AN ABSTRACT OF THE THESIS OF

NOBUKO SUDO (Name of student) for the degree MASTER OF SCIENCE (Degree)

in Home Management (Major department) presented on December 19, 1974 (Date)

Title: THE USE OF COMMUNITY SERVICES AND FACILITIES BY THE ELDERLY LIVING IN FIVE TYPES OF HOUSING IN CORVALLIS, OREGON

Abstract approved: Redacted for privacy
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The purpose of this study was to investigate the use of community services and facilities by the elderly living in five types of housing: 1) single family houses, 2) apartments, 3) mobile homes, 4) hotels, and 5) retirement housing. The population was selected from those senior citizens who were 65 years old and over, or were retired from their major occupation, and were living independently in their own households in Corvallis, Oregon. Within the above population, the sample was stratified by five types of housing and randomly selected from the city directory and the residents' lists for the housing units.

Interviews were conducted with 93 respondents in 67 households which comprised 16 each in the retirement housing and single family houses, 15 each in apartments and mobile homes, and 5 in

the hotel. The ratio between male and female respondents was one to two. The respondents in mobile homes and single family houses were more likely to be married, while those in the hotel, the retirement housing, and apartments were more likely to be single or widowed. The mean age of the respondents was 76 years and the mean income was $9,047. The respondents tended to have some difficult household and daily living activities in common. The hotel, the apartment, and the retirement housing groups were more likely than the other housing groups to receive help with these difficult activities from persons outside their own households. Particularly, transportation and shopping problems were the crucial factors which limited the respondents' independent living.

To test hypotheses, the respondents were asked to indicate if they used 10 community facilities and 16 community services. Chi-squared test for independence was used to test the relationships between pairs of variables in each hypothesis. Critical level of the tests was .05.

Hypothesis 1. There is no difference in the use of community services and facilities among senior citizens, when they are categorized by a) type of housing, b) type of transportation used b_1) among car owners, and b_2) among noncar owners, and c) income level.

Regarding the use of community services, statistical tests of this hypothesis were inappropriate because there were insufficient observations in the use of these services. Therefore, this part of Hypothesis 1 could not be tested.

Hypothesis 1. -- a) by type of housing. Regarding the use of food markets and grocery stores, and post offices, there are significant differences in the use of these facilities among senior citizens, when they are categorized by type of housing. Of the remaining eight community facilities, there are no differences in the use of these facilities.

Hypothesis 1. -- b_1) by type of transportation used among car owners. There is a significant difference in the use of post offices among car owners, when they are categorized by type of transportation used. Of the remaining seven community facilities, there are no differences in the use of these facilities among car owners.

Hypothesis 1. -- b_2) by type of transportation used among noncar owners. There is a significant difference in only the use of restaurants and coffee shops among noncar owners, when they are categorized by type of transportation used. Of the remaining six facilities, there are no differences in the use of these facilities among noncar owners. Regarding the use of clothes and shoe shops

and repair shops, and medical services, there are no significant differences in the use of these facilities among both car owners and noncar owners regardless of type of transportation used.

Hypothesis 1. --c) by income level. There are no significant differences in the use of the ten community facilities among senior citizens when they are categorized by income level.

Hypothesis 2, a) There is no relationship between car ownership by senior citizens and, a_1) income level, and a_2) type of housing.

Hypothesis 2. -- a_1) by income level. There is a significant relationship between car ownership and income level by senior citizens. The mean income of car owners was $11,500, whereas that of noncar owners was $6,080.

Hypothesis 2. --a_2) by type of housing. There is a significant relationship between car ownership and type of housing.

Hypothesis 2. b) Among car owners, there is no relationship between mode of transportation used and, b_1) income level, and b_2) type of housing.

There is a significant relationship between mode of transportation used among car owners and income level. However, there is no significant relationship between mode of transportation

used among car owners and type of housing.

Hypothesis 2. c) Among noncar owners, there is no relationship between their primary mode of transportation used and, c_1) income level, and c_2) type of housing.

Among noncar owners, there is no significant relationship between their primary mode of transportation and 1) income level, and 2) type of housing.

Hypothesis 3. There is no difference in the reported health condition of senior citizens, when they are categorized by type of housing.

There is no significant difference in the reported health condition of senior citizens, when they are categorized by type of housing. The respondents' reported health condition did not vary with their type of housing.

The Use of Community Services and Facilities by the Elderly Living in Five Types of Housing in Corvallis, Oregon

by

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A THESIS

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Master of Science

June 1975

APPROVED:

Redacted for privacy

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Date thesis is presented December 19, 1974

Typed by Velda D. Mullins for Nobuko Sudo

ACKNOWLEDGEMENTS

The author wishes to express her sincere appreciation to the following people for their assistance and advice in the preparation of this thesis:

- Dr. Martha A. Plonk — for her encouragement, patience and guidance.
- Dr. Arthur Gravatt — and other members of the Department of Home Management for their concern and moral support.
- Dr. Misako Higa — for her assistance at the time of the survey.
- Mr. Kenneth Kopecky, O. S. U. graduate student in statistics, and the Department of Statistics for providing advice in the statistical testing of the data.
- The O. S. U. Computer Center for providing financial assistance for part of the analysis of this thesis.
- Altrusa International Foundation for granting a scholarship during the 1973 school year.
- Mrs. Velda D. Mullins for typing the thesis.
- Senior citizens who participated in the pretests and interviews and to the administrative offices of the various housing units who assisted me in sampling.
- Mr. Thomas J. Cusack, a reviewer of English.
- My parents and sister for their emotional and financial support and understanding in all my educational endeavors.
- All my friends — for encouragement.

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THE USE OF COMMUNITY SERVICES AND FACILITIES BY THE ELDERLY LIVING IN FIVE TYPES OF HOUSING IN CORVALLIS, OREGON

I. INTRODUCTION

The purpose of this study was to investigate the use of community services and facilities by senior citizens living in five different types of housing in Corvallis, Oregon. This chapter includes 1) the reason for the study, 2) statement of the problem, 3) objectives of the study, 4) hypotheses, 5) assumptions of the study, 6) limitations of the study, and 7) definitions of terms.

The Reason for the Study

Any study concerning community services and facilities for the aged may be considered from several perspectives. First, the majority of the elderly in the United States function without the help of organized social services. Second, 95.2 percent of the 20 million elderly in the United States live outside of institutional settings (37:141). Third, needs, which cannot be categorized because of the broad range of differences among the aged at any specific categorical age, cannot be met through the more traditional social institutions. Thus, the needs of the elderly should be differentiated, within the age span of 45 and over, into 1) persons functionally "aged" by labor force definitions, aged 45-64, 2) the "young" aged, 65-74, 3) the

"middle" aged, 75-84, and 4) the "mature" aged, 85 and over. Fourth, the settings of priorities as to community services, their organization and execution is not practicable or possible on the national level due to the variability of pecuniary and human resources --among states and within communities (47:55). The focus of social intervention for the aged should be within the context of the family and with a recognition of the variety of life styles. The living environment may either enhance and complement the quality of life for the aged or restrict the opportunities of independence and satisfaction in the later years (47:13).

There are five critical stages in the human life cycle that have a particular bearing on the residential requirements of the elderly. These stages are: 1) the stage when children are growing up and leaving the parental home; 2) retirement, including the period leading up to it; 3) widowhood; 4) disablement connected with the aging process; and 5) dependence, when the individual is no longer able to look after himself and may need skilled medical and nursing care. Not everyone encounters all five phases (38:231).

It is convenient to discuss housing for the elderly in light of these stages. Each stage has distinctive implications for the individual's residential needs (38:231). Particularly, supportive services need to be comprehensive--anything from simple information to immediate direct services--during a time of crisis. If there is a

genuine intention to preserve the independence of the elderly for as long as possible, surely it is better to have the goal of providing supportive services for assistance than to leave no alternative except departure to institutional settings where all meals and domestic services are provided (47:14).

To achieve this goal of independent living, it is necessary to clearly identify the elderly who require services, to ascertain their needs and requirements, and to learn how to deliver services to them most efficiently.

Particularly, research is needed to clarify the following: 1) to determine the relationship of housing and other environmental factors to the ability of the elderly to manage on their own; and 2) to determine the availability and accessibility of selected commercial and social services and facilities in the community (47:15).

For these reasons, this research focused on the use of community services and facilities by senior citizens living in five types of housing in Corvallis, Oregon.

Statement of the Problem

The purpose of this study was to investigate the use of community services and facilities by senior citizens living in five different types of housing in Corvallis, Oregon. The five types of housing were 1) single family houses, 2) apartments, 3) mobile homes, 4)

hotels, and 5) retirement housing. The solution to the housing problems of the elderly does not lie solely in the provision of various types of dwelling units designed to meet different needs; there is an inevitable relationship between the elderly and their whole environment.

Therefore, in order to evaluate its adequacy, housing must be examined in the contexts of the neighborhood and the community (23:1). We often say that older people should live in an environment that is conducive to independent, self-directing living. Many of the aged manage without sufficient help in changing and deteriorating neighborhoods or in unsuitable and substandard accommodations, because they cannot afford more suitable housing (19:63). There seems to be a relationship between type of housing for the elderly and the degree of individual independency. Do community services enable many of the aged to maintain independent living? Are these services essential in postponing the premature institutionalization of the elderly?

Therefore, the researcher considered that an investigation into the use of community services and facilities by senior citizens living in five types of housing was feasible. Community services and facilities included not only those designed to meet physical needs of clothing, food, and shelter, but also those designed to meet socio-economic, health, and cultural needs.

Objectives of the Study

The objectives of this study were:

1) To identify community services and facilities which senior citizens use to meet their physical, socio-economic, health, and cultural needs.

2) To examine the relationships between the use of community services and facilities by senior citizens and their a) type of housing, b) type of transportation used, and c) income level.

3) To examine the relationships between car ownership and a) income level, and b) type of housing.

4) To examine the relationships between type of transportation used and a) income level, and b) type of housing.

5) To examine the relationship between the reported health condition and type of housing.

Hypotheses

The following hypotheses were formulated for this study.

1) There is no difference in the use of community services and facilities among senior citizens, when they are categorized by

   a) type of housing,

   b) type of transportation used

b_1) among car owners,

b_2) among noncar owners,

c) income level.

2) a) There is no relationship between car ownership by senior citizens and,

a_1) income level

a_2) type of housing.

b) Among car owners, there is no relationship between mode of transportation used and,

b_1) income level,

b_2) type of housing.

c) Among noncar owners, there is no relationship between their primary mode of transportation and

c_1) income level,

c_2) type of housing.

3) There is no difference in the reported health condition of senior citizens, when they are categorized by type of housing.

Assumptions of the Study

1) The interviewed respondents would provide the requested information completely and accurately to the best of their ability.

2) The respondents would use local community services and facilities, mainly those provided in Corvallis, Oregon.

3) The sample of senior citizens in five different types of housing would represent a random sample from the elderly population in Corvallis, Oregon.

Limitations of the Study

Limitations of this study were:

1) The study was limited to that population of senior citizens living in five different types of housing in Corvallis, Oregon.

2) The respondents were 65 years old and over, or retired from their major occupation which had been the primary source of their income.

3) The respondents were living independently in their own households.

4) Because of changes in the educational system, the highest level of education completed by the respondents was defined in terms of the number of years spent at school.

5) In case the respondents were married couples, both spouses should meet criteria 1) and 3), but only one spouse must meet criterion 2).

Definitions of Terms

Categories of Housing

a. Self-contained, independent housing referred to separate living quarters. It included single family houses, apartments, and mobile homes.

b. Group housing might be either noninstitutional or institutional. The former included large rooming houses, hotels, tourist courts, dormitories, and residence clubs. Institutional group housing was defined as various forms of nursing homes, but was not included in this study.

c. Retirement housing was self-contained and offered single cottages, apartments and complexes for sale or rent to middle-aged and older people (58:23-29).

However, this study included three types of self-contained, independent housing, one type of noninstitutional group housing, and retirement housing. The types of housing studied were 1) single family houses, 2) apartments, 3) mobile homes, 4) hotel, and 5) retirement housing.

Family was a group of two or more persons related by blood, marriage, or adoption and residing together (23:48).

Household composition was used to describe age, relationship, and

the number of persons living together.

Own household was defined as a household in which an adult male or his spouse was designated as the "head" of the household (23:48).

Senior citizen was defined as a person aged 65 or older. The elderly, the aged, and older persons were regarded as synonymous in this study (1:340).

Institutions were defined as residential facilities providing one or more central services that meet some particular need of the client and/or society. Nursing homes, chronic disease units were included (28:330).

One-person household was used to describe the person living alone in his own household. This definition included single males and females, widows, widowers, divorcés and divorcées.

Two-person household was defined as a married couple, husband and wife, living in their own household.

Community services and facilities were used to cover the entire range of publicly and privately operated facilities and social services. Community facilities included churches, medical services, post offices, and commercial facilities (e.g., food markets, banks, cleaners). Community services included income assistance, legal and counseling services, employment

services, and supportive services (e.g., housekeeping, visiting, meal services, shopping and transportation).

In this definition, these facilities and services were considered necessary for all types of housing for the elderly from a special group setting to the single family houses (23:17, 1:260).

II. REVIEW OF LITERATURE

Introduction

In this chapter, the following are reviewed: cultural norm among the elderly in contemporary society in the United States, characteristics of the elderly in the United States, community needs of the elderly, the housing status of the elderly, transportation used by the elderly, housekeeping problems of the elderly, and institutionalization of the elderly and the alternatives to it.

Cultural Norm Among the Elderly in Contemporary Society in the United States

For most of the elderly in the United States, independence is the norm. In 1963, the President's Council on Aging stated that,

> To most older Americans, a high degree of independence is almost as valuable as life itself. It is their touchstone for self-respect and dignity. It is the measure they use to decide their importance to others. And it is their source of strength for helping those around them (33:ix).

In the policy recommendations of the 1971 White House Conference on Aging, all the section reports dealing with facilities, programs and services emphasized the importance of the exercise of free choice and made suggestions for a new national policy which would guarantee all older people the ability to maintain their independence and their usefulness at the highest possible levels (33:ix).

According to Kent, there are certain societal factors that block the attainment of independence. These factors are: (1) inadequate income, (2) discrimination against persons with low income, (3) poor housing, (4) poor health, (5) lack of opportunities for choice of housing, recreational facilities, diversity of services and resources, (b) overplaced patients in institutional settings who could have a measure of independence with limited changes in the social environment, and (7) meager ecological arrangements for services and facilities in communities which result in creating an unnecessary dependence because independence is incompatible with immobility (33:17-21).

Obviously there are different levels of independence. Nobody can be completely independent in the sense of needing no one but himself. Therefore, it is important to maximize the individuals' opportunities so that he can have as much independence as possible (33:20).

Characteristics of the Elderly in the United States

Population Characteristics

The total number of people aged 65 and over in the United States has been steadily increasing. In 1970 the population aged 65 and over was more than six times as large as it was in 1900. Factors contributing to this increase were the high birth rates at the turn of

the century, the rapidly decreasing mortality rates through the 20th century, and the high rate of immigration, especially during the first half of the century. Females, whose death rates were lower than those of males, have added to the growing numbers of older people (37:16).

Table 1. Population of older persons in the United States in 1900, 1960, 1970, and projections for 1980, 1990 (in thousands).

Year	Total U.S. population	Population 65+
1900	76,094	3,100
1960	180,676	16,658
1970	203,212	20,065
1980 (projected)	243,291	23,063
1990 (projected)	286,501	27,005

Sources of data: from Riley, Matilda W. and Foner, Anne. Aging and Society. New York: Russell Sage Foundation, 1968, p. 16. White House Conference on Aging. Washington. 1971. Population, Housing, Income and Federal Housing Program. p. 1.

In the 1970 census, the population aged 65 and over comprised nearly ten percent of the total population in the United States. Persons 65 and over totalled 20.1 million in 1970, compared to a total of 16.6 million in 1960 (55:7). Overall population growth in the U.S. between 1960-1970 was 12.4 percent, whereas population growth of the age group 65 and over was 20.5 percent. Projections show an estimated population of more than 27 million older people aged 65 and over by 1990 (37:16).

Females outnumbered males among older people, an imbalance that has been increasing in recent decades (37:18). The 1970 census showed that some 11.6 million older persons aged 65 and over were females (58 percent of the total) and 8.4 million (42 percent) were males. The composition of the total population in the U.S. was 48.7 percent males versus 51.3 percent females (55:1).

Persons aged 65 to 74 accounted for 62 percent (12, 435, 000) of the elderly group in 1970, followed by 30 percent (6, 119, 000) in the 75 to 84 group and 8 percent (1, 511, 000 in the 85 and over group (55:1).

In Oregon, according to the 1970 census, there were 226, 799 persons aged 65 and over, and these older people represented 10.84 percent of the total population of 2, 091, 385. This was higher than the national proportion of 9.9 percent (48:8-9). During 1960-1970, population growth among the age group of 65 and over was 23.5 percent in Oregon, but the total state population growth was 18.2 percent (48:18). Oregon's population has grown faster than the national average since the turn of the century (18:19).

In Corvallis, during the period 1960-1970, population growth among the age group of 65 and over was 47.6 percent; however, total population growth was 70.1 percent (48:14). These increases were drastically higher than those of the nation and state.

Table 2. Comparison of the elderly population of Oregon, Tri-counties (Benton, Lincoln, Linn) and City of Corvallis.

Item	Total resident population	Population 65+	Percent of residents 65+
State of Oregon	2, 091, 385	226, 799	10.84
Tri-counties (Benton, Lincoln, Linn)	151, 445	14, 779	9.76
City of Corvallis	35, 153	2, 310	6.60

Source of data: State of Oregon. The Elderly Oregonian Today. 1971. p. 10, 14.

A total of 205, 147 persons aged 55-64 was enumerated in the 1970 census in Oregon. These persons will be the main components of an increase in the number of the elderly in 1980 and will be important in any consideration of the amount and type of programs and services needed in the very near future (48:21).

For the total state population aged 65 and over, 55.8 percent were females, and 44.2 percent were males. For those who were aged 75 and over, 58.9 percent were females and 41.1 percent were males (48:11).

Marital Status and Living Arrangements of the Elderly

In the United States in 1972, 77 percent of the men aged 65 and over were married, 16 percent were widowed, 2 percent were divorced, and 6 percent had never married. The majority

of the men were married; whereas only 38 percent of the women were married, 53 percent were widowed, 3 percent were divorced and 7 percent had never married (53:38).

In the state of Oregon in 1970, 73.3 percent of the men aged 65 and over were married; whereas only 39.7 percent of the elderly women were married. There were 47,578 single women including single, widows, and divorcees, aged 65 and over, accounting for 21.0 percent of the total elderly, in contrast to 16,576 single men accounting for 7.3 percent of the total elderly in Oregon. Three-fourths of all single individuals were women (48:15).

Nationally, in 1970, more than nine out of ten older people were members of households. Only five percent were cared for in institutions. Within households, 71 percent of the total elderly persons lived in families; whereas 27 percent lived alone or with nonrelatives, and the remaining 2 percent were household members such as boarders or lodgers, not related to the household head (55:7-8)

In the state of Oregon in 1970, 93.6 percent of the total population aged 65 and over were members of households while 5.5 percent were cared for in institutions. Within households, 63.7 percent of the total elderly persons lived in family settings, 28.3 percent were living alone or with nonrelatives, and the remaining

1.6 percent were household members not related to the household head (48:15, 17).

Level of Income

Adequate income is the major problem confronting the aged today. Poor diet and nutrition, poor health care, poor housing, inaccessibility to services and many other situations which influence the well-being of the elderly may result from lack of or inadequate income (48:22).

In 1970, the median income level of elderly family households nationally was less than half that for households whose head was less than 65 years old -- $5,053 versus $10,541.

The median income level for elderly individuals was less than half (42 percent) of that of individuals who were less than 65 -- $1,951 compared to $4,616 (48:22, 55:60). There was also a striking difference in total money income between family households with head 65 and over and unrelated individual household heads aged 65 and over (55:61). Elderly families in 1970 had median incomes two and a half times as great as elderly widows and widowers and other elderly persons living alone or with nonrelatives. Within one-person households, 52 percent had total incomes of $1,999 or less; however only 10 percent of family households with heads 65 and over had total incomes of $1,999 or less (55:60-61).

The poverty level for elderly married couples was an income of $2,448 and was $1,940 for unrelated individuals aged 65 and over in 1971. Fourteen percent of all the elderly family households fell below the povery line and 65 percent of the aged poor were women (53:335).

In the state of Oregon in 1970, one out of every two households with a head 65 and over had under $3,000 income a year and approximately half of these households had less than $2,000 a year. A large portion of the elderly households fell in an income group which is considered to be poor (48:22).

Health Problems

Mobility: Of the elderly living outside of institutions, 14 percent had no chronic conditions, 67 percent had chronic conditions, but these did not interfere in any way with mobility. Therefore, approximately 81 percent of the aged in the community had no limitations on their mobility. Eight percent had trouble getting around but could still manage. Six percent needed help from another person and only 5 percent were homebound (60:16-17).

Morbidity. The National Health Survey, a continuous study of health of the United States population conducted by the National Center for Health Statistics, estimated the prevalence of the elderly's health problems based on the data collected by sampling the

noninstitutionalized population of the United States through health examinations and household interviews. According to the survey, 85 percent of persons aged 65 and over living outside institutions had at least one chronic condition and about half of these individuals suffered some limitation of activity because of chronic conditions. Heart disease, hypertension, diabetes, and arthritis -- four of the major chronic diseases studied by the survey -- occurred more frequently as aging progressed, and all four were more common among women than among men (54:18). Dental problems, primarily loss of teeth and peridontal disease, also increased with age. About half of the elderly were toothless (edentulous) (54:22). Poor vision became much more common after age 45, particularly among women, and the percentages of people with some hearing impairment ranged from about 7 percent for the middle-aged group to 30 percent or more for the older group. Even though chronic conditions were the most frequent health problems among the aged, older people did experience a large number of acute conditions. The most common acute conditions were respiratory diseases and injuries (54:30).

Mortality. In the United States, the general mortality rate (deaths from all causes) has decreased from 11.3 deaths per 1,000 population in 1930 to 9.4 in 1967, but much of this decrease occurred before 1950 when the rate was 9.6. In 1968, the three

leading causes of death for the population in the U.S. were the same as the three leading causes of death for those over 45 years of age. Almost 700,000 people over age 45 died from diseases of the heart, and this figure represented 97 percent of all heart disease deaths. Almost 92 percent of the deaths from cancer and 97 percent of the deaths from vascular lesions affecting the central nervous system occurred in people over 45 years of age (N.C.H.S., 1970) (60:13, 54:8-10).

The Elderly at Risk. Based on a national study in 1968, Shanas claimed 14 percent of all persons aged 65 and over in the U.S. living at home were functionally impaired. The "functionally impaired" were defined as prime candidates for community health services. Among the 14 percent, 2 percent were bedfast, 6 percent were ambulatory with difficulties, and another 6 percent were housebound (2:350, 43:39). In Oregon, there are approximately 31,752 elderly persons (14 percent of the state elderly population) at risk, and 27,177 persons whose needs are unmet (48:7).

Community Needs of the Elderly

In general, the elderly tended to identify themselves as members of a particular community as they got older, especially if they had remained in the same community for many years (1:266).

The particular location where elderly persons lived was

significantly related to the tie with neighbors and to the use of community facilities. Three major factors in an older person's neighborhood relationships were (1) the duration of his own residence at this location, (2) the kinds of other people who lived nearby, and (3) the size of the community. Regardless of the size of the community, the elderly who were long term residents tended to have neighborhood relationships far more than newcomers. Their neighborly ties varied with the availability of other people with similar backgrounds and interests. The larger the community became, the fewer of the elderly that were likely to have contacts with neighbors but the more that were likely to use community facilities (37:125-126).

Research into the Use of Community Facilities and Services

In 1962, Langford studied the use of community facilities by the elderly living in metropolitan areas of several states and rural upstate New York. She found that the use of community facilities, specifically for shopping and business purposes, tended to decrease as the size of the community decreased. Higher proportions of the elderly (31 percent) in large cities were engaged the previous day in shopping or use of community facilities, e.g., bank, the post office, doctor, and the hair dresser, than the elderly (7 percent) in the open country. The desire to live closer to churches,

stores, buses and medical services was more strongly expressed by the elderly living in smaller communities than by the other elderly (37: 127). Walking and use of public transportation were more widespread among the elderly living in larger than in smaller places. Car ownership was far more common in the smaller places (37: 128).

Lawton's study in 1969 of supportive services in the housing environment explored the desired services of older people who were (1) tenants, (2) prospective tenants of senior citizen housing, and (3) nonapplicants (community residents). From this study, he concluded:

> The wish for meal, housekeeping, social and recreational services seems to be more of convenience, ease, and relative affluence, rather than an expression of desperate need, or a sign of deprivation. The wish for medical services, on the other hand, has correlates which include poor health, low functional competence, and low morale (24: 19).

Levels of Services to the Elderly in the Community

The levels of services shown below were organized according to the frequency of occurrence of situations in the lives of the elderly in communities throughout the United States. No levels of service are, however exclusive to any single age group (47: 57-59).

(1) Basic services level provides community health services, environmental sanitation, family and individual counseling,

financial assistance, in-patient and out-patient medical care, housing, and recreation.

(2) Preventive services level provides environmental re-design and hazard control, multi-phasic social and health screening, intermittent counseling, periodic health check-ups, and job retraining.

(3) Adjustment and integrative services level provides old age assistance, recreation services for the aged, re-tirement preparation, senior activity center programs, and specialized casework and group-work service.

(4) Supportive services level provides friendly visiting, homemaker-housekeeper service, home meal service, organized home care, escort services, transportation, organized volunteer and telephone checks.

(5) Congregate and shelter care level provides day care for the elderly, homes for the aged, housing for the elderly with varying auxiliary services, in-patient long-term care and treatment, substitute family care, and temporary in-patient emergency or family vacation care.

(6) Protective services level provides coordinated and focused organization of legal, medical and social services.

The Housing Status of the Elderly

According to Atchley, housing is a key factor in the relationship between the older person and his community in terms of neighborhood ties and access to community services and facilities. The relationship between the housing preferences of the elderly and the availability of the desirable types of housing in a community in their total evaluation of the desirability of certain community is also an important factor (1:270).

In general, the elderly prefer to remain in independent housing for as long as possible (1:271). However, the residential requirements in the context of housing and its environment vary according to events in the different stages of the life cycle. Madge described them as follows. (38:229-273).

(1) The first phase evolves by the departure of growing children. The couple, while still in middle life, is confronted with the possibility that their home may become too large. They might hesitate to move as they have established networks of friends and neighbors in the community where they live. However, it might be possible for them to change a residence within the same community without major disturbance of the relationship with friends and neighbors.

(2) At the second critical stage, retirement may seem to be an appropriate occasion to adjust to changed housing needs. A migration of postretirement people occurs to areas which are favorable in terms of climate and other amenities.

(3) At the stage of widowhood, the residential problem, such as an oversized home, the need to be near relatives, and the access to community facilities and services, becomes acute. This stage has to be recognized as one containing the greatest dissolution of the family life cycle, with far-reaching implications for the health and adjustment of the surviving spouse.

(4) For the disablement stage, architects should pay proper attention to the design of homes. The home should be a center of rest and activity which enables the infirmed elderly to have comfort, safety, convenience and reassurance.

(5) Dependency will be the final stage when the elderly can no longer keep living independently and some new living arrangements will be required at home or in an institution. Even at this stage, much evidence indicates that it is always beneficial to encourage the elderly to look after themselves because the home is still the best

place for them.

Atchley presented another approach to housing for the elderly by degree of independency related to their physical and mental aging process (1:271). Table 3 shows Atchley's levels of housing for the elderly by degree of independence.

Transportation Used by the Elderly

Transportation for the elderly has emerged nationally as a critical issue because of a growing recognition that a considerable segment of the elderly population in the U. S. faces severe constraints on mobility (3:324).

Carp suggests that:

> . . . transportation is the mediator between the person and much of his environment. It determines whether the community is a useless facade or a dynamic social system. Housing, medical, financial, and recreational services for older people are useful only to the extent that transportation is workable -- for the people who need and want the services (10:25).

Regarding transportation, older people were categorized according to two groups: (1) one who can utilize present facilities and (2) one who cannot. Those without transportation problems are likely to be those who can afford to own and operate their own cars except on specific occasions (1:269).

According to the 1970 U. S. cansus data, some 45 percent of all individuals aged 65 and over were nonowners of automobiles

Table 3. Levels of housing by degree of independence.

Type of housing		Example	Significant criteria
A. Independent	1) Fully independent	Single family houses, flats, apartments mobile homes, retirement villages and communities	Self-contained, self-sufficient household; residents do more than 90 percent of the cooking and household chores. Middle-aged patterns.
	2) Semi-independent	The foster homes	Self-contained but not entirely self-sufficient; may require some assistance with cooking and household chores, e.g., independent household augmented by meals-on-wheels and/or homemaker services.
B. Group housing	1) Noninstitutional		
	a) Congregate housing	Residence clubs, hotels	Can still be self-contained, but is less self-sufficient; cooking and household tasks are often incorporated into the housing units.
	b) Personal care home	Personal care homes, the intermediate care facilities	Neither self-contained nor self-sufficient; help given in getting about, personal care, grooming, etc., in addition to cooking and household tasks.
	2) Institutional	Nursing homes, hospitals	Neither self-contained nor self-sufficient; total care including health, personal, and household functions.

Source: Atchley, Robert C. The Social Forces in Later Life. 271 p.

61: 16). The elderly with a transportation problem fall into three categories: (1) those who could use existing public transportation but cannot afford it, (2) those who for some reasons need to be picked up and returned directly to their homes, and (3) those who live in areas where there is no public transportation (1:269).

The elderly with transportation problems often lack cash income, which is common to other transit-dependent subgroups. In other words, the transportation-disadvantaged are likely to be economically disadvantaged as well (3:325). However, transportation is an issue more critical for the average older person than for persons who are not elderly. This is evident when a financial picture of the elderly is compared with that of younger counterparts (3:325).

For the elderly with transportation problems, lack of adequate and inexpensive transportation is one of the most important limitations on their independence and social activities. It limits the capacity of these elderly not only to get to the doctor, dentist and grocery store, but also to go out to see their friends and relatives or to visit church and recreational facilities which give meaning to their lives (1:269). Consequently, community services which are needed by the elderly and are available become virtually nonexistent because of transportation deficiencies (3:325).

Three modes of intraarea travel tend to be available in most urban communities. They are by walking, by means of a private vehicle (one's own or one belonging to another) or by a public conveyance such as a public transit bus and related vehicles, by an agency-supplied vehicle, and by other means. However, pedestrianism, according to Carp, was proved to be an unsatisfactory way of getting to most places older people wanted to go (11: 111). As to private vehciles, reliance on family or friends tends to be distasteful to the elderly, and they are reluctant to depend on others as this may be a burden to them. Due to limited income, taxis are not possible solutions for many of the aging except in emergencies. Special purpose transit systems offered by social agencies, often with the aid of volunteer service groups, are helpful but meet the needs of a very small segment of the elderly (3: 325).

Accordingly, public transportation seems to be potentially a promising resource to meet transportation requirements of the aged (3: 326).

The elderly need transportation between nonwork destinations, but these potential riders have limited incomes. They may have physical constraints and limitations on their walking to distant bus stops or live in neighborhoods not served or underserved by public transportation (3: 326).

Probably the ideal solution for transportation consists of:

(1) public subsidies for adequate scheduling and routing of existing public transportation; (2) fare reductions or discounts on all public transportation, including interstate transit; (3) reduced taxi fares for the disabled or infirm; and (4) funds to be used by senior centers to purchase and equip vehicles for use in transporting older people, particularly, in rural areas and in places where no public transportation reaches (1:269).

Housekeeping Problems of the Elderly

Unlike the role of paid workers in the labor force, the role of a homemaker is not usually given up in old age. Women who do more housework than men are less likely to be confronted with a sharp break between work and retirement (37:425).

In 1963, Beyer and Woods reported that most elderly women aged 65 and over spent time each day in house cleaning, laundry, and other housework. Men 65 and over were far less likely than women to engage in such work, except for widowed or single men living alone. Proportions of older men and women engaged in housework tended to decrease as age advanced beyond 65 and as income increased (5:10-11).

Beyer and Woods found that up to about age 75, the elderly were able to do most things without help. After that age, there

was a decline in the proportion who could do everything without help (5:3). Forty-eight percent of the elderly gave up certain heavy work at ages 65 and over and this percentage increased from 41 to 62 percent with increased age from 65 to 80 and over (5:4).

In 1962, Goetz studied housekeeping problems of 85 homemakers aged 60 and over, actively engaged in homemaking without any special or severe physical disabilities. She found that over 80 percent of the homemakers received help with one or another of the various tasks from family members, friends, or from hired help. The tasks that caused difficulties to most homemakers in all age groups in the order of frequency were: ironing, 83 percent; washing windows, 79 percent; and shopping for groceries, 52 percent (15:123-124).

In recent years, there has been a growing interest and concern with homemaking and home-care programs operated under state and federal projects. These programs are generally designed to provide the elderly with supportive services which includes general housework, shopping, laundry, meal preparation, personal care, and personal contacts with other people which help to overcome loneliness and isolation so that they may continue to reside in the community at a meaningful level of self-sufficiency and independence (4:388-389).

Berg, Atlas and Zeiger studied 165 elderly residents in the Milwaukee Model Cities neighborhood in 1971. The data showed that (1) the average resident was female (78.8 percent) and a widow (66.6 percent); (2) the mean age was 74.3 with ages ranging from 55 to over 90, and (3) the mean income was $150 per month.

After one year of operation 41 percent of the residents had terminated the services because they had been institutionalized, had died, could manage on their own, or found alternative resources for these services. This study suggested that homemaking services could be successful if they were decentralized to the point where they could focus on the needs of a specific age group of aged (4:393).

Institutionalization: Its Effects and the Alternatives to It

According to the 1970 census, approximately five percent of the elderly aged 65 and over in the United States were institutionalized (55:7). The proportions of the elderly who were institutionalized varied markedly by age, sex and color. Among the elderly 85 years old and over, rates of institutionalization increased sharply (37:579). By sex, female rates of institutionalization were generally higher than male rates for the elderly at all ages.

Regarding socio-economic characteristics, the institutionalized elderly tended to have fewer family ties and fewer financial resources compared with their counterparts in the community.

They were less likely to have a living spouse and children. Prior to institutionalization, they were more likely to live alone. As to physical and mental health, many elderly in institutions were mentally or physically impaired and required some form of protection, supervision or treatment. However, there was no significant relationship between impairment and institutionalization (37:580).

Residents were often displaced to the wrong type of institution because of the state of their health. Some of these displaced residents would probably be better off if they were given supportive services in their own homes (37:582, 30:503). Institutionalization stemmed from a deteriorating balance between the older person's capacities and the sources of care or support available to him (37:583). The elderly who opposed living in an institution showed negative attitudes toward it since it constituted a sacrifice of independence, it was a prelude to death, and it was a sign of rejection by their children (37:586).

Cross-sectional studies that had compared institutionalized elderly persons to those living in the community generally showed that the institutionalized group had an impaired level of overall adjustment, a reduced capacity for independent thought and action, depressive mood tone, low self-esteem, and other negative attritutes (27:343).

In 1968 Lieberman, Prock and Tobin studied the psychological effects of institutionalization on 99 subjects which they categorized into three samples: (1) an institutionalized control group, (2) an experimental group on the waiting list for the same institutions, and (3) community residents for a control group. The results indicated that the effects of the group awaiting institutionalization were different from those of the group living in an institution. Psychological effects including low time perspective, psychological distance from others, and feelings of despair which were usually associated with living in an institution were characteristic of the waiting period. Some of the effects of waiting to live in an institutional environment were found to be ameliorative, while others were found to be adverse (27:351).

Lieberman studied the effects of institutionalization on behavior in 1969. This study showed that, although a host of empirical studies supported the common stereotyped view about the deleterious effects on the psychological well-being and physical survival of the aged in institutional settings, many of the supposed psychological effects were characteristics of the person prior to his entering the institution. The only long-term effect of living in an institution was the increasing difficulty of reentering the community and making proper adaptations. There seemed to be considerably more destructive effects associated with radical

environmental change than with residence in an institution (28:336).

There is a breaking down of some of the institution barriers for those who feel that the institution is the last step. In other words, institutionalization is not the dead end but the appropriate resource in services needed by the persons at a particular time (22:60).

Institutionalization should be available in the highest quality for the elderly. However, due to the previously-discussed adverse effects of institutionalization, there is a need for alternatives to institutionalization.

Much has been written about the development of community service programs as alternatives to institutionalization. As long as community service programs remain inadequate, institutionalization will continue to be the primary source of protective care. Parallel community service programs that provide high quality care may be an alternative to institutional care. And, they will help the elderly remain in the community for as long as possible. (22:60-61).

However, Shore stated that a coordinated program of institutional and parallel community services would be required. Good

parallel services are as expensive as institutional care (45:8-9). The conventional institutions can play a role in providing the center for a vital link in the chain of the necessary components in the social-health care system serving the elderly (45:11).

III. METHODOLOGY

This study investigated the use of community services, and facilities by senior citizens living in five different types of housing. The following relationships were examined: 1) the relationships between the use of community services, and facilities by senior citizens when they were classified according to their a) type of housing, b) type of transportation used, and c) income level; 2) the relationships between car ownership and a) income level, and b) type of housing; 3) the relationships between type of transportation used and a) income level, and b) type of housing; and 4) the relationship between the reported health condition and type of housing.

The topics discussed in this chapter include 1) the population, 2) the sample and the sampling procedure, 3) the collection of the data, 4) the development of the interview schedule, 5) the analysis of the data, and 6) description of characteristics of types of housing.

The Population

The population was selected from those senior citizens who were 1) living in Corvallis, Oregon, 2) 65 years old and over or retired from their major occupation which had been the primary source of their income, and 3) living independently in their own households. In the case of married couples, both spouses should

meet criteria 1) and 3), but only one spouse must meet criterion 2).

The Sample and the Sampling Procedure

Within the above population, the sample was stratified according to type of housing used by senior citizens. Five different types of housing were considered: 1) single family houses, 2) apartments, 3) mobile homes, 4) hotels, and 5) retirement housing. The sample was randomly selected from Polk's Corvallis (Benton County, Oregon) City Directory, 1974. A sample of hotel residents, which was difficult to draw from the city directory was obtained from Corvallis Telephone Directory, 1974. In total, 164 households were drawn from these directories. A letter was sent to each individual to see if he met the criteria and would consent to be interviewed. If the person had moved on to another address, did not meet the criteria, had died or had been hospitalized, then, the next person on the list was contacted. This method of selection proved inadequate because of the high ratio of ineligible persons who were contacted. Names were, then, randomly obtained by referring to the administrative offices of the various types of housing. This enabled the researcher to mail a larger number of letters with accuracy.

The Collection of the Data

After the names of possible respondents were obtained from the administrative offices of the various types of housing, a letter was mailed to each prospective respondent (Appendix D) briefly describing the design of this study and stating that the researcher would soon contact them to make an appointment for an interview. A total of 128 letters were mailed. Of these, 18 were sent to hotel, 36 to the retirement housing, 23 to apartment , 23 to single family house , and 28 to mobile home residents.

To collect the data, an appointment was made with those persons who agreed to be interviewed. The interviews began on July 13, 1974 and were completed on July 27, 1974. They were conducted at the respondents' homes and averaged 40 minutes ranging between 15 minutes and an hour. Sixty-seven households (93 respondents) were interviewed. In the case of married couples, the researcher conducted interviews with both the husband and the wife. The respondents in five households living in the hotel were interviewed, 15 in apartments, 15 in mobile homes, 16 in single family houses and 16 in the retirement housing.

For the remaining 61 households to which letters had been mailed, interviews were not conducted, because the prospective respondents were ill, hospitalized, or deceased; refused to be interviewed; or had moved.

The Development of the Interview Schedule

The interview schedule was developed on the basis of the information obtained from a course, "Environmental Influences on Behavior" taken at University of Southern California from a visiting professor, Dr. M. Powell Lawton, a research psychologist in Philadelphia Geriatric Center, and with the assistance of Oregon State University Home Management and Statistics Departments.

The schedule consisted of questions concerning 1) demographic information, 2) the respondents' past and present housing and plans for future housing, 3) the respondents' health condition, 4) problems of living independently, 5) knowledge and the use of community services in Corvallis, 6) the use of community facilities, and 7) availability of transportation.

The original schedule was pretested with three individuals. The interview schedule was then revised according to the results of the pretest.

Analysis of the Data

Descriptive statistics which included the number, frequency and percentage distributions, means, ranges, and medians were used to analyze the data.

The Chi-squared test for independence was used to test the relationships between: 1) frequency of using community facilities and a) type of housing, b) type of transportation used, and c) income level; 2) car ownership and a) income level, and b) type of housing; 3) type of transportation used and a) income level, and b) type of housing; and 4) the reported health condition and type of housing.

Regarding the use of community facilities, ten selected public and private facilities in the community were utilized to test Hypothesis 1. There is no difference in the use of community facilities among senior citizens, when they are categorized by a) type of housing, b) type of transportation used, and c) income level. The ten community facilities were 1) food markets and grocery stores, 2) restaurants and coffee shops, 3) clothes and shoe shops and repair shops, 4) laundromats and dry cleaners, 5) barber shops and beauty shops, 6) churches, 7) medical services, 8) post offices, 9) banks, and 10) gas stations.

The use of these ten facilities was individually tested in relation to the following variables, i.e., a) type of housing, b) type of transportation used b_1) among car owners, b_2) among noncar owners, and c) income level. A total of 29 contingency tables were made and the Chi-squared test for independence was used to test the relationships between pairs of variables. (See

Appendix B).

A frequency scale with four categories: 1) more than once per week, 2) once per week, 3) once to twice per month, and 4) less than once per month, was utilized to measure the use of those facilities.

Type of transportation used was categorized into five groups: 1) personal car, 2) private assistance from relatives and friends, 3) public transportation, e.g., city bus, taxis, and dial-a-bus (a bus for the elderly run by the senior citizens center in the city), 4) walking and/or cycling, and 5) a home delivery service by commercial and private services.

The income level scale used ranged from $2,000 to $40,000 and over.

To measure the use of community services, a list of organizations and agencies in Question 15 of the interview schedule (Appendix C) was utilized.

In order to test Hypothesis 2.b) Among car owners, there is no relationship between mode of transportation used and, b_1) income level, and b_2) type of housing, mode of transportation was categorized into four groups: 1) only personal car was a means of transportation, 2) a car was the primary and private assistance was the secondary mode of transportation, 3) a car was the primary, and walking and/or cycling was the secondary, and 4) walking

and/or cycling was the primary and a car was the secondary.

With regard to testing Hypothesis 2. c) Among noncar owners, there is no relationship between their primary mode of transportation and c_1) income level, and c_2) type of housing, the primary mode of transportation was categorized into three groups: 1) walking and/or cycling, 2) private assistance, and 3) public transportation.

In order to test Hypothesis 3. There is no difference in the reported health condition of senior citizens, when they are categorized by type of housing, a self-rating health scale ranging from very good to poor was utilized to measure the respondents' health condition.

Description of Characteristics of Types of Housing

In the earlier phase of the study, nine sites for the elderly in Corvallis, Oregon, were identified, and information was obtained on the number of residents, their age, facilities and services provided for them, cost and financial arrangements, and their type of dwelling units. These data were used in selecting four sites in which to interview residents, in addition to single family houses scattered throughout Corvallis.

The criteria for site selection included variety and level of housing (by degree of independency) which were commonly available

for the elderly in Corvallis. Namely, it was desired to represent the whole range of housing used by the elderly for independent living. It was also anticipated that each prospective housing site would include a large enough population of the elderly for sampling purposes.

Accordingly, the sites were not, of course, selected randomly. However, the sample was randomly selected within the sites. Institutional housing was originally excluded from this study.

Table 4 shows characteristics of the housing sites.

Table 4. Characteristics of the housing sites.

Item	Types of housing				
	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Location in Corvallis	Residential area	Near downtown and university campus.	In mobile home park in residential area.	Dispersed inside the city.	Downtown.
Sponsorship	Church	Private enterprise.	Private enterprise.	Privately owned.	Private enterprise.
Cost	$189-294/month	$99-180/month	$52-62/month (Space for a mobile home with a parking lot)	-------	$70-135/month
Types of dwellings	Studio apartment One-bed room apt.	Studio apartment One-bed room apt. Two-bed room apt.	Single detached mobile home owned by a resident with a yard.	Single detached house with a yard.	Sleeping room with a private bath room, Studio apartment with a kitchenette and a private bath room. Furnished.
Facilities provided	Emergency alarm on the telephone, Laundry room.	Laundry room.	Community laundry.	Self-contained.	Cafeteria and beauty shop are inside the building.
Services provided	Limited health care, recreational and educational programs. One meal per day. City bus stop.	--------	--------	--------	Room cleaning and linen service in option for $15/month.
Remarks	No housekeeping, resident doctors and nurses services. Eligibility; 62 yrs. or older, healthy and ambulatory.	Furnishings in option. Building entrance door is operated by residents for security purpose.			No laundry facilities inside the building.

IV. DESCRIPTION OF THE SAMPLE

This chapter includes the respondents' 1) background characteristics, 2) housing characteristics, 3) perceived health status, 4) car ownership, 5) kinship ties, and 6) the use of recreational facilities.

The Respondents' Background Characteristics

Demography

The respondents in 67 households participated in this study. Of these, 16 households were in the retirement housing, 15 in apartments, 15 in mobile homes, 16 in single family houses, and five in the hotel. The total number of the respondents was 93 persons, 31 males and 62 females. Table 5 gives the number of males and females in each type of the housing groups.

Table 6 shows that 41 of the 67 households were one-person households, and 26 were two-person households. The females living alone outnumbered those living with their spouses and they were more likely to live in the retirement housing, apartments, and the hotel, whereas the latter group were more likely to live in mobile homes and single family houses. Males living with their spouses outnumbered those living alone and tended to live in mobile homes and single family houses (Table 7).

Table 5. Frequency distribution of the households and the individuals by sex and type of housing.

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Number of households	67	16	15	15	16	5
Number of individuals	93	18	16	26	28	5
Male	31	6	2	11	12	
Female	62	12	14	15	16	5

Table 6. Frequency and percentage distributions of the respondents by sex and household composition.

	Number			Percent		
Household	Total	Male	Female	Total	Male	Female
Total	93	31	62	100	100	100
One-person household	41	5	36	44	16	58
Two-person household	52	26	26	56	84	42

Table 7. Frequency distribution of the respondents by sex, household composition and type of housing.

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Male						
Total	31	6	2	11	12	
One-person household	5	4	1			
Two-person household	26	2	1	11	12	
Female						
Total	62	12	14	15	16	5
One person household	36	10	13	4	4	5
Two-person household	26	2	1	11	12	

Totally, 52 respondents (56 percent) out of 93 respondents were married, 32 (34 percent) were widowed, seven (8 percent) were never married and two (2 percent) were divorced. Of the 31 male respondents, the majority (84 percent) of them were married. Only four (13 percent) were widowed, and one (3 percent) was divorced. On the other hand, the number of females who were widowed was higher (45 percent) than that of the females who were married (42 percent), followed by single females (11 percent) and divorced females (2 percent) (Table 8).

By type of housing, two-thirds of the female respondents in the retired housing were widowed. Ten out of 14 female respondents in the hotel were widowed. On the other hand, the majority (23 out of 31) of the female respondents and all of the male respondents in mobile homes and single family houses were married (Table 9).

Table 10 shows the ages of the 92 respondents at their last birthday by age group. One female respondent did not give her age. Forty-one percent of the respondents fell into the age group 65-74, 38 percent of them fell into the group aged 75-84, and 18 percent into the age group 85-94. Only one person, a male was over 95 years old. Two females were younger than 65 years; however, their husbands were over 65 years old. Of the males, 55 percent of the respondents fell into the age group 75-84. In the case of

Table 8. Frequency and percentage distributions of the respondents by marital status and sex.

Marital status	Number			Percent		
	Total	Male	Female	Total	Male	Female
Total	93	31	62	100	100	100
Married	52	26	26	56	84	42
Widowed	32	4	28	34	13	45
Single	7		7	8		11
Divorced	2	1	1	2	3	2

Table 9. Frequency distribution of the respondents by marital status, sex and type of housing.

Marital status	Retirement housing		Apartment		Mobile home		Single family house		Hotel	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total	6	12	2	14	11	15	12	16		5
Married	2	2	1	1	11	11	12	12		
Widowed	3	8	1	10		4		1		5
Single		1		3				3		
Divorced	1	1								

Table 10. Frequency and percentage distributions of the respondents by age and sex.

	Number			Percent		
	Total	Male	Female	Total	Male	Female
Total	92	31	61	100	100	100
55-64 years	2		2	2		3
65-74	38	9	29	41	29	48
75-84	35	17	18	38	55	30
85-94	16	4	12	18	13	20
95 and over	1	1		1	3	

females, 48 percent fell into the group aged 65-74, 30 percent fell into the group aged 75-84, and 20 percent into the group aged 85-94.

The age range for the 92 respondents was from 57 to 96 years old with a mean age of 76.1. While the hotel group had the highest mean age (84.0), the retirement housing group had the second highest mean age (81.2). The mobile home group had the youngest mean age (72.2) (Table 11).

According to Tables 9 and 11, the following can be stated: the respondents in the retirement housing, the hotel and apartments tended to be older than those in single family houses and mobile homes, and the former three groups of the respondents were more likely to be single, widowed, and divorced; on the other hand, the latter groups of the respondents were more likely to be married.

Table 12 shows that the respondents have been retired from three months to 24 years. The mean year of retirement was nine years. Males had been retired longer, on average, than females. By type of housing, the hotel group had been retired the longest number of years, followed by the retirement housing, the apartment, the mobile home, and the single family house groups.

Regarding males, the apartment group had the longest retirement years, followed by the retirement housing, the single family house, and the mobile home groups. On the other hand,

Table 11. Age distribution and mean ages by sex and type of housing.

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Age range						
Total	57-96	68-96	65-89	57-82	63-85	80-89
Male	65-96	76-96	76-87	65-82	70-85	
Female	57-94	68-94	65-89	57-80	63-85	80-89
Mean						
Total	76.1	81.2	79.2	72.2	73.5	84.0
Male	77.8	84.0	81.5	75.1	76.6	
Female	75.2	79.8	78.9	70.0	71.2	84.0

Table 12. Distribution of length of retirement by sex and type of housing.

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Year range						
Total	1/4-24	4-21	1/4-24	1/3-15	1-20	15
Male	1/3-22	7-21	15-22	1/3-15	3-20	
Female	1/4-24	4-18	1/4-24	1-12	1-9	15
Mean						
Total	9.3	12.5	10.8	8.1	7.4	15
Male	10.7	13.8	18.5	9.1	9.4	
Female	8.1	11.4	9.5	6.9	4.1	15

the hotel female group had the longest retirement years, followed by the retirement housing, the apartment, the mobile home, and the single family house groups. The 24 respondents who had been full-time homemakers were excluded in these computations because they did not regard themselves retired.

Socio-economic characteristics

The highest level of education completed by the respondents was defined in terms of the number of years spent in school. Table 13 indicates that more than half of the males (52 percent) completed a bachelor's or an advanced degree. However, five males had received only eight years or less of education. For females, more than half of them (54 percent) had some college education, had completed college or worked for advanced degrees (master's and unfinished doctor's). Four females had less than a high school education, and four females had had vocational training, e.g., nursing and hair dressing.

The mean years of education attained by the respondents was 13.8 with a range from 7 to 20 years (Table 14). By sex, males had attained a slightly higher educational level than females on the average, 14.3 versus 13.6 years. By type of housing, the single family house group had the highest mean, followed by the apartment, the retirement housing, the hotel and the mobile home

Table 13. Frequency distribution of the respondents by level of education, sex, and type of housing.

Types of housing	Total	Level of education in years							
		Elementary		High school		Vocational training	College		Post graduate
		0-7	8	9-11	12		13-15	16	17-19+
Male total	31	1	4	2	5		3	7	9
Retirement housing	6	1					1	1	3
Apartment	2							2	
Mobile home	11		3	2	3		2		1
Single family house	12		1		2			4	5
Female total	62		1	3	20	4	15	11	8
Retirement housing	12		1		4	1	2	3	1
Apartment	14				5		4	2	3
Mobile home	15			2	7	2	4		
Single family house	16			1	3	1	2	5	4
Hotel	5				1		3	1	

Table 14. The mean years and the year range of education by type of housing and sex.

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Year range	7-20	7-20	12-18	8-20	8-19	12-16
Mean total	13.8	14.4	14.4	11.9	15.1	13.4
Male	14.3	15.5	16.0	11.8	15.8	
Female	13.6	13.8	14.1	12.0	14.6	13.4

groups. Only in the mobile home group, did the females have a higher mean value than the males. This was often the case with educational attainment among the elderly because more females completed high school, rather than dropping out in the early grades (37:112, 57:9). The respondents' levels of education were much higher than the national levels. At the national level in 1970, the median years of education completed by the elderly 65 years and over was 8.8 years, whereas that by the respondents in this study was 14 years.

Hollingshead's occupational classifications were utilized as a guide for developing five occupational categories for this study. Hollinghead's Group II: managerial, and Group III: administrative, were combined, and Group VI: semi-skilled was excluded. The respondents were classified into the five occupational categories (20).

Group I included higher executives, proprietors of large concerns and major professionals, Group II included business managers, proprietors of medium-sized businesses, less professionals and administrative personnel, Group III comprised clerical and sales workers, technicians and owners of small businesses, Group IV consisted of skilled employees and machine operators, and Group V was unskilled employees.

Sixty-seven out of 93 respondents were retired from their occupations which had been the primary source of their income. Of the remaining 26 respondents, two females were not yet retired, 24 females had been full-time homemakers and had never been employed outside their homes.

Table 15 gives the respondents' occupational levels. Totally, more than half of the respondents (61 percent) comprised Group I: professional, and Group II: managerial and administrative. The males had higher levels of occupation than the females. Seventy-seven percent of the males were in Groups I and II, but only 47 percent of the employed females were in these two groups. However, 53 percent of the females were categorized into Group III: clerical and technical, Group IV: skilled, and Group V: unskilled.

By type of housing (Table 16), males in the single family house group had higher levels of occupation than those in other housing groups. However, females in the apartment group had higher occupational levels than those in other housing groups. The mobile home group tended to have lower levels of occupation for both males and females than other housing groups.

The respondents were asked to select a number from a card (Appendix C) that best described their income from all sources for 1973. Fifty-three out of 67 households, or 79 percent gave their income. Ten households refused to give their income and four

Table 15. Frequency and percentage distributions of the respondents by level of occupation.

Occupational group	Number			Percent		
	Total	Male	Female	Total	Male	Female
Total	67	31	36	100	100	100
Group I: Professional	16	11	5	23	35	13
Group II: Managerial, administrative	26	13	13	38	42	34
Group III: Clerical, technical	19	4	15	31	13	45
Group IV: Skilled	3	2	1	4	7	3
Group V: Unskilled	3	1	2	4	3	5

Table 16. Frequency distribution of the respondents by level of occupation before retirement, sex, and type of housing.

Occupational group	Total	Retirement housing		Apartments		Mobile homes		Single family house		Hotel	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total	67	6	7	2	12	11	9	12	7		1
Professional	16	3	1		2	1		7	2		
Managerial	26	2	3	2	5	6	3	3	1		1
Clerical	19		3		5	2	4	2	3		
Skilled	3					2	1				
Unskilled	3	1					1		1		

households reported that they did not know their income.

A mean income was computed under the assumption that the respondents' incomes corresponded to the mid-range in each income category, and corresponded to the minimum value in the last category.

Incomes ranged from $2,000 up to over $40,000 with a mean of $9,047 and a median of $7,000 for the 53 households reporting their income. By type of housing, the single family house group had the highest mean level income of $11,688, the apartment group had the next highest income of $8,950, followed by the mobile home group ($8,000), and the retirement housing group ($7,727). The hotel group had the lowest level of income ($3,000) (Table 17).

When income levels were compared by household composition, the one-person households had a median income of $5,400 with a range from $2,000 to $24,999 and the two-person households had a median income of $10,000 with range from $4,000 to over $40,000. The one-person households had a median income which was 54 percent of that of the two-person households. These median incomes were much higher than those at the national level, which were $1,950 for one-person household and $5,053 for two-person household in 1970 (55:61).

Table 17. Income level, range, median and mean of the households by type of housing.

Item	Total (N=53)	Retirement housing (N=11)	Apartment (N=10)	Mobile home (N=14)	Single family house (N=16)	Hotel (N=2)
$2, 000- 3, 999	11	3	4	1	1	2
$4, 000- 5, 999	9	1	1	5	2	
$6, 000- 7, 999	8	3	1	2	2	
$8, 000- 9, 999	7	1	1	2	3	
$10, 000-11, 999	5	1		2	2	
$12, 000-13, 999	5	1		1	3	
$14, 000-15, 999	2		1		1	
$16, 000-17, 999	3	1		1	1	
$18, 000-19, 999	1		1			
$20, 000-24, 999	1		1			
$25, 000-29, 999						
$30, 000-34, 999						
$35, 000-39, 999						
$40, 000 and over	1				1	
Income range	$2, 000- 40, 000 and over	$2, 000-17, 999	$2, 000-24, 999	$2, 000-17, 999	$2, 000-40, 000 and over	$2, 000-3, 999
Median	$7, 000	$7, 000	$6, 000	$7, 000	$10, 000	$3, 000
Mean	$9, 047	$7, 727	$8, 950	$8, 000	$11, 688	$3, 000

Characteristics of Housing

The mean years of residence in their present housing was ten years for the respondents in the 67 households. The single family house group had lived in the present housing the longest. The mean years of residence for this group was 24. The next longest was the hotel group with a mean of eight years. The mobile home group had the lowest mean years of residence in the present housing. Almost half of the respondents had lived in the present housing less than six years (Table 18).

The respondents were asked if they had moved to their present housing after their retirement. Forty-nine out of 67 households (75 percent) had moved to their present housing after retirement (Table 19). All of the retirement housing and the hotel groups had moved to their present housing after retirement. Twelve out of 15 households in the apartment group (80 percent) had moved, and 14 out of 16 in the mobile home group had moved to the present housing after retirement. The single family house group had the lowest residential mobility. Comparing the change of residence after retirement with previous housing, 67 percent had moved from single family houses to the present housing, 25 percent had moved from apartments, 4 percent had moved their own mobile homes to the present locations in Corvallis, and another

Table 18. Frequency distribution of the households by the length of residence in the present housing and type of housing.

Years	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
0- 1.99	8	2	5	1		
2- 3.99	13	4	2	7		
4- 5.99	12	4	1	4	1	2
6- 7.99	9	3	1	2	1	2
8- 9.99	4	3			1	
10-14.99	6		4		2	
15-19.99	4		1	1	1	1
20-24.99	1				1	
25-29.99	3		1		2	
30-34.99	2				2	
35-39.99	5				5	
Median	6	5	4	3	26	6
Mean	10.0	4.6	7.3	4.5	24.0	7.7

Table 19. Frequency distribution of the respondents by previous type of housing before they moved to their present housing.

Previous housing	Total	Present types of housing				
		Retirement housing	Apartment	Mobile home	Single family house	Hotel
Total	49	16	12	14	2	5
Single family house	33	11	6	12	1	3
Apartment	12	5	4		1	2
Mobile home	2			2		
Other	2		2			

4 percent had moved from living quarters in the university dormitory.

Table 20 gives the reasons why the respondents had moved to their present housing after retirement. In total, the most frequent answer was to be near children in the community. The next most frequent answer was to reduce responsibilities in maintaining a house. Then, the third most frequent answer was for convenience to community services and facilities. By type of housing, there were significant differences at the .05 level in the most frequent reasons for the respondents' residential mobility after retirement (Appendix B). The retirement housing group had moved to their present housing after retirement in order to be near children in the community. For the apartment and the hotel groups, the respondents had moved to their present housing mainly for convenience to community services and facilities. However, the mobile home group had moved to their present housing mainly for more economical housing.

The respondents were asked if they were considering changing their housing in the next two years. Only 2 out of 67 households reported they were considering plans to change their housing in the next two years. One respondent was planning to move to the apartment because she felt that she was still too young at 71 years to live in retirement housing. Another respondent living in the apartment

was planning to move to a single family house in order to be near a relative. Sixty-five households were not considering plans to change their housing in the near future.

Perceived Health Status

The respondents were asked to give a self-rating of their health status on a scale ranging from very good to very poor. No one reported his health to be very poor. Out of 93 respondents, 46 reported their health was very good, 18 good, 25 fair, and 4 poor. When the two categories, very good and good, were combined, 69 percent of the respondents were categorized as being in good health, while 27 percent were in fair and 4 percent in poor health (Table 21).

When the respondents were categorized by household composition (Table 21), 30 respondents, or 74 percent, in the one-person households were in very good or good health condition, eight (20 percent) in fair, and three (6 percent) in poor health. In the two-person households, 34 respondents (65 percent) were in either very good or good, 17 (33 percent) in fair, and one (2 percent) in poor. There were no differences in the reported health condition among the respondents by sex and household composition at the .05 level of significance (see Appendix B).

Sixty-five percent, or 17 out of 26 married couples reported

Table 20. Frequency distribution of the respondents' reasons for residential mobility after retirement by type of housing.

Reason	Total (N=67)	Retirement housing (N=16)	Apartment (N=15)	Mobile home (N=15)	Single family house (N=16)	Hotel (N=5)
1. To be near children in the community	22	10	3	7		2
2. To reduce responsibilities in maintaining a house	21	6	5	7		3
3. For convenience to community services and facilities	18	4	8	1	1	4
4. For security	13	4	5	3		1
5. For more economical housing	11	1	1	8	1	
6. To be near relatives	6	2	1	2		1
7. To be near friends	6	2	2	2		
8. To reduce loneliness	6	4	1			1
9. To be near health services	4	2	1			1

Table 21. Frequency and percentage distributions of the respondents' self-rating of health status by sex, and household composition.

Item	Health scale categories									
	Number					Percent				
	Total	Very good	Good	Fair	Poor	Total	Very good	Good	Fair	Poor
Total	93	46	18	25	4	100	50	19	27	4
Male	31	12	7	11	1	100	39	23	35	3
Female	62	34	11	14	3	100	55	18	22	5
One-person household	41	22	8	8	3	100	54	20	20	6
Two-person household	52	24	10	17	1	100	46	19	33	2

that the husband and the wife had the same health status. For 27 percent of the couples, the wife reported a better health condition than the husband. Only for eight percent of the couples, did the husband report a better health condition than the wife. In this study, the husband and the wife tended to report the same health condition.

The respondents were asked if they had spent any days in bed because of a health condition during the last 12 months. Slightly over 30 percent of the males and females reported they have spent one or more days in bed because of a health condition during the last 12 months. When the respondents were categorized by household composition, 37 percent of 41 respondents in the one-person households had bed-disability days, while 27 percent of 52 respondents in the two-person households spent one or more days in bed. Therefore, the respondents in the one-person households tended to have bed-disability days more than those in the two-person households (Table 22).

Comparing the respondents with bed-disability days by housing group, about one-fourth of the respondents in the retirement housing, the mobile home, and the single family house groups had spent one or more days in bed, while four out of five respondents in the hotel group had bed-disability days during the last 12 months.

Table. 22. Frequency and percentage distributions of the respondents who had bed-disability days during the last 12 months, by sex, household composition, and type of housing.

Item	Number of respondents	Percent
Male (N=31)	10	32
Female (N=62)	19	31
One-person household (N=41)	15	37
Two-person household (N=52)	14	27
Retirement housing (N=18)	5	28
Apartment (N=16)	6	38
Mobile home (N=26)	7	27
Single family house (N=28)	7	25
Hotel (N=5)	4	80

Table 23 shows the household activities which the respondents had found difficulty in performing because of their health condition. The respondents in 67 households were asked to indicate if they usually, sometimes, or never had difficulty in performing the household activities, e.g., shopping, house cleaning, laundering, yard work, and personal care which included dressing and bathing, and food preparation. Sixteen households had difficulty in shopping, another 16 had difficulty in house cleaning, 11 in laundering, 5 in doing yard work, 3 in doing personal care, and 1 in food preparation. The remaining households reported no problems in doing these household activities. Thirty-eight households did not have to do yard work or gardening mainly because of their types of housing.

Table 24 gives the number of households reporting having problems by type of housing.

The respondents in the retirement housing, the hotel, the apartment, and the single family house groups tended to have some difficulty in shopping, house cleaning, and laundering. The households in the mobile home and the single family house groups had problems with yard work and gardening. However, the retirement housing, the apartment, and the hotel groups did not have an opportunity for yard work. Personal care was a problem for some of the respondents in the retirement housing and the apartment groups. One household in the apartment group usually had a problem of food preparation. The mobile home group reported the fewest problems of all the housing groups in performing household activities.

The respondents were asked if they had received help with ten daily living activities from persons outside their own households (Table 25). Totally, 34 percent, or 23 out of 67 households received help with transportation, 22 with house cleaning, 17 with meal services, 13 with shopping, 7 with yard work, 3 with telephone calling services, and 1 each with personal car, home nursing, visiting service, and cooking. By type of housing, the retirement housing, the hotel, and the apartment groups were more likely to have help with transportation. All of the retirement

Table 23. Frequency and percentage distributions of the households who had some difficulty in performing household activities because of a health condition.

Household activity	Number				Percent		
	Total	Usually	Sometimes	Never	Usually	Sometimes	Never
Shopping	67	8	8	51	12	12	76
House cleaning	67	5	11	51	7	17	76
Laundering	67	7	4	56	11	6	83
Yard work	29 a/	2	3	24	7	10	83
Personal car	67	3		64	5		95
Food preparation	67	1		66	2		98

a/ The households in the retirement housing, apartments, a single family house, and the hotel did not have yard work (N=38).

Table 24. Frequency distribution of the households with difficult daily living activities by type of housing.

Household activity	Retirement housing (N=16)			Apartment (N=15)			Mobile home (N=15)			Single family house (N=16)			Hotel (N=5)		
	Usually	Some-times	Never	Usually	Some-times	Never	Usually	Some-times	Never	Usually	Some-times	Never	Usually	Some-times	Never
Shopping	3	2	11	2	3	10			15	3	2	11		1	4
House cleaning	1	5	10	3	1	11			15	1	3	12		2	3
Laundering	3		13	2	1	12	1		14		2	14	1	1	3
Yard work			a/			a/		1	14	2	2	12			a/
Personal care	1		15	2		13			15			16			5
Food preparation			16	1		14			15			16			5

a/ The respondents did not have an opportunity for yard work.

housing group and one household in the hotel group received meal services, because meals were served once per day in the retirement housing. The retirement housing, the apartment and the hotel groups were more likely to receive help with house cleaning. In the hotel, room-cleaning service was provided as an option. Three in the retirement housing group, four in the apartment group, one in the mobile home group, three in the single family house group, and two in the hotel group received aid with shopping. Five in the single family house group and two in the mobile home group received aid with yard work.

The persons who helped the respondents varied from public social service agencies to relatives, friends, and hired workers. In general, the households in the retirement housing group were most likely to receive help from outside their own households, followed by the hotel and the apartment groups. The mobile home group was least likely to receive help.

The respondents selected the situations that would make independent living difficult in their own households (Table 26). Transportation problem was the most crucial factor in living independently. In 27 percent, or 18 out of 67 households, transportation made independent living most difficult. The next most common problem was shopping (nine households). The incidence of reported shopping problems was not incompatible with the incidence

Table 25. Frequency and percentage distributions of the households receiving help with daily living activities by type of housing.

Activity	Number						Percent total
	Total (N=67)	Retirement housing (N=16)	Apartment (N=15)	Mobile home (N=15)	Single family house (N=16)	Hotel (N=5)	
Transportation	23	9	7	2	2	3	34
House cleaning	22	10	6		1	5	33
Meal services	17	16				1	25
Shopping	13	3	4	1	3	2	19
Yard work	7			2	5		10
Telephone call service	3	3					4
Personal care	1		1				1
Home nursing	1		1				1
Visiting service	1	1					1
Cooking	1		1				1

Table 26. Situations that make independent living difficult in own households by type of housing.

Situation	Total (N=67)	Retirement housing (N=16)	Apartment (N=15)	Mobile home (N=15)	Single family house (N=16)	Hotel (N=5)	Percent total
Transportation	18	8	5	2	1	2	27
Shopping	9	4	2	1	1	1	13
Health condition	4	1	1			2	6
Maintaining the yard	4				4		6
Maintaining a house	3				2	1	4
Doing homemaking	2	1	1				3

of reported transportation problems. The third most common problem that made independent living difficult was a health condition and yard maintenance. The fourth most common problem was maintaining a house and the fifth was doing homemaking. In this study, the economic situation and feelings of insecurity were not the factors which seemed to block their independence. By type of housing, transportation and shopping were more likely to make independent living difficult in the retirement housing, the apartment, and the hotel groups. Maintaining the yard and a house was the problem in the single family house group.

Car Ownership and Driving Ability

About half , or 33 out of 67 households, had cars (Table 27). By type of housing, the mobile home group was most likely to own a car, followed by the single family house group. The retirement housing and the apartment groups were less likely to have a car. No one of the hotel group owned a car. The mean age of car owners was 73 years, and that of noncar owners was 80 years.

Among car owners, a total of 42 respondents drove a car. Of these, 18 were males and 24 were females. Both the husband and the wife drove a car, in 6 of the mobile home group and in 3 of the single family house group. Of the remaining 13 married couples, either the husband or the wife drove cars (the husband=8,

Table 27. Frequency distribution of the households' car ownership by type of housing.

Item	Total (N=67)	Retirement housing (N=16)	Apartment (N=15)	Mobile home (N=15)	Single family house (N=16)	Hotel (N=5)	Mean ages
Car owners	33	3	5	13	12		73.4
Noncar owners	34	13	10	2	4	5	80.1

Table 28. Frequency distribution and the mean ages of drivers among car owners by type of housing and household composition.

Item	Total	Retirement housing	Apartment	Mobile home	Single family house
Total	42	3	5	19	15
One-person household	11	3	4	3	1
Two person household	31		1	16	14
Mean ages	72.7	79.3	71.4	70.6	74.5

the wife=5). The mean age of 42 drivers was 73 years. However, the mean ages of the drivers in each type of housing ranged from 71 in the mobile home group to 79 in the retirement housing group (Table 28).

The Respondents' Relationships with Relatives and Friends

There was a significant difference at the .05 level in the respondents' relationships with relatives in the community by type of housing. The respondents in the retirement housing group were most likely to meet their relatives, but those in the single family house were least likely to meet them (Table 29).

There was also a significant difference at .05 level in rating of the importance of meeting relatives among the housing groups. The respondents in the retirement housing and apartments tended to rate meeting relatives very important, whereas those in single family houses, and the hotel tended to rate this activity as unimportant (Table 29).

Table 30 shows that 69 percent, or 46 out of 67 households had relatives in the community. All the respondents in the retirement housing had relatives in the community. Two-thirds of the apartment group and four-fifths of the mobile home group had relatives in the community. However, less than one-third of the

Table 29. Frequency distribution of the households who meet relatives in the community and the respondents' rating importance of meeting relatives by type of housing.

Frequency	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Once or > 1/week	35	12	9	9	3	2
Once to twice/month	2	1	1			
Less than 1/month	5			3	1	1
Never	25	3	5	3	12	2
Rating of importance:						
Very important	21	12	8			1
Important	21	2	2	12	4	1
Unimportant	25	2	5	3	12	3

Table 30. Frequency distribution of the households' relatives in the community by type of housing.

Relative	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Total	48	18	10	12	5	3
Daughter	24	8	8	6		2
Son	14	9	1	2	1	1
Brother	4		1	1	2	
Sister	2			1	1	
Mother	1			1		
Grand child	1	1				
Cousin	2			1	1	

single family house group had relatives. Of the hotel group, three households had relatives. It appeared that those respondents who had relatives living nearby gave a higher rating of importance of meeting the relatives than the respondents who had no relatives living near them.

On the other hand, there was no significant difference at the .05 in the relationship with friends by type of housing (Table 31 and Appendix B). Regardless of type of housing, the respondents tended to see friends more than once per week and rated them as either important or very important.

The Use of Recreational Facilities

The respondents in 35 out of the 67 households (52 percent) used recreational facilities (Table 32). Thirteen (19 percent) used them more than once per week, six (9 percent) once per week, three (5 percent) once to twice per month, 13 (19 percent) less than once per month, and 32 (48 percent) had never used these facilities. The facilities included theaters, libraries, swimming pools, golf course, clubs, playing areas for games, and recreational facilities attached to the retirement housing. Thirty-eight out of 67 households rated the use of these facilities unimportant, 26 rated them important and only 3 rated them very important.

Table 31. Frequency distribution of the households who meet friends in the community and the respondents' rating importance of friends by type of housing.

Frequency	Total (N=67)	Retirement housing (N=16)	Apartment (N=15)	Mobile home (N=15)	Single family house (N=16)	Hotel (N=5)
More than once/week	50	15	10	11	12	2
Once/week	11		4	3	2	2
Once to twice/month	6	1	1	1	2	1
Rating of importance						
Very important	18	11	4		1	2
Important	48	4	11	15	15	3
Unimportant	1	1				

Table 32. Frequency and percentage distributions of the households who use recreational facilities in the community.

Frequency of use	Total (N=67)	Percent 100
More than 1/week	13	19
Once/week	6	9
Once to twice/month	3	5
Less than 1/month	13	19
Never	32	48

V. FINDINGS

This chapter contains the findings about the hypotheses tested and implications of findings.

Findings about Hypotheses Tested

Hypothesis 1. There is no difference in the use of community services among senior citizens, when they are categorized by a) type of housing, b) type of transportation used b_1) among car owners, b_2) among noncar owners, and c) income level.

For examining the use of community services, a list of organizations and agencies was prepared and included in the interview schedule (see Appendix C). However, the number of the respondents who had used these organizations and agencies was not sufficient to do statistical tests of this hypothesis. Therefore, Hypothesis 1, concerning the use of community services, could not be tested. The respondents in 61 households received social security benefits from the Social Security Administration but they did not use the service provided by this agency in Corvallis. Those in 26 households used the Senior Citizen Center of Corvallis, for the purposes of special occasion dinners (3 households), games (6), barber shop (2), library (1), trips (15), taking class (4), drug discount (1) and legal service (1). The respondents in 11 households used Dial-a-bus, and those in 4 households used meal services in Washington and Franklin schools (see Table 33).

Table 33. Frequency distributions of the respondents who knew and/or used community services.

Service	Number of respondents who knew about service	Number of respondents who used the service			Description of help received
		Regularly	Seldom	Never	
1. U.S. Social Security Administration	62			67	
2. Senior Citizen Center of Corvallis	57	10	16	41	Recreation and programs
3. Dial-A-Bus	55	4	7	56	Transportation inside city
4. Corvallis Manor	51		1	66	One-week convalescence
5. Olson Nursing Home	50			67	
6. Retired Senior Volunteer Program	48	1	2	64	Volunteer work
7. Fish	48			67	
8. Meal services in Washington and Franklin Schools	40	1	3	63	Hot lunch
9. Nutrition Program for the Elderly in Corvallis	38		1	66	Special session
10. Benton County Public Welfare Dept.	36			67	
11. Benton County Housing Authority	33			67	
12. Benton County Home Health Agency	28			67	
13. Vista Program in Corvallis	27			67	
14. Benton County Economic Opportunity	26			67	
15. Altrusa Reassurance Service	24			67	
16. Corvallis Court Health Care, Inc.	21			67	
17. Other	4		4		Pension, programs, drug discount

In order to test the hypotheses, the following categorizations were made.

Hypothesis 1.

The ten community facilities were:

1. Food markets and grocery stores
2. Restaurants and coffee shops
3. Clothes and shoe shops and repair shops
4. Laundromats and dry cleaners
5. Barber shops and beauty shops
6. Churches
7. Medical services
8. Post offices
9. Banks
10. Gas stations

The frequency scale categories were:

1. More than once per week (>1/week)
2. Once per week (=1/week)
3. Once to twice per month (1-2/month)
4. Less than once per month (< 1/month)

The types of housing studied were:

1. Retirement housing
2. Apartment
3. Mobile home
4. Single family house
5. Hotel

The types of transportation used were:

1. Personal car
2. Private assistance from relatives and friends
3. Public transportation, e.g., city bus, taxi, dial-a-bus
4. Walking and/or cycling
5. Home delivery service by commercial or private service

The income categories were:

1. $2,000-3,999
2. $4,000-5,999
3. $6,000-7,999
4. $8,000-9,999
5. $10,000-13,999
6. $14,000 and over

Some of the income categories were combined in order to test some of the hypotheses.

Hypothesis 2.

The car ownership categories were:

1. car owners
2. noncar owners

The income categories were:

1. $2,000-5,999
2. $6,000-9,999
3. $10,000 and over

The types of housing were:

1. Retirement housing
2. Apartment
3. Mobile home
4. Single family house
5. Hotel

The modes of transportation used among car owners were:

1. Personal car only
2. Car is the primary and private assistance is the secondary mode of transportation (C>P)
3. Car is the primary and walking and/or cycling is the secondary (C>S)
4. Walking and/or cycling is the primary and car is the secondary (S>C)

The primary modes of transportation used among noncar owners were:

1. Walking and/or cycling
2. Private assistance from relatives and friends
3. Public transportation

Hypothesis 3.

The self-rating health scale categories were:

1. Very good
2. Good
3. Fair
4. Poor

The types of housing were:

1. Retirement housing
2. Apartment
3. Mobile home
4. Single family house
5. Hotel

Contingency tables, calculated values and critical values of the Chi-square, degrees of freedom, and the level of significance of each hypothesis test are cited in Appendix B.

Hypothesis 1. a) There is no difference in the use of community facilities among senior citizens, when they are categorized by type of housing.

1. Food markets and grocery stores. The null hypothesis was rejected at the .05 level of significance, though the calculated value was close to the critical value. Therefore, there is a difference in the use of food markets and grocery stores among senior citizens, when they are categorized by type of housing. The respondents in

mobile homes and single family houses tended to use food markets and grocery stores more frequently than those in apartments, the retirement housing, and the hotel. The majority of the respondents in mobile homes and single family houses had a car and this made it easier for them to get to food markets and grocery stores.

2. Restaurants and coffee shops. The null hypothesis was not rejected at the .05 level of significance. It would have been rejected if the level of significance had been .10. Therefore, there is no difference in the use of restaurants and coffee shops among senior citizens, when they are categorized by type of housing. However, the respondents in the hotel were excluded in this test, because of inadequate sampling. Four of the five respondents in the hotel used restaurants and coffee shops daily (two persons), and two to three times per week (two persons), because they did not have adequate kitchen facilities in their units.

3. Clothes and shoe shops and repair shops. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of clothes and shoe shops and repair shops by type of housing. The overwhelming majority tended to use these shops less than once per month, whatever the type of housing. The respondents in the hotel were excluded in the contingency table because of inadequate sampling. Three respondents in the hotel used these shops less than once per month.

4. Laundromats and dry cleaners. The null hypothesis was not rejected at the .05 level of significance. The majority tended to use these facilities less than once per month regardless of type of housing. Five of those who used these facilities more than once per month did not have laundry facilities at home.

5. Barber shops and beauty shops. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of barber and beauty shops by type of housing. The respondents in the hotel were excluded because of inadequate observations to make a contingency table. Two of them used beauty shops more than once per week and one of them used them less than once per month.

6. Churches. The null hypothesis was not rejected at the .05 level of significance. The majority went to church once or more than once per week regardless of type of housing. The respondents in the hotel were excluded because of insufficient observations to make a contingency table. Three of these went to church weekly.

7. Medical services. Table 34 shows the overwhelming majority tended to use medical services less than once per month regardless of type of housing.

Table 34. Number reporting frequency of use of medical services.

Types of housing	1-2/month	<1/month
Retirement housing	1	15
Apartment	3	11
Mobile home	1	14
Single family house	1	14
Hotel		4

8. Post offices. The null hypothesis was rejected at the .05 level of significance. Therefore, there is a difference in the use of post offices by type of housing. The respondents in the retirement housing, apartments and the hotel tended to use post offices more frequently (once or more than once per week) than those in mobile homes and single family houses.

9. Banks. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of banks by type of housing. The majority of the respondents tended to use them twice or less than twice per month regardless of type of housing.

10. Gas stations. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of gas stations by type of housing. The respondents in mobile homes appeared to use gas stations more frequently than those in the other types of housing because they were more likely

to make use of a car than the car owners in other types of housing. However, this was not a statistically significant result.

Hypothesis 1, b_1) There is no difference in the use of community facilities among senior citizens, when they are categorized by type of transportation used among car owners (N=33).

1. Food markets and grocery stores. Statistical test of this hypothesis was not appropriate, but Table 35 shows that among 33 car owners, a car was the primary means of transportation to go to food markets and grocery stores. They tended to go there more than once per week.

Table 35. Number reporting frequency of use of food stores.

Type of transportation	>1/week	≤ 1/week
By car	25	7
By walking and cycling	1	

2. Restaurants and coffee shops. As Table 36 shows, among car owners, a car was the primary means of transportation to travel to restaurants and coffee shops.

Table 36. Number reporting frequency of use of restaurants.

Types of transportation	≥1/week	≤ 2/month
By car	18	10
By private assistance	4	3

3. Clothes and shoe shops and repair shops. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of clothes and shoe shops and repair shops among senior citizens, when they are categorized by type of transportation used among both car owners and noncar owners. The majority of the respondents tended to go to clothes and shoe shops and repair shops less than once per month regardless of type of transportation used among both car owners and noncar owners.

4. Laundromats and dry cleaners. As Table 37 shows, car owners tended to go to the cleaning facilities by car less than once per month.

Table 37. Number reporting frequency of use of laundromats.

Types of transportation	1-2/month	< 1/month
By car	5	18

5. Barber shops and beauty shops. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of these facilities among car owners when they are categorized by type of transportation used. They appeared to be more likely to depend on their cars to get to these facilities. But, this was not statistically significant.

6. Churches. Statistical test of this hypothesis was inappropriate, but Table 38 shows that among car owners, 16 out of 19 went to church, and used cars to get there.

Table 38. Number reporting frequency of going to church.

Types of transportation	≥1/week	≤ 2/month
By car	13	3
By walking and cycling	3	

7. Medical services. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of medical services among senior citizens, when they are categorized by type of transportation used. The majority tended to use medical services less than once per month among both car owners and noncar owners, regardless of type of transportation used.

8. Post offices. The null hypothesis was rejected at the .05 level of significance. There is a difference in the use of post offices among car owners. Those who depended on cars tended to use the post offices once to twice per month, whereas those who mainly depended on walking tended to use them once or more than once per week.

9. Banks. Statistical test of this hypothesis was inappropriate, but Table 39 shows that the majority of car owners tended to go to banks by car twice or less than twice per month.

Table 39. Number reporting frequency of use of banks.

Types of transportation	$\geq$ 1/week	$\leq$ 2/month
By car	10	22
By public transportation		1

10. Gas stations. As it would be expected, all car owners went to gas stations.

Hypothesis 1. b_2) There is no difference in the use of community facilities among senior citizens, when they are categorized by type of transportation used among noncar owners (N=34)

1. Food markets and grocery stores. The null hypothesis was not rejected at the .05 level of significance. It would have been rejected at the .10 level of significance. Therefore, there is no difference in the use of food markets and grocery stores among

noncar owners. Noncar owners who depended on public transportation, delivery services, and private assistance tended to travel to food markets and grocery stores once or less than once per week. This is in contrast to those who depended on walking, most of whom shopped more than once per week. However, it was not statistically significant.

2. Restaurants and coffee shops. The null hypothesis was rejected at the .05 level of significance. Therefore, there is a difference in the use of restaurants and coffee shops among noncar owners. The majority of noncar owners tended to go to restaurants and coffee shops twice or less than twice per month by private assistance.

4. Laundromats and dry cleaners. Statistical test of this hypothesis was inappropriate, but Table 40 shows that noncar owners tended to use these facilities twice or less than twice per month, no matter what type of transportation they used.

Table 40. Number reporting frequency of use of laundromats.

Types of transportation	1/week	$\leq$ 2/month
By private assistance		2
By public transportation		2
By walking and cycling	1	8
By delivery	4	11

5. Barber shops and beauty shops. The null hypothesis was not rejected at the .05 level of significance. Noncar owners appeared to depend for their means of transportation on either walking or public transportation and they were most likely to go to these facilities twice or less than twice per month. However, this was not statistically significant.

6. Churches. The null hypothesis was not rejected at the .05 level of significance. Noncar owners tended to go to church once or more than once per week regardless of type of transportation used.

8. Post offices. Statistical test of this hypothesis was not appropriate, but Table 41 shows the majority tended to walk to the post office once or more than once per week.

Table 41. Number reporting frequency of use of post offices.

Types of transportation	$\geq$1/week	1-2/month	< 1/month
By public transportation	1	1	1
By walking and cycling	28	1	2

9. Banks. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of banks among noncar owners. Noncar owners tended to depend on public transportation to go to banks. The majority of them were likely to go to banks at least twice per month.

Hypothesis 1. c) There is no difference in the use of community facilities among senior citizens, when they are categorized by income level.

1. Food markets and grocery stores. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of food markets and grocery stores by income level.

2. Restaurants and coffee shops. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of restaurants and coffee shops by income level.

3. Clothes and shoe shops and repair shops. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of clothes and shoe shops and repair shops by income level. The overwhelming majority tended to go to these facilities less than once per month regardless of the level of income.

4. Laundromats and dry cleaners. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of laundromats and dry cleaners by income level. Regardless of their income level, the respondents tended to use these facilities less than once per month.

5. Barber shops and beauty shops. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of barber shops and beauty shops by income level.

6. Churches. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of churches by income level. The majority tended to go to church once or more than once per week regardless of income level.

7. Medical services. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of medical services by income level. The majority tended to use medical services less than once per month regardless of income level.

8. Post offices. The null hypothesis was not rejected at the .05 level of significance. There is no difference in the use of post offices by income level.

9. Banks. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of banks by income level.

10. Gas stations. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no difference in the use of gas stations by income level.

Hypothesis 2. a) There is no relationship between car ownership by senior citizens and, a_1) income level, and a_2) type of housing.

Hypothesis 2. -- a_1) by income level. The null hypothesis was

rejected at the .05 level of significance. Therefore, there is a relationship between car ownership and income level. The respondents with higher incomes tended to own a car, whereas those with lower incomes were less likely to own a car. The mean income of car owners was $11,500 and that of noncar owners was $6,080.

Hypothesis 2, -- a_2) by type of housing. The null hypothesis was rejected at the .05 level of significance. Therefore, there is a relationship between car ownership and type of housing. The respondents in mobile homes and single family houses tended to own a car, while those in the retirement housing and apartments were less likely to own a car. No respondent in the hotel owned a car.

Hypotheses 2. b) Among car owners, there is no relationship between mode of transportation used and, b_1) income level, and b_2) type of housing.

Hypothesis 2. -- b_1) by income level. The null hypothesis was rejected at the .05 level of significance. Therefore, there is a relationship between mode of transportation used and income level. Although cars were the primary means of transportation among car owners, the respondents with lower incomes tended to depend on private assistance in contrast to those with higher incomes who

were likely to depend on walking in addition to depending on their cars.

Hypothesis 2. -- b_2) by type of housing. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no relationship between mode of transportation used and type of housing. Among car owners, cars were the primary means of transportation (all but one) regardless of type of housing. Only one person in this group was more likely to walk than to use a car.

Hypothesis 2. c) Among noncar owners, there is no relationship between their primary mode of transportation and c_1) income level, and c_2) type of housing.

Hypothesis 2. -- c_1) by income level. The null hypothesis was not rejected at the .05 level of significance. Therefore, among noncar owners, there is no relationship between their primary mode of transportation and income level. Among lower income respondents ($2,000-5,999), walking, private assistance, and public transportation were all, equally, the primary modes of transportation. The reason why there was no relationship between the primary mode of transportation and income level was either that there was, in fact, no relationship or the sample size was insufficient among the higher income category.

Hypothesis 2.--c_2) by type of housing. The null hypothesis was not rejected at the .05 level of significance. However, it would have been rejected at the .10 level of significance. Therefore, among noncar owners, there is no relationship between their primary mode of transportation and type of housing. The respondents in mobile homes and single family houses constituted too small a sample size to include in this test. The respondents in the hotel tended to depend on walking for their transportation because of the location of the hotel. It was convenient for them to gain access to community facilities by walking.

Hypothesis 3. There is no difference in the reported health condition of senior citizens, when they are categorized by type of housing.

The null hypothesis was not rejected at the .05 level of significance. The respondents' reported health condition was independent from their type of housing.

Implications of the Findings

The use of the community services can be discussed according to level of services provided for the elderly in the community (47:57-59). The statistical tests of one of the preceding hypotheses: there is no difference in the use of community services among senior citizens, when they are categorized by a) type of housing,

b) type of transportation used, and c) income level, were inappropriate because of inadequate sample observations. However, the following were found from the collected data. The mose frequently used was the adjustment and integrative level of services comprising recreational services for the aged and senior citizens center programs (26 households). Supportive services including transportation and hot meal service were the second most frequently used.

When the reasons for the limited use of community services were analyzed, the following factors were considered. First, the respondents were able to maintain their independent living in terms of their economic and health conditions without any help from social organizations. Second, the respondents did not have sufficient information concerning what kind of services were available for the elderly from such organizations, although the majority of respondents knew these organizations by name. Third, a total of 26 households had some difficulty in at least one kind of household activity and a total of 39 households received help with ten different activities from persons outside their own households. These helps were categorized into the supportive services, e.g., housekeeping, transportation, meal services,

visiting and assurance services. The respondents tended to receive these helps from relatives and friends in the community and hired persons rather than social organizations and agencies. Particularly, the respondents in the retirement housing and apartments were more likely to have children and relatives in the community and have frequent contacts with them, not only to fulfill their psychological needs but also to obtain aid. Fourth, the respondents showed a common reaction, i.e., there is a stigma connected with the use of these community services and evidently they feel disgraced in using them, even though they might have some problems which may limit their independent living.

The relationship between type of housing and car ownership can be discussed in terms of 1) mean ages of the respondents in each type of housing and 2) the reasons for their residential mobility after retirement. Thirty-three out of 67 households had a car and the majority of them lived in mobile homes and single family houses. All the respondents in the hotel and the majority living in the retirement housing and apartments had either given up driving or could not drive a car. The mean age of car owners was 73, while that of noncar owners was 80. The mean ages of the respondents in each type of housing were: 72 for mobile homes, 74 for single family houses, 79 for apartments, 81 for the retirement housing, and 84 for the hotel. For the respondents living in the hotel, in apartments

or in the retirement housing who had moved to their present housing after retirement, convenience of access to community services and facilities was an important factor in moving to their present housing. The hotel was located in the center of downtown and the major community facilities were within walking distance. In fact, the hotel residents depended on walking as the primary mode of transportation. The apartment building was located within ten blocks from downtown and close to the university campus. Also it was near city bus route. The retirement housing was located in the residential area, but there was a city bus-stop especially for this housing. However, the respondents in the retirement housing and apartments tended to depend on walking and private assistance rather than public transportation.

VI. SUMMARY AND CONCLUSIONS

This chapter includes a summary, a discussion of the limitations of the findings and the reliability of the instruments, conclusions, and suggestions for further research.

Summary

The purpose of this study was to investigate the use of community services and facilities by senior citizens living in five different types of housing in Corvallis, Oregon. The five types of housing were 1) single family houses, 2) apartments, 3) mobile homes, 4) hotel, and 5) retirement housing. The following relationships were examined: 1) the relationships between the use of community services and facilities by senior citizens when they were categorized by a) type of housing, b) type of transportation used, and c) income level; 2) the relationships between senior citizens' car ownership and a) income level, and b) type of housing; 3) the relationships between type of transportation used and a) income level, and b) type of housing; and 4) the relationship between the reported health condition and type of housing.

The population was selected from those senior citizens who were 1) living in Corvallis, Oregon, 2) 65 years old and over, or retired from their major occupation which had been the primary

source of their income, and 3) living independently in their own households. Within the above population, the sample was stratified according to five types of housing. The sample was randomly selected from the city directory, and the list from the administrative offices of the various types of housing. Personal interviews with 93 senior citizens in 67 households were conducted by the researcher in order to complete the interview schedule.

To analyze the data, descriptive statistics which included the number, frequency and percentage distributions, means, ranges, and medians were used. The Chi-squared test for independence was used to test the relationships between pairs of variables in each hypothesis.

Data were prepared to summarize the description of the sample. This table facilitates a comparison of the characteristics of the respondents who are categorized by type of housing. The sample of 67 households comprised 16 households living in the retirement housing, 15 in apartments, 15 in mobile homes, 16 in single family houses, and five in the hotel. (See Appendix A)

The number of respondents was 93 and the ratio between males and females was one to two. The respondents in mobile homes and single family houses were more likely to be married, while those in the hotel, the retirement housing, and apartments were more likely to be single and widowed. The hotel group had the highest

mean age (84 years), whereas the mobile home group had the youngest mean age (72 years). Comparing each of the housing groups, the mean retirement age of the respondents in each housing group tended to vary in proportion to their mean age. With regard to the respondents' incomes, the single family house group had the highest mean income, while the hotel group had the lowest mean income. There were significant differences in the most frequent reasons for the respondents' residential mobility after retirement, by type of housing. These differences were reflected by the respondents' socio-economic status, their primary means of transportation, and their kinship ties with their children and relatives in the community. The respondents living in mobile homes and single family houses tended to own a car, but the respondents living in the hotel, the retirement housing, and apartments were less likely to own a car. The mean ages of drivers were lower than the mean ages of all the respondents in each housing group, except the single family houses group. The respondents in the various housing groups tended to have some difficult household and daily living activities in common. The hotel, the apartment and the retirement housing groups were more likely than the other housing groups to have received help with these difficult activities from persons outside their own households. Particularly, transportation and shopping problems were the crucial factors which limited the

respondents' independent living.

Hypothesis 1. There is no difference in the use of community services and facilities among senior citizens, when they are categorized by a) type of housing, b) type of transportation used, and c) income level.

Regarding the use of community services, statistical tests of this hypothesis were inappropriate, because of insufficient observations concerning the use of these services. Therefore, only the part of Hypothesis 1 dealing with the use of community facilities was tested statistically.

Hypothesis 1. -- a) by type of housing. Regarding the use of community facilities, there are differences in the use of food markets and grocery stores, and post offices among senior citizens, when they are categorized by type of housing. The null hypotheses were rejected at the .05 level of significance. The respondents in mobile homes and single family houses tended to use food markets and grocery stores more frequently (more than once per week) and post offices less frequently (twice or less than twice per month) than those in the hotel, the retirement housing and apartments. Of the remaining seven community facilities (which included restaurants and coffee shops, clothes and shoe shops and repair shops, laundromats and dry cleaners, barber shops and beauty shops, churches, banks, and gas stations), the null hypotheses

were not rejected at the .05 level of significance. Therefore, there are no differences in the use of these community facilities among senior citizens, when they are categorized by type of housing.

With regard to the use of medical services, the result that there is no difference in the use of medical services among senior citizens when they are categorized by type of housing was evident from the table. The overwhelming majority tended to use medical services less than once per month, regardless of type of housing. However, the hotel group was excluded from the contingency tables concerning the use of restaurants and coffee shops, clothes and shoe shops and repair shops, barber shops and beauty shops, and churches, because of insufficient observations. Since no one in the hotel group had a car, they did not use gas stations.

Hypothesis 1. -- b_1) by type of transportation used among car owners.

There is a difference in the use of post offices. The null hypothesis regarding the use of post offices was rejected at the .05 level of significance. The respondents who depended on cars tended to use the post offices once to twice per month, whereas those who mainly depended on walking tended to use them once or more than once per week. Of the remaining seven community facilities (food markets and grocery stores, restaurants and coffee shops, laundromats and dry cleaners, barber shops and beauty shops, churches, banks and gas stations), there are no differences in the use of these facilities

among car owners. Among car owners, cars were the primary means of transportation in getting to these facilities. Regarding the use of barber shops and beauty shops, the null hypothesis was not rejected at the .05 level of significance. Statistical tests of hypotheses were inappropriate concerning the use of the remaining six community facilities. However, the results that there are no differences in the use of these facilities among car owners were clearly shown from the tables.

Hypothesis 1. -- b_2) by type of transportation used among noncar owners. There is a difference in only the use of restaurants and coffee shops among noncar owners, when they are categorized by type of transportation used. The null hypothesis was rejected at the .05 level of significance. The majority of noncar owners tended to go to restaurants and coffee shops less than once per week by private assistance. Regarding the use of food markets and grocery stores, barber shops and beauty shops, churches, and banks, the null hypotheses were not rejected at the .05 level of significance. Therefore, there are no differences in the use of these community facilities among noncar owners, when they are categorized by type of transportation used. Statistical tests of hypotheses were inappropriate concerning the use of laundromats and dry cleaners, and post offices. However, the results that there are no differences in the use of these facilities among noncar owners were evident

from the tables. Regarding the use of clothes and shoe shops and repair shops, and medical services, the null hypotheses were not rejected at the .05 level of significance. Therefore, there are no differences in the use of these facilities among both car owners and noncar owners regardless of type of transportation used.

Hypothesis 1. --c) by income level. The null hypotheses were not rejected at the .05 level of significance. Therefore, there are no differences in the use of the ten community facilities among senior citizens when they are categorized by income level.

Hypothesis 2. a) There is no relationship between car ownership by senior citizens and, a_1) income level, and a_2) type of housing.

Hypothesis 2. -- a_1) by income level. The null hypothesis was rejected at the .05 level of significance. Therefore, there is a relationship between car ownership and income level by senior citizens. The mean income of car owners was $11,500, whereas that of noncar owners was $6,080.

Hypothesis 2. -- a_2) by type of housing. The null hypothesis was rejected at the .05 level of significance. Therefore, there is a relationship between car ownership and type of housing. The respondents in mobile homes, and single family houses tended to own a car, while these respondents in the retirement housing and

apartments, were less likely to own a car. The respondents in the hotel did not own a car.

Hypothesis 2. b) Among car owners, there is no relationship between mode of transportation used and, b_1) income level, and b_2) type of housing.

Hypothesis 2. -- b_1) by income level. The null hypothesis was rejected at the .05 level of significance. Therefore, there is a relationship between mode of transportation used among car owners and income level. Although cars were the primary means of transportation among car owners, the respondents with lower incomes tended to depend on private assistance, this is in contrast to the respondents with higher incomes who were likely to depend on walking in addition to depending on their cars.

Hypothesis 2. -- b_2) by type of housing. The null hypothesis was not rejected at the .05 level of significance. Therefore, there is no relationship between mode of transportation used among car owners and type of housing. Among car owners, cars were the primary means of transportation (all but one) regardless of type of housing. Only one respondent in this group was more likely to walk than to use a car.

Hypothesis 2. c) Among noncar owners, there is no relationship between their primary mode of transportation and, c_1) income level, and c_2) type of housing.

Hypothesis 2. -- c_1) by income level. The null hypothesis was not rejected at the .05 level of significance. Therefore, among noncar owners, there is no relationship between their primary mode of transportation and income level. Among lower income respondents ($2,000-5,999), walking, private assistance, and public transportation were all, equally, the primary modes of transportation. The reason why there was no relationship between the primary mode of transportation and income level was either that there was, in fact, no relationship or the sample size was insufficient among the higher income category.

Hypothesis 2. -- c_2) by type of housing. The null hypothesis was not rejected at the .05 level of significance. Therefore, among noncar owners, there is no relationship between their primary mode of transportation and type of housing. The respondents in mobile homes and single family houses constituted too small a sample size to include in this test. The respondents in the hotel depended on walking as the primary mode of transportation because of the location of the hotel.

Hypothesis 3. There is no difference in the reported health condition of senior citizens, when they are categorized by type of housing.

The null hypothesis was not rejected at the .05 level of significance. The respondents' reported health condition did not vary with their type of housing.

A Discussion of the Limitations of the Findings and the Reliability of the Instruments

A total of 67 households (93 respondents) in five different types of housing were interviewed for the purpose of this study. However, this sample size was too small for the researcher to undertake the proposed, detailed analysis. Specifically, although the possible range of data was divided into many classes for the survey (e.g., classes of the respondents' income level of $2,000-3,999, $4,000-5,999), these classes were combined for the analysis (e.g., income levels of $2,000-5,999 etc.).

Only five respondents living in the hotel were interviewed. The remaining 13 prospective respondents in hotels were hospitalized, deceased, or refused to be interviewed. Consequently, there were insufficient data relating to the hotel group to analyze their type of housing through contingency tables.

To test hypotheses, the Chi-squared test for independence

was utilized. When the calculated values of statistics were close to their critical values and expected calculated values were too small (< 1), the result was equivocal. The result was unequivocal when the calculated values of statistics were far from their critical values and expected calculated values were small (< 1).

To measure the respondents' health condition, a self-rating health scale ranging between very good and very poor was utilized. There were no differences in the reported health condition among the respondents at the .05 level of significance, when they were categorized by type of housing, sex, and household composition (see Appendix B). There may have been no differences in the respondents' health condition, or self-rated health may have misclassified substantial numbers of cases even at the "good-poor" level of precision, although it (self-rated health) was a reasonably good predictor of clinical health (51:91).

To measure the use of community facilities, a frequency scale was utilized. However, the maximum discrimination could not be obtained because of the sample size. Some alternatives to this measurement could be considered: for instance, 1) rank of importance among the selected community facilities, and 2) critical distance and desirable distance from the respondents' residence to each facility (37:128).

Conclusions

When the respondents are stratified into five types of housing, the following conclusions can be drawn according to the common characteristics of the respondents in each type of housing.

The respondents in mobile homes and single family houses were in the "young"aged group (65-74), and the respondents in apartments and the retirement housing were in the "middle" aged group (75-84), whereas the respondents in the hotel were close to the "mature" aged group (85 and over).

In the case of the respondents in single family houses, not many years have passed since their retirement. They, 14 out of 16 households, still lived in single family houses with spouses, and maintained a middle-age life style. The major factor which limited the independent living of the single family house group was the need to maintain a house and a yard. They may have the potentiality to change their housing to reduce their responsibilities in maintaining a house and a yard.

The respondents in mobile homes had similar characteristics to those in single family houses, but they had lower socio-economic status in terms of income, occupational, and educational levels than the respondents in single family houses. After retirement, the majority of the respondents in mobile homes had moved to their

present housing, mainly (1) to have more economical housing, (2) to reduce responsibilities of maintaining a house, and (3) to be near their children in the community. By this change of residence in the earlier stage of retirement, they could keep living actively and independently with fewer problems and less help from others.

The majority of the respondents in the hotel, the retirement housing, and apartments were at the stage of widowhood. The respondents had many characteristics in common. All of the respondents in the hotel, and in the retirement housing, and 75 percent of the respondents in apartments had moved to their present housing after retirement. The respondents in these three types of housing had moved to their present housing when they were between 76 and 78 years old. In other words, for the respondents in these housing groups, the earlier "middle" aged stage was the time when they were most likely to change their housing. Because of their health condition, they had the common difficulties in performing the household activities of house cleaning, shopping, and laundering. All of the respondents in the retirement housing and the hotel and 60 percent of the respondents in apartments received some help from persons outside their own households with house cleaning, providing transportation, and shopping. These respondents tended to receive such help with these household and daily living activities from their relatives, friends in the community and hired persons. The primary means of

transportation was walking for the respondents in the hotel and apartments. They selected their present housing in order to gain easier access to community services and facilities. The primary means of transportation for the respondents in the retirement housing was private assistance from relatives and friends. The respondents in the retirement housing selected their present housing in order to be close to their children in the community. These respondents had frequent contact with their children not only to fulfill their psychological needs but also to obtain help. They were the least independent group among all the five groups. The respondents in the hotel who reported their incomes were economically less wealthy than the respondents in the other housing groups. They were more likely to be independent and self-contained compared to the respondents in the apartment and the retirement housing groups.

Thus, each stage of the human life cycle and different aged groups within the age span of 65 and over had distinctive implications for an individual's residential needs and an individual's necessity of supportive services in relation to the degree of his independency.

From observations made in this study, it seemed that supportive services comprising transportation and homemaker services, which included house cleaning, meal service, shopping, and yard work, were necessary for the elderly. However, in this study, the respondents tended to fulfill these needs for services with the help

of their children, relatives, neighbors and hired people rather than use social organizations and agencies. The possible reasons for this phenomenon were: 1) that the elderly in Corvallis did not rely on community services, in general, and 2) that the respondents in this study consisted of the specific segment of the elderly population in Corvallis which did not depend on community services. The possible bases for case 2) were: a) that the respondents were independent enough to function with little help from outside their own households; b) that the respondents were wealthy enough to hire people; c) that the respondents preferred to rely on their children, relatives and friends; and d) that they did not have sufficient information on these services available for the elderly. Particularly, the results indicated that the respondents were inclined to depend on their children and relatives. Therefore, these results did not support the concept that the elderly are reluctant to become a burden on others.

Considering the respondents who are less independent, what will happen to them when they can no longer obtain help from their children, relatives and friends? Considering the respondents who are relatively independent, what will happen to them when they reach the stage at which they can no longer function without a lot of help from children, relatives, friends, and organized social services? However, this study did not identify those environmental factors which hindered the respondents' access to community services.

In this study, problems of transportation and shopping were the crucial factors which limited the respondents' independent living. Car ownership was significantly related to income level, type of housing, and age. The transportation- disadvantaged were likely to be economically disadvantaged as well. The incidence of reported shopping problems was not incompatible with the incidence of reported transportation problems. When the respondents were asked to indicate the transportation needs in Corvallis in the future, their future needs were: 1) to expand city bus routes (22 households), 2) to operate senior citizens buses more frequently both day and night and seven days per week (14 households), and 3) to take the elderly's physical limitations into consideration in the design features of transportation (4 households).

Since the use of community services by the elderly was limited in this study, the results did not support the gerontological theory community services are essential in preserving the independence of the elderly for as long as possible.

Therefore, it is difficult to give an affirmative and a clear answer to the question "Do community services enable many of the aged to maintain independent living?" However, it seemed to the researcher that community services were essential in postponing the premature institutionalization of the elderly, because the respondents in the retirement housing, apartments and the hotel showed a

negative attitude toward the possibility that their next potential change of residence might be into an institutional setting.

Suggestions for Further Research

Based on the methodology, analyses and findings, various suggestions for further research can be made.

1. In order to complete the suggested analyses in the proposed detail, it would be necessary to use a larger sample size in each type of housing.
2. In order to further examine the use of community services and facilities by senior citizens, samples of senior citizens in Corvallis could be stratified in ways other than by type of housing: for example, by socio-economic status, life cycle, living arrangement, and physical condition.
3. In order to examine if community services, particularly supportive services, enable the elderly to maintain independent living in their own homes, the elderly population can be divided into two subgroups: 1) an (experimental) group that uses community services, and 2) a (control) group which does not use community services.
4. The housing needs in the community context could be identified in terms of different age groups, e.g., the

age groups of 65-74, 75-84, 85 and over.

5. The range of environmental situations which promote or hinder access to community services and facilities should be examined.

6. According to Tissue (51:93-94), a self-rating health scale, which was employed in this study, is not merely another measure of morale or self-image, but it represents a dependable and economical means to combine elements of functional capacity and evaluative response in a single measure. However, a self-rating health scale cannot be substituted for clinical examinations without introducing a substantial margin of error. For this reason, it seems advisable to suggest a certain selectivity in the use of a self-rating health scale in future research.

7. If this questionnaire is used again, it should be revised to include the following additional information concerning the respondents: the incidence of chronic conditions and physical limitations, the length of widowhood, motivations for changes of residence in relation to the life cycle, and the precise nature of kinship ties.

8. The study can be focused on only the transportation problems of the elderly. It appears from this study that the

transportation problems of the elderly provide an enormous area for further research.

9. It is necessary to more clearly identify and evaluate the major factors which enable the elderly to maintain independent living.

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APPENDICES

APPENDIX A. SUMMARY OF THE SAMPLE DATA

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
1. Number of households	67	16	15	15	16	5
2. Number of respondents	93	18	16	26	28	5
3. Number of males & females	M=31, F=62	M=6, F=12	M=2, F=14	M=11, F=15	M=12, F=16	F=5
4. Number in household						
One-person household	41	14	14	4	4	5
Two-person household	26	2	1	11	12	
5. Marital status (percent)						
Married	56	22	12	85	86	
Widowed	34	61	69	15	3	100
Single	8	6	19		11	
Divorced	2	11				
6. Age range in years	57-96	68-96	65-89	57-82	63-85	80-89
7. Mean age in years	76.1	81.2	79.2	72.2	73.5	84.0
8. Range in years of education	7-20	7-20	12-18	8-20	8-19	12-16
9. Mean years of education	13.8	14.4	14.4	11.9	15.1	13.4
10. Occupational level (percent)						
I. Professional	23	32	8	4	43	
II. Managerial	38	38	71	41	20	100
III. Clerical, technical	31	22	21	36	30	
IV. Skilled	4			14		
V. Unskilled	4	8		5	7	
11. Income range in dollars	2,000-40,000 and over	2,000-17,999	2,000-24,999	2,000-17,999	2,000-40,000 and over	2,000-3,999
12. Mean income in dollars	9,047	7,727	8,950	8,000	11,680	3,000
13. Mean years of retirement	9.3	12.5	10.8	8.1	7.4	15.0
14. Mean years of residence in present housing	10.4	4.6	7.3	4.5	24.0	7.7
15. Number of households changing residences after retirement	49	16	12	14	2	5

Continued

SUMMARY OF THE SAMPLE DATA--Continued

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
16. Most frequent reason for residential mobility after retirement	To be near children in the community	To be near children in the community	For convenience to community services and facilities	For more economical housing	Only two given. Frequency could not be computed	For convenience to community services and facilities
17. Percentage of respondents reporting either very good or good health conditions	69	83	69	73	57	60
18. Difficult household activities	Shopping House cleaning Laundering	Shopping House cleaning Laundering	Shopping House cleaning Laundering	Laundering Yard work	Shopping Yard work House cleaning	Shopping House cleaning Laundering
19. Number of households who get help with daily living activities	39	16	9	3	6	5
20. Three activities have help with	House cleaning Transportation Shopping	Meal service House cleaning Transportation	Transportation House cleaning Shopping	Transportation Yard work Shopping	Yard work Shopping Transportation	House cleaning Transportation Shopping
21. Two situations limiting independent living	Transportation Shopping	Shopping Transportation	Transportation Shopping	Shopping Transportation	Maintaining the yard Maintaining a house	Transportation Health condition
22. Number of households with cars	33	3	5	13	12	
23. Mean age of drivers in years	72.7	79.3	71.4	70.6	74.5	
24. Primary means of transportation among noncar owners	Walking	Private assistance	Walking	Public transportation	Public transportation	Walking

Continued

SUMMARY OF THE SAMPLE DATA--Continued

Item	Total	Retirement housing	Apartment	Mobile home	Single family house	Hotel
25. Number of households using delivery services	25	8	7	2	3	5
26. Number of households having children in the community	38	16	9	8	1	3
27. Number of households having other relatives in the community	10	1	1	4	4	
28. Rating of importance of children and relatives (percent)						
Very important	31	75	54			20
Important	31	13	13	80	25	20
Unimportant	38	12	33	20	75	60
29. Number of households meeting their friends more than once per week	61	15	14	14	14	4

APPENDIX B

Contingency Tables

Abbreviations
d.f. = degrees of freedom

Hypothesis 1. a) There is no difference in the use of community facilities among senior citizens, when they are categorized by type of housing.

1. Food markets and grocery stores.

Types of housing	Frequency of use	
	>1/week	= 1/week
Retirement housing	8	8
Apartment	4	11
Mobile home	12	3
Single family house	10	6
Hotel	2	3

d.f. = 4

Chi-squared values
Observed 9.69
Critical (.05) 9.49

2. Restaurants and Coffee Shops.

Types of housing	Frequency of use			
	>1/week	= 1/week	1-2/month	<1/month
Retirement housing	2	1	7	4
Apartment	4	2	8	
Mobile home	8	3	1	2
Single family house	4	1	8	3

d.f. 9

Chi-squared values
Observed 15.59
Critical (.05) 16.92
Critical (.10) 14.68

3. Clothes and shoe shops, and repair shops.

Types of housing	Frequency of use	
	1-2/month	<1/month
Retirement housing	1	14
Apartment	1	13
Mobile home	2	13
Single family house	2	14

d.f. = 3

Chi-squared values
Observed .62
Critical (.05) 7.81

4. Laundromats and dry cleaners.

Types of housing	Frequency of use	
	≥ 1/month	< 1/month
Retirement housing	2	11
Apartment	3	10
Mobile home	4	6
Single family house	1	10
Hotel	3	2

d.f. = 4

Chi-squared values
Observed 6.58
Critical (.05) 9.49

5. Barber shops and beauty shops.

Types of housing	Frequency of use		
	≥ 1/week	1-2/month	<1/month
Retirement housing	3	8	2
Apartment	5	5	2
Mobile home	2	5	6
Single family house	3	6	4

d.f. = 6

Chi-squared values
Observed 5.41
Critical (.05) 12.59

6. Churches.

Types of housing	Frequency of use	
	≥ 1/week	≤ 2/month
Retirement housing	8	3
Apartment	11	1
Mobile home	6	1
Single family house	6	2

d.f. = 3

Chi-squared values
Observed 1.71
Critical (.05) 7.81

8. Post offices.

Types of housing	Frequency of use	
	≥ 1/week	≤ 2/month
Retirement housing	16	
Apartment	9	6
Mobile home	5	10
Single family house	7	8
Hotel	5	

d.f. = 4

Chi-squared values
Observed 19.60
Critical (.05) 9.49

9. Banks.

Types of housing	Frequency of use	
	≥ 1/week	≤ 2/month
Retirement housing	2	14
Apartment	1	11
Mobile home	4	11
Single family house	5	10
Hotel		5

d.f. = 4

Chi-squared values
Observed 4.81
Critical (.05) 9.49

10. Gas stations.

Types of housing	Frequency of use	
	≥ 1/week	≤ 2/month
Retirement housing	1	2
Apartment	1	4
Mobile home	10	3
Single family house	5	7

d.f. = 3

Chi-squared values
Observed 6.25
Critical (.05) 7.81
Critical (.10) 6.25

Hypothesis 1. b) There is no difference in the use of community facilities among senior citizens, when they are categorized by type of transportation used b_1) among car owners and b_2) among noncar owners.

1. Food markets and grocery stores/noncar owners.

Types of transportation	Frequency of use	
	>1/week	≤1/week
By private assistance	2	12
By public transportation	1	5
By walking and/or cycling	5	2
By delivery service	2	5

d.f. = 3

Chi-squared values

Observed	7.75
Critical (.05)	7.81
Critical (.10)	6.25

2. Restaurants and coffee shops/noncar owners.

Types of transportation	Frequency of use	
	≥ 1/week	≤ 2/month
By private assistance	2	19
By public transportation	2	1
By walking and/or cycling	4	

d.f. = 2

Chi-squared values

Observed	16.21
Critical (.05)	5.99

3. Clothes and shoe shops and repair shops/car owners and noncar owners.

Types of transportation	Frequency of use	
	≥ 1/month	< 1/month
By car	4	27
By private assistance	1	13
By public transportation	1	13
By walking and/or cycling		4

d.f. = 3

Chi-squared values

Observed	0.96
Critical (.05)	7.81

5. Barber shops and beauty shops/car owners.

Types of transportation	Frequency of use		
	≥ 1/week	1-2/month	< 1/month
By car	7	5	8
By walking and/or cycling	1	3	1

d.f. = 4

Chi-squared values

Observed	4.02
Critical (.05)	9.49

5. Barber shops and beauty shops/noncar owners.

Types of transportation	Frequency of use	
	≥ 1/week	≤ 2/month
By private assistance	1	3
By public transportation	2	10
By walking and/or cycling	4	8

d.f. = 2

Chi-squared values

Observed	0.89
Critical (.05)	5.99

6. Churches/noncar owners.

Types of transportation	Frequency of use	
	≥ 1/week	≤ 2/month
By private assistance	8	2
By walking and/or cycling	9	2

d.f. = 1

Chi-squared values

Observed	0.13
Critical (.05)	3.84

7. Medical services/car owners and noncar owners.

Types of transportation	Frequency of use	
	≥ 1/month	< 1/month
By car	4	24
By private assistance	1	11
By public transportation	1	11
By walking and/or cycling		12

d.f. = 3

Chi-squared values

Observed	1.93
Critical (.05)	7.81

8. Post offices/car owners.

Types of transportation	Frequency of use		
	≥ 1/week	1-2/month	<1/month
By car	5	11	5
By walking and/or cycling	8	3	

d.f. = 2

Chi-squared values

Observed	7.77
Critical (.05)	5.99

9. Banks/noncar owners.

Types of transportation	Frequency of use	
	≥ 1/week	≤ 2/month
By private assistance		7
By public transportation	1	14
By walking and/or cycling	1	7

d.f. = 2

Chi-squared values

Observed	1.07
Critical (.05)	5.99

Hypothesis 1. c) There is no difference in the use of community facilities among senior citizens, when they are categorized by income level.

1. Food markets and grocery stores.

Income level (in thousands)	Frequency of use	
	>1/week	≤ 1/week
$2-3.99	3	8
$4-5.99	4	5
$6-7.99	5	3
$8-9.99	6	1
$10-13.99	6	4
$14 and over	5	3

d. f. = 5

Chi-squared values

Observed	6.92
Critical (.05)	11.07

2. Restaurants and coffee shops.

Income level (in thousands)	Frequency of use			
	>1/week	= 1/week	1-2/month	< 1/month
$2-5.99	5	2	7	3
$6-9.99	7	1	7	1
$10 and over	4	4	4	4

d. f. = 6

Chi-squared values

Observed	5.68
Critical (.05)	12.59

3. Clothes and shoe shops, and repair shops.

Income level (in thousands)	Frequency of use	
	≥ 1/month	<1/month
$2-5.99	1	17
$6-9.99	2	14
$10 and over	3	13

d. f. = 2

Chi-squared values

Observed	1.48
Critical (.05)	5.99

4. Laundromats and dry cleaners.

Income level (in thousands)	Frequency of use		
	= 1/week	1-2/month	< 1/month
$2-5.99	2	1	10
$6-9.99	1	2	11
$10 and over		3	9

d. f. = 4

Chi-squared values

Observed	3.24
Critical (.05)	9.49

5. Barber shops and beauty shops.

d. f. = 10

Income level (in thousands)	Frequency of use		
	≥ 1/week	1-2/month	< 1/month
$2-3.99	3	2	2
$4-5.99		5	3
$6-7.99	3	3	2
$8-9.99	4	1	1
$10-13.99	1	5	4
$14 and over	1	2	

Chi-squared values	
Observed	11.83
Critical (.05)	18.31

6. Churches.

d. f. = 2

Income level (in thousands)	Frequency of use	
	≥1/week	≤2/month
$2-5.99	12	3
$6-9.99	7	2
$10 and over	4	2

Chi-squared values	
Observed	0.45
Critical (.05)	5.99

7. Medical services.

d. f. = 2

Income level (in thousands)	Frequency of use	
	≥1/month	< 1/month
$2-5.99	1	17
$6-9.99	2	14
$10 and over	1	15

Chi-squared values	
Observed	0.61
Critical (.05)	5.99

8. Post offices.

d. f. = 6

Income level (in thousands)	Frequency of use		
	≥1/week	1-2/month	<1/month
$2-3.99	8	2	1
$4-7.99	10	4	3
$8-11.99	6	4	2
$12 and over	5	5	2

Chi-squared values	
Observed	2.77
Critical (.05)	12.59

9. Banks.

d. f. = 4

Income level (in thousands)	Frequency of use	
	≥1/week	≤2/month
$2-5.99	1	17
$6-9.99	4	11
$10 and over	7	10

Chi-squared values	
Observed	6.05
Critical (.05)	9.49

10. Gas Stations.

d. f. = 2

Income level (in thousands)	Frequency of use	
	≥1/week	≤2/month
$2-5.99	2	3
$6-11.99	10	3
$12 and over	4	7

Chi-squared values	
Observed	4.43
Critical (.05)	5.99

Hypothesis 2. a) There is no relationship between car ownership by senior citizens and, a_1) income level, and a_2) type of housing.

(a_1)

Income level (in thousands)	Car ownership	
	Car owners	Noncar owners
$2-5.99	5	15
$6-9.99	9	6
$10 and over	15	3

d.f. = 2

Chi-squared values

Observed	13.12
Critical (.05)	5.99

(a_2)

Car ownership	Types of housing				
	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Car owners	3	5	13	12	
Noncar owners	13	10	2	4	5

d.f. = 4

Chi-squared values

Observed	25.12
Critical (.05)	9.49

Hypothesis 2. b) Among car owners, there is no relationship between mode of transportation used and, b_1) income level, and b_2) type of housing.

(b_1)

Income level (in thousands)	Frequency of use		
	Personal car only	C > P [1/]	C > S [2/]
$2-5.99		4	1
$6-9.99	4	2	2
$10 and over	2	1	12

d.f. = 4

Chi-squared values

Observed	16.99
Critical (.05)	9.49

1/ Car is the primary and private assistance is the secondary means of transportation.

2/ Car is the primary and walking and/or cycling is the secondary.

(b_2)

Modes of transportation	Types of housing				
	Retirement housing	Apartment	Mobile home	Single family house	Hotel
Car only			6	1	
C > P		2	4	1	
C > S	3	3	3	9	
S > C				1	

d.f. = 9

Chi-squared values

Observed	14.72
Critical (.05)	16.92

Hypothesis 2. c) Among noncar owners, there is no relationship between their primary mode of transportation used and, c_1) income level, c_2) type of housing.

(c_1)

	The primary mode of transportation		
Income (in thousands)	Walking and/ or cycling	Private assistance	Public transportation
$2-5.99	5	5	5
$6-9.99	2	1	3
$10 and over	2		1

d.f. = 4

Chi-squared values
Observed 2.74
Critical (.05) 9.49

(c_2)

	Types of housing		
The primary mode of transportation	Retirement housing	Apartment	Hotel
Walking and/ or cycling	4	5	5
Private assistance	5	4	
Public transportation	4	1	

d.f. = 4

Chi-squared values
Observed 7.93
Critical (.05) 9.49

Hypothesis 3. There is no difference in the reported health condition of senior citizens, when they are categorized by type of housing.

	Health scale		
Types of housing	Very good	Good	Fair/poor
Retirement housing	12	3	3
Apartment	7	4	5
Mobile home	15	4	7
Single family house	9	7	12
Hotel	3		2

d.f. = 8

Chi-squared values
Observed 8.0
Critical (.05) 15.51

Additional Tests

1. There is no difference in the reported health conditions of senior citizens, when they are categorized by sex and household composition.

	A health scale			
Sex	Very good	Good	Fair	Poor
Males	12	7	11	1
Females	34	11	14	3

d.f. = 3

Chi-squared values
Observed 2.80
Critical (.05) 7.81

	A health scale			
Household composition	Very good	Good	Fair	Poor
One-person household	22	8	8	3
Two-person household	24	10	17	1

d.f. = 3

Chi-squared values
Observed 3.16
Critical (.05) 7.81

2. There is no difference in the senior citizens' relationship with relatives in the community by type of housing.

	Frequency of meeting			
Types of housing	≥1/week	1-2/week	<1/month	Never
Retirement housing	12	1		3
Apartment	9	1		5
Mobile home	9		3	3
Single family house	3		1	12
Hotel	2		1	2

d.f. = 12

Chi-squared values
Observed 28.18
Critical (.05) 21.03

3. There is no difference in rating of the importance of meeting relatives among senior citizens, when they are categorized by type of housing.

	Rating of importance		
Types of housing	Very important	Important	Unimportant
Retirement housing	12	2	2
Apartment	8	2	5
Mobile home		12	3
Single family house		4	12
Hotel	1	1	3

d.f. = 8

Chi-squared values
Observed 37.95
Critical (.05) 15.51

4. There is no difference in the senior citizens' relationship with friends by type of housing.

d.f. = 8

Types of housing	Frequency of meeting >1/week	= 1/week	1-2/month
Retirement housing	15		1
Apartment	10	4	1
Mobile home	11	3	1
Single family house	12	2	2
Hotel	2	2	1

Chi-squared values	
Observed	8.22
Critical (.05)	15.51

5. There is no difference in the most frequent reasons for the senior citizens' residential mobility after retirement, by type of housing.

d.f. = 12

Reasons	Types of housing: Retirement housing	Apartment	Mobile home	Hotel
To be near children in the community	10	3	7	2
To reduce responsibilities in maintaining a home	6	5	7	3
For convenience to community services and facilities	4	8	1	4
For security	4	5	3	1
For more economical housing	1	1	8	

Chi-squared values	
Observed	24.57
Critical (.05)	21.03

APPENDIX C

INTERVIEW

No. _____Date_____ Time started _____ Ended_____ Total_____

Demography:

1. Sex and marital status: (check)
   ___Married couple, ____Single male, _____Single female,
   ___Widow, ____Widower, _____Divorce, _____Divorcée
2. Age at last birthday: M_____ F_____ years old
3. How many people are in your household? (list and give ages as well.)
   Number_____
   _____
   _____
4. What is the highest level of education completed?
   M_____ F_____
5. What was your major occupation before retirement?
   M_____
   F_____
6. How long have you been retired?
   M_____ F_____ Years
7. (Show card A with following information, then record answer.)
   Please select the number that best describes your income from all sources last year for 1973 before taxes.

   ____1. Under $2,000.00
   ____2. $ 2,000.00- 3,999.00
   ____3. $ 4,000.00- 5,999.00
   ____4. $ 6,000.00- 7,999.00
   ____5. $ 8,000.00- 9,999.00
   ____6. $10,000.00-11,999.00
   ____7. $12,000.00-13,999.00
   ____8. $14,000.00-15,999.00
   ____ 9. $16,000.00-17,999.00
   ____10. $18,000.00-19,999.00
   ____11. $20,000.00-24,999.00
   ____12. $25,000.00-29,999.00
   ____13. $30,000.00-34,999.00
   ____14. $35,000.00-39,999.00
   ____15. $40,000.00 and over

8. Check type of housing
   ____1. Single family house
   ____2. Apartment
   ____3. Mobile home
   ____4. Hotel
   ____5. Retirement housing
9. Do you own or rent this housing? _____own, _____rent
10. How long have you lived in your present housing? _____years
11. (If interviewee has not moved since retirement, skip to next question.)
    (Show card B with following information, then record answer.) If you have moved since you retired please tell me if any of the following were reasons why you moved to your present housing.

    ____1. For security.
    ____2. For convenience to community services and facilities.
    ____3. For more economical housing.
    ____4. To be near health services.
    ____5. To be near children in the community.
    ____6. To be near other relatives. (sisters, cousins, brothers)
    ____7. To be near friends.
    ____8. To reduce responsibilities in maintaining a home.
    ____9. To reduce loneliness.

12. If you have moved since you retired, what type of housing did you live in just prior to you moved to this house?

____1. Single family house
____2. Apartment
____3. Mobile home
____4. Hotel
____5. Other _____

13. (Show card C with the following information, then record answer.)

a. In general, how would you rate your health at present time? (circle)
Very good, Good, Fair, Poor, Very poor

b. Did you spend any days in bed because of a health condition during the past 12 months?
M F Yes, M F No

c. Health condition often influences your living independently. Does a health condition make any of the following difficult?

Usually	Sometimes	Never	Problems
_____	_____	_____1.	Shopping
_____	_____	_____2.	Personal care which includes dressing, shampooing, and taking a bath
_____	_____	_____3.	House cleaning
_____	_____	_____4.	Food preparation
_____	_____	_____5.	Laundering
_____	_____	_____6.	Yard work and gardening
_____	_____	_____7.	Driving
_____	_____	_____8.	Other _____

14. (Show card D, then record answer.)

Do you get any help with the following activities from persons outside your own household?

Regularly	Seldom	Never	
_____	_____	_____1.	Dressing, daily care of hair
_____	_____	_____2.	Home nursing
_____	_____	_____3.	House cleaning
_____	_____	_____4.	Meal service
_____	_____	_____5.	Shopping
_____	_____	_____6.	Telephone calling service
_____	_____	_____7.	Visiting service
_____	_____	_____8.	Transportation
_____	_____	_____9.	Yard work
_____	_____	_____10.	Cooking

16. To keep on living independently in your own house, what kinds of services or programs do you see need to be developed in the future? _____

_____

17. (Show card E with the following information, then record answer.)

a. Would you tell me if any of the following situations that make independent living difficult in your own household?

b. Out of those checked, rate the most difficult, the second most difficult.

Check	Rating	
_____	_____	1. Transportation
_____	_____	2. Doing homemaking
_____	_____	3. Maintaining a house
_____	_____	4. Shopping
_____	_____	5. Health condition
_____	_____	6. Economic situation
_____	_____	7. Feeling of insecurity

15. In communities, there are organizations and agencies that serve people 65 years old and over. I would like to talk to you about use of these in Corvallis.

List of agencies	1. If you know, check	2. Check the services you have used			3. Describe help received
		Regularly	Seldom	Never	
1. Altrusa Reassurance Service					
2. Benton County Economic Opportunity					
3. Benton County Home Health Agency					
4. Benton County Housing Authority (Albany)					
5. Benton County Public Welfare Department					
6. Corvallis Manor					
7. Corvallis Court Health-care, Inc.					
8. Dial-A-Bus					
9. Fish					
10. Meal services in Washington and Franklin Schools					
11. Olson Nursing Home					
12. Retired Senior Volunteer Program					
13. Senior Citizen Center of Corvallis					
14. Social Security Administration					
15. Nutrition for the Elderly in Corvallis					
16. Vista Program in Corvallis					
17. Other _____					

_____ _____ 8. Maintaining the yard

_____ _____ 9. Other _____

18. a. Are you considering plans to change your housing in the next two years?

_____Yes, _____No, _____Have not considered

b. If yes, what type of housing are you considering moving to?

_____

c. (Show card B with the following information, then record answer.)

If yes, please tell me if any of the following are reasons why you are considering plans to change your housing. _____

19. In this question, I am interested in a) how convenient, b) important it is for you to visit certain places and people, c) how often you usually get to each of these places and persons, and d) transportation availability.

	Food markets and grocery stores	Restaurants and coffee shops	Clothes and shoe shops	Clothes and shoes repair shops	Laundromats	Dry cleaners	Barber shops	Beauty shops	Churches	Senior citizen center	Recreational facilities	Visits to eye doctor physician dentist	Post offices	Banks	Gas stations	Close relatives list ____	Friends	Other community facilities
a)																		
b)																		
c)																		
d)																		

a) Rating of convenience (card F)
- very convenient 1
- convenient 2
- inconvenient 3

b) Rating of importance (card G)
- very important 1
- important 2
- unimportant 3

c) Frequency (card H)
- daily 1
- 4-6 times a week 2
- 2-3 times a week 3
- weekly 4
- twice a month 5
- monthly 6
- several times a year 7
- a few times a year 8
- never 9

d) Transportation (card I)
- personal car 1
- friends take me 2
- relative takes me 3
- taxi 4
- city bus 5
- dial-a-bus 6
- bicycle 7
- walk 8
- other 9

Do you own a car? M__ F__ Yes M___ F___ No
Do you drive your car? M___ F___ Yes M___ F___ No

Card A

7.

1. Under $2,000.00
2. $ 2,000.00-3,999.00
3. $ 4,000.00-5,999.00
4. $ 6,000.00-7,999.00
5. $ 8,000.00-9,999.00
6. $10,000.00-11,999.00
7. $12,000.00-13,999.00
8. $14,000.00-15,999.00
9. $16,000.00-17,999.00
10. $18,000.00-19,999.00
11. $20,000.00-24,999.00
12. $25,000.00-29,999.00
13. $30,000.00-34,999.00
14. $35,000.00-39,999.00
15. $40,000.00 and over

Card B

11, 18c)

1. For security
2. For convenience to community services and facilities
3. For more economical housing
4. To be near health services
5. To be near children in the community
6. To be near other relatives (brothers, sisters, cousins, etc.)
7. To be near friends
8. To reduce responsibilities in maintaining a home
9. To reduce loneliness

Card C a.

13, a,

Very good	Poor
Good	Very poor
Fair	

Card C b.

13. c.

Usually	Never
Sometimes	

Card D

14. 15-2.

Regularly	Never
Seldom	

Card E.

17a. Please check any of the following situations that make independent living difficult for you.

b. Out of those checked, rate the most difficult, the second most difficult.

Check	Rating		
_____	_____	1.	Transportation
_____	_____	2.	Doing homemaking
_____	_____	3.	Maintaining a house
_____	_____	4.	Shopping
_____	_____	5.	Health condition
_____	_____	6.	Economic situation
_____	_____	7.	Feeling of insecurity
_____	_____	8.	Maintaining the yard
_____	_____	9.	Other _____

Card F

20. a) Rating of convenience

Very convenient
Convenient
Inconvenient

Card G

20. b) Rating of importance

Very important
Important
Unimportant

Card H

20. C) Frequency

Daily	
4-6 times a week	Monthly
2-3 times a week	Several times a year
Weekly	A few times a year
Twice a month	Never

Card I

20. d) Transportation

Personal car	Dial-a-bus
Friends take me	Bicycle
Relative takes me	Walk
Taxi	Other
City bus	

APPENDIX D

OREGON STATE UNIVERSITY
School of Home Economics
Corvallis, Oregon 97331 (503) 754-3551)

Dear

I am a graduate student at Oregon State University working towards a master's degree in housing. As my thesis topic, I have chosen to study use of community services by senior citizens living in the five types of housing in Corvallis, Oregon. More information about the use of community services by senior citizens will be useful to groups working with them. Therefore, I would like to ask for your help in completing my study.

Your name was selected at random from the Corvallis City Directory to see if you would be willing and eligible to participate in the study. To participate, you must be living in your own household in Corvallis, Oregon and either a) 65 years old and over or b) retired from your major occupation. If you meet these stipulations, I hope that you will participate in the study.

I will contact you within the next few days. If you agree to be interviewed, I will make an appointment to meet you. Questions to be asked will be relating to your use of community services and general information about yourself. The information that is collected from the interviews will be compiled and used for statistical analyses only. No reference will be made to you by name or in any other way that could identify you.

After the study is completed, the completed thesis will be sent to the Kerr Library at Oregon State University. I hope you will consent to help me with my study.

Yours sincerely,

/s/ Nobuko Sudo, Graduate student

Approved:

/s/ Martha A. Plonk, Associate Professor
Home Management Department

/s/ Betty E. Hawthorne, Acting Head
Home Management Department

Informed Consent

Thank you for consenting to be interviewed. As I explained in my letter, this study will be used to investigate the relationship between use of community services by senior citizens and their different types of housing in which they live independently. The information I am collecting will be used for statistical purposes only and you will not be identified in any way in the study. The interview will consist of questions concerning your use of community services, plus some general questions about yourself. You do not have to answer any questions that you feel infringe upon your privacy.

If you have any questions about completing our interview, I will be happy to discuss them with you. You are also welcome to call my advisor, Dr. Martha A. Plonk, at Oregon State University, 754-1591, for further information.