over my life, I didn't get most of the important things I wanted.	_____	_____	_____
22. Compared to other people I get down in the dumps too often.	_____	_____	_____
23. I've gotten pretty much what I expected out of life.	_____	_____	_____
24. In spite of what people say, the lot of the average man is getting worse, not better.	_____	_____	_____

### FAMILY AND INTERPERSONAL RELATIONSHIPS

Check each of the statements as "True, False, or Not Sure."

	True	False	Not Sure
25. I consider myself very close to my children.	_____	_____	_____
26. My children generally have good reasons for any requests they might make.	_____	_____	_____
27. I believe my children underestimate my ability.	_____	_____	_____

	True	False	Not Sure
28. I believe my children find fault with me more often than I deserve and seem never satisfied with anything I do.	_____	_____	_____
29. My children want to be just like me.	_____	_____	_____
30. I believe my children have respect for my opinions.	_____	_____	_____
31. In my estimation, my children are interested in whether or not I have friends.	_____	_____	_____
32. In my judgment, my children did treat me fairly as a parent.	_____	_____	_____
33. I believe my children are well respected.	_____	_____	_____
34. My children are the best friends I have ever had.	_____	_____	_____

**Please circle the appropriate number.**

**35. How often do you see your friends or relatives?**

- 1. Often (daily or several times a week)**
- 2. Occasionally (about once a week)**
- 3. Infrequently (few times a month)**
- 4. Rarely or never**

**36. How often do you make telephone calls to friends and relatives?**

- 1. Several times a day.**
- 2. Daily.**
- 3. Not every day, but at least weekly.**
- 4. Rarely or never use the phone.**

**37. How often have you attended meetings at associations, church, organizations, get togethers or clubs over the past month?**

- 1. Often (several times a week)**
- 2. Occasionally (weekly)**
- 3. Seldom (once during the month)**
- 4. Rarely or never**

**38. How many living children do you have? \_\_\_\_\_**

**39. How many living brothers and sisters do you have? \_\_\_\_**

- 40. During the last 12 months or since you moved here, have you helped your children or other relatives with the following:**

**Yes      No**

**Doing small things or errands**

\_\_\_\_\_

**With money**

\_\_\_\_\_

**By giving advice or a shoulder to lean on**

\_\_\_\_\_

**When they were sick**

\_\_\_\_\_

- 41. During the last 12 months or since you moved here, have your children or other relatives helped you with the following:**

**Yes      No**

**Doing small things or errands**

\_\_\_\_\_

**With money**

\_\_\_\_\_

**By giving advice or a shoulder to lean on**

\_\_\_\_\_

**When you were sick**

\_\_\_\_\_

## **HEALTH INFORMATION**

**Please circle the appropriate number.**

- 42. How has your health been over the past month?**

**1. Very good**

**2. Good**

**3. Poor**

**4. Very poor**



- 43. Are you able to get to places that are not within walking distance?**
- 1. Without help, using a bus, taxi, car**
  - 2. With a little help**
  - 3. With quite a bit of help**
  - 4. Cannot travel even with help (need ambulance)**
- 44. Are you able to go shopping for groceries or clothes?**
- 1. By yourself, without help**
  - 2. With a little help**
  - 3. With quite a bit of help**
  - 4. Cannot go shopping at all**
- 45. Are you able to do most of the chores that need doing around the house?**
- 1. Without help (for example, cook, houseclean, etc.)**
  - 2. With a little help**
  - 3. With quite a bit of help**
  - 4. Cannot do chores at all**
- 46. Are you able to walk?**
- 1. Without help**
  - 2. With some help, such as a cane, walker, or crutches**
  - 3. With quite a bit of help, such as from another person**
  - 4. Cannot walk at all**

**47. Do you have a physical handicap limiting your daily activity?**

- |                    |                      |
|--------------------|----------------------|
| 1. No, none        | 2. Some limitation   |
| 3. Much limitation | 4. Severe limitation |

**48. During the past month, how many days have you been in a hospital or nursing home?**

- |                 |                |
|-----------------|----------------|
| 1. None         | 2. 1 to 7 days |
| 3. 8 to 14 days | 4. 15 or more  |

**49. How frequently do you see a doctor?**

- |                         |                         |
|-------------------------|-------------------------|
| 1. Several times a week | 2. About once a week    |
| 3. About once a month   | 4. Several times a year |
| 5. Almost never         |                         |

**50. How do you get to the doctors?**

1. Drive myself
2. Rely on friends or neighbors
3. Rely on family or relatives
4. Use public transportation

**51. Have you ever used home health care services?**

- |        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

**52. Do you have any chronic conditions preventing you from living alone or caring for yourself?**

1. Yes If yes, explain: \_\_\_\_\_
2. No

**INCOME INFORMATION**

**53. What are your sources of income? Check all the categories you receive income from.**

- ☐ **Social Security**
- ☐ **Assets (such as saving accounts, bonds, certificates, treasury notes)**
- ☐ **Earnings (such as wages)**
- ☐ **Pensions (such as retirement money from public or private sources)**
- ☐ **Other (such as public assistance, SSI, welfare)**

**54. What is your monthly level of income from all sources? Include income from Social Security, assets, earnings, pensions and other sources. Check the amount of money you receive each month.**

- |                                               |                                                  |
|-----------------------------------------------|--------------------------------------------------|
| <input type="checkbox"/> <b>\$100 or less</b> | <input type="checkbox"/> <b>\$501-600</b>        |
| <input type="checkbox"/> <b>\$101-200</b>     | <input type="checkbox"/> <b>\$601-700</b>        |
| <input type="checkbox"/> <b>\$201-300</b>     | <input type="checkbox"/> <b>\$701-800</b>        |
| <input type="checkbox"/> <b>\$301-400</b>     | <input type="checkbox"/> <b>\$801-900</b>        |
| <input type="checkbox"/> <b>\$401-500</b>     | <input type="checkbox"/> <b>more than \$1000</b> |



*Oklahoma State University*

COLLEGE OF HOME ECONOMICS  
Department of Housing, Interior Design  
and Consumer Studies

STILLWATER, OKLAHOMA 74078-0337  
HOME ECONOMICS WEST BUILDING  
(405) 624-5048

The population of the United States is aging. As a nation we are becoming concerned about the type of resources available to our 65 and over population. One of these resources is housing. Housing has a unique role in our lives because it not only influences our physical health, but our psychological health as well. Our psychological health, in turn, can affect life satisfaction. Therefore, housing can play an important role in overall life satisfaction.

You are one in a small number of people which are being asked to give their opinion on these matters. Your name was selected because you are a resident of Tulsa county and aged 65 and over.

Enclosed you will find a questionnaire for you to complete. Upon completion please return in the envelope provided.

You may be assured of complete confidentiality. Each questionnaire has an identification number for mailing purposes only. This is so that we may check your address off of the mailing list when the questionnaire is returned. Your name will never be placed on the questionnaire. The results of this study will help in establishing a data base to assess the interaction between life satisfaction and the housing environment. We appreciate your participation in this study.

We would be most happy to answer any questions you might have. Please call us at 405-624-5048. Again, thank you for your assistance with the study.

Sincerely,

Margaret Weber  
Research Investigator

Joe Weber  
Research Investigator

Sarah Drummond  
Research Investigator

**A questionnaire was recently sent to you regarding housing and life satisfaction. If you have returned the questionnaire, your time and effort is greatly appreciated. If you did not complete the questionnaire, would you take a few minutes to do so and drop it in the mail today.**

**It is very important that we hear from you via the questionnaire if our research is to accurately reflect the older population of your county. Thank you for your cooperation.**



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STILLWATER, OKLAHOMA 74078-0337  
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(405) 624-5048

About three weeks ago, we wrote to you seeking general information regarding your life satisfaction and housing environment satisfaction.

This research was undertaken because of the belief that one's housing environment can greatly influence one's overall life satisfaction.

We are writing you once again because of the importance each questionnaire has to the usefulness of this research. Your name was randomly selected from all Blaine county residents age 65 and over. Because of the small number of persons selected from Blaine county, it is necessary that we hear from you. Your response will help us to accurately represent the housing environment and life satisfaction relationship of Oklahoma Senior Citizens.

In case your questionnaire has been misplaced, another is enclosed. Your contribution to the success of this study will be greatly appreciated.

Sincerely,

Margaret Weber  
Research Investigator

Joe Weber  
Research Investigator

Sarah Drummond  
Research Investigator

## APPENDIX B

### RESEARCH OBJECTIVES AND ANALYSIS

## RESEARCH OBJECTIVES AND ANALYSIS

### Objective One

To analyze the relationship between housing/neighborhood satisfaction and the variables of life satisfaction, family relationships, individual activity level, urban and rural counties, and other demographic variables.

Pearson's correlation coefficient was used to determine the association between housing/neighborhood satisfaction and the variables of life satisfaction, family relationships, individual activity level, urban and rural counties and other demographic variables. This indicated a significant positive relationship existed between housing/neighborhood satisfaction and life satisfaction, family relationships, individual activity level, education and monthly income (Table XII).



TABLE XII

PEARSON'S CORRELATION COEFFICIENT OF HOUSING/NEIGHBORHOOD  
SATISFACTION AND RELATED VARIABLES  
INCLUDING URBAN AND RURAL

Variable	Correlation	Prob >R
Life Satisfaction	.43733	0.0001
Family Relationships	.19920	0.0001
Activity Level	.22862	0.0001
Urban and Rural	.05165	0.2593
Age	-.05006	0.2808
Sex	-.02299	0.6191
Marital Status	-.04180	0.3644
Education	.14192	0.0034
Tenure	-.04528	0.3325
Housing Type	-.06431	0.1658
Living Situation	.00569	0.9018
Length of Tenure	-.01763	0.7036
Monthly Income	.20994	0.0001

Regression analysis was used to determine the relationship between each of the variables and housing/neighborhood satisfaction. Three regression models were used to help in the explanation of scores. The first regression analysis involved the variables of life satisfaction, activity level and family relationships. Stepwise regression analysis revealed that life satisfaction and activity level are significant contributors to housing/neighborhood satisfaction. The two variables explain 21 percent of the variance of housing/neighborhood satisfaction scores (Table XIII).

TABLE XIII

REGRESSION ANALYSIS OF HOUSING/NEIGHBORHOOD SATISFACTION  
AND RELATED VARIABLES INCLUDING URBAN AND RURAL

Variable	b	SE
Life Satisfaction	0.3553	0.0410 ***
Activity Level	0.0048	0.0781 **
Family Relationships	0.3403	0.1268

$R^2 = 0.2192$   
 $df = 3, 418$   
 $F\text{-ratio} = 39.11$  \*\*\*

\* $p < .05$   
\*\* $p < .01$   
\*\*\* $p < .001$

The second regression model included the demographic variables of urban and rural county, age, sex, marital status, education, monthly income, tenure, housing type, living situation, and length of tenure (Table XIV).

TABLE XIV  
REGRESSION ANALYSIS OF HOUSING/NEIGHBORHOOD SATISFACTION  
AND RELATED DEMOGRAPHIC AND HOUSING VARIABLES  
INCLUDING URBAN AND RURAL

Variable	b	SE
Age	-0.0022	0.0445
Sex	0.0151	0.5926
Marital Status	0.0487	0.3526
Education	0.1465	0.1019
Tenure	0.0575	1.0487
Housing Type	-0.5363	0.4327
Living Situation	0.1615	0.4020
Length of Residence	-0.0004	0.0190
Monthly Income	0.4093	0.1430 **
Urban/Rural	0.0844	0.5703

$R^2 = .0500$   
 $df = 10, 383$   
 $F\text{-ratio} = 1.81$

\* $p < .05$   
 \*\* $p < .01$   
 \*\*\* $p < .001$

Two variables, monthly income and education, were found to be significant contributors to housing and neighborhood satisfaction. Together monthly income and education helped to explain almost 5 percent of the variance in housing/neighborhood satisfaction scores. Urban and rural

counties was not a significant contributor to housing and neighborhood satisfaction.

The final regression model included life satisfaction, activity level, annual income and education -- the four variables found to be significant contributors in the previous analysis. Only three variables were found to contribute significantly to housing neighborhood satisfaction and they entered the model on the following way: life satisfaction, activity level, and monthly income. In this model education was dropped from the explanation. The three remaining variables helped to explain 25 percent of the variance among the housing/neighborhood satisfaction scores of the respondents (Table VX).

TABLE XV  
REGRESSION ANALYSIS OF HOUSING/NEIGHBORHOOD SATISFACTION  
AND SIGNIFICANT CONTRIBUTING VARIABLES  
INCLUDING URBAN AND RURAL

Variable	b	SE
Life Satisfaction	0.3514	0.0408 ***
Activity Level	0.3135	0.1235 *
Monthly Income	0.2033	0.1144 *
Education	0.0862	0.0851

$R^2 = .2520$   
 $df = 4, 384$   
 $F\text{-ratio} = 32.35 \text{ ***}$

$*p < .05$   
 $**p < .01$   
 $***p < .001$

## Objective Two

To determine the relationship between health and the variables of life satisfaction, family satisfaction, and housing/neighborhood satisfaction.

Spearman's correlation coefficient was used to determine if a relationship exists between health and the variables of life satisfaction, family satisfaction, housing/neighborhood satisfaction and urban and rural counties. The Spearman's test was used because of the ordinal nature of the health scores. The analysis revealed a significant positive relationship between the variables of life satisfaction, family relationships, and housing/neighborhood satisfaction. This finding suggests that as health of an elderly individual improves so too will his satisfaction with life, the relationship he has with his family, and his satisfaction with his housing and neighborhood environment. No significant relationship was recorded urban and rural counties and health (Table XVI).

TABLE XVI

SPEARMAN'S CORRELATION COEFFICIENT OF HEALTH AND LIFE  
SATISFACTION, FAMILY RELATIONSHIPS, HOUSING AND  
NEIGHBORHOOD SATISFACTION AND URBAN AND RURAL

Variable	Coefficient	Prob>R
Life Satisfaction	.28140	0.0001
Family Relationships	.28016	0.0001
Housing/Neigh- borhood Satisfaction	.22013	0.0001
Urban/Rural	.01253	0.7856

### Objective Three

To examine the relationship between individual activity level, and the variables of life satisfaction, family relationships, housing/neighborhood satisfaction and urban and rural counties.

Pearson's correlation coefficient was used to determine if there was a relationship between activity level and the variables of life satisfaction, family relationships, housing/neighborhood satisfaction, and urban and rural county (Table XVII).



TABLE XVII  
 PEARSON'S CORRELATION COEFFICIENTS OF ACTIVITY LEVEL  
 AND RELATED VARIABLES

Variable	Correlation	Prob > R
Life Satisfaction	.27662	0.0001
Family Relationships	.28119	0.0001
Housing/Neighborhood Satisfaction	.22862	0.0001
County Type	.00458	0.9208

Analysis reveals that activity level has a significant positive relationship with life satisfaction, family relationships and housing/neighborhood satisfaction at the .05 level. This suggests that as an older individuals activity level increases his is more likely to report high life satisfaction, good relationships with his family, and satisfaction with his housing and neighborhood environment. There was no significant relationship noted between activity level and whether the respondent resided in an urban or rural county.

Regression analysis was used in order to ascertain how much each of the variables contributes to the explanation of variation in activity level. Stepwise regression revealed that life satisfaction, family relationships, and

housing/neighborhood satisfaction helped to explain 13% of the variance of the activity level scores of the respondents (Table XVIII).

TABLE XVIII  
REGRESSION ANALYSIS OF ACTIVITY LEVEL  
AND RELATED VARIABLES

Variable	b	SE
Life Satisfaction	0.0468	0.0169 **
Family Relationships Relationships	0.1143	0.0294 ***
Housing/Neighborhood Satisfaction	0.0498	0.0186 **

$R^2 = .1312$

df = 3, 418

F-ratio = 21.04 \*\*\*

\*p < .05

\*\*p < .01

\*\*\*p < .001

## Other Related Tables

TABLE XIX  
MEANS OF RELATED SCORES FOR SAMPLE AND URBAN  
AND RURAL RESPONDENTS

Variable	Sample Mean	Urban Mean	Rural Mean
Health	25.38	25.64	25.11
Housing/Neighbor- hood Satisfaction	20.91	21.20	20.64
Life Satisfaction	17.99	17.98	18.00
Family Relationships	16.71	16.89	16.54
Activity Level	5.20	5.21	5.20

TABLE XX  
RANGES OF POSSIBLE AND ACTUAL SCORES  
FOR RELATED VARIABLES

Variable	<u>Possible Scores</u>		<u>Actual Scores</u>	
	Minimum	Maximum	Minimum	Maximum
Health	0	30	0	30
Housing/Neighborhood Satisfaction	0	28	2	28
Life Satisfaction	0	26	0	26
Family Relationships	0	20	0	20
Activity Level	0	9	0	9

TABLE XXI  
T-TEST OF VARIABLE SCORES FOR URBAN  
AND RURAL RESPONDENTS

Variable	Urban Mean	Rural Mean	T	Prob > T
Life Satisfaction	17.98	18.00	0.0294	0.9766
Family Relationships	16.89	16.54	1.1460	0.2525*
Activity Level	5.21	5.20	-0.0995	0.9208
Health	25.64	25.11	-1.0098	0.3131*
Housing/Neighborhood Satisfaction	21.20	20.64	-1.1300	0.2590

\* Non-equal variance at .05 significance level

VITA

Sarah Elizabeth Drummond

Candidate for the Degree of  
Doctor for Philosophy

Thesis: ASSESSMENT OF HOUSING, NEIGHBORHOOD, LIFE AND  
FAMILIAL SATISFACTION OF URBAN AND RURAL  
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