Age, tenure, and housing satisfaction

by

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ABSTRACT

The purpose of the research proposed here is to examine the relationship between age and tenure type (ownership or rental) combined and housing satisfaction, controlling for income and health status. Two hypotheses are tested: (a) housing satisfaction is higher among the elderly than among younger respondents, and (b) homeowners are more satisfied with their housing than are renters. Four data sets are used and are analyzed separately. Three methods of analysis are used: frequency distributions, Pearson correlation coefficients, and multiple regression analysis.

The results for the four data sets suggest that younger renters tend to experience lower housing satisfaction than older renters and all home owners. Both home owners as a class and older people as a class have higher housing satisfaction than do young renters. The prediction that housing satisfaction would increase with age is not borne out by the results for home owners, but it does tend to be true for renters. The prediction that home ownership is preferred to rental is supported, but only by the younger portion of the sample.

CHAPTER I:

REVIEW OF THE LITERATURE

Encouraging older people to move from their homes to environments that better meet their needs can be a complex and delicate problem. Planning and developing such environments involve decisions on a bewildering array of alternatives. Both processes can be aided by knowledge about the housing satisfaction of older people.

The purpose of the research reported here is to examine the relationship between age and tenure type (ownership or rental) combined and housing satisfaction, controlling for income and health status. As background, findings in the literature concerning four variables will be discussed as they relate to housing satisfaction: (a) ownership or rental (tenure type), (b) age, (c) income, and (d) health. To understand these variables in context, it is important first to explore both the present housing situation of older people and the need for developing alternatives.

The Present Situation

Currently most elderly individuals live in single family dwellings they own (Atchley, 1980; Struyk, 1977a; Struyk, 1977b). These homes are likely to be older, lower

in value, and more dilapidated than housing for Americans in general (Atchley, 1980). According to figures from the first national Annual Housing Survey, these differences are small (Struyk, 1977b). Still, substantial minorities of elderly individuals have five or more "key indicator deficits," such as lack of plumbing facilities or inadequate heating facilities in their homes (Struyk, 1977b). In addition, older people in rural areas are likely to live in homes of lower quality than do their urban counterparts (Struyk, 1977b).

Related to housing conditions are housing costs. Using data from the 1974 Annual Housing Survey, Struyk (1977a) concluded that nearly twice as high a proportion of the elderly pay excessive percentages of their incomes for housing expenses as do Americans in general.

Setting 30 percent of an older householder's income as a reasonable upper limit for out-of-pocket housing expenses, Struyk (1977a) found that 29 percent of the elderly spend more than this percentage. Two groups are particularly disadvantaged: single individuals, 43 percent of whom spend more than 30 percent of their income on housing, and renters, half of whom spend more than that percentage. Conversely, only 19 percent of the rural elderly, 13 percent of homeowners without mortgages (a group comprising five-sixths of the elderly population), and 16 percent of

couples spend more than 30 percent of their income on housing. Large percentages of low income elderly individuals spend excessive amounts, particularly those making less than $4,000 annually (1.4 million households).

Even given the poorer conditions and larger burden of expense faced by some, most older people prefer to live independently (Atchley, 1980; Blackie, 1983; Shanas, 1980). Nelson and Winter (1975) found that only a change of major proportions could force the elderly out of their homes. Indeed, only ten percent live with someone under age 60 (Atchley, 1980). The likelihood that the older individual will do so, however, increases with age (Atchley & Miller, 1975).

Housing Alternatives

It is the increasing number of elderly individuals, particularly of those most likely to be frail, that makes housing for the elderly such an important field of study. There are eight times more people over age 65 in the United States today than there were in 1900; in comparison, the US population as a whole has tripled in that period (Soldo, 1980). Among the elderly population, it is the oldest group that is increasing at the fastest rate. While as a whole the number of older people increased 23 percent in the decade between 1970 and 1980, the number over age 85

increased 60 percent (Soldo, 1980). It is this last group which is most likely to be in need of intermediate housing that offers services and security, if they are to retain their independence.

While those age 65 and older made up four percent of the U.S. population in 1900 and 11 percent in 1980, they are expected to comprise around 18 percent of the population by the year 2030 (Soldo, 1980). Citing figures from the Health Care Financing Administration, Winklevoss and Powell (1984) note that the growth of the total population is predicted to be 40 percent in the years from 1980 to 2030. In that same period, the number of people age 65 and above is expected to double. Those aged 74 and over currently make up 38 percent of the elderly population; by 2030, they will make up 45 percent. The number of people who are 85 and older, now at two million, will triple to six million in that 50-year period. These figures dramatize the compelling need for new housing situations in which older individuals can receive the care they need while still maintaining as much as possible of the privacy and independence they desire.

The need for new housing alternatives is widely acknowledged (Atchley, 1980; Blackie, 1983; Nachison & Leeds, 1983; Winklevoss & Powell, 1984). Even though the housing situation of the elderly has improved greatly over the past 40 years (Nachison & Leeds, 1983; Winklevoss &

Powell, 1984), housing remains a problem, particularly for those with low to moderate incomes (Nachison & Leeds, 1983). This is especially true with recent cuts in public sector funding of housing for the elderly, which has resulted in the decline in new units and poorer conditions in the housing of older people (Blackie, 1983). The situation is exacerbated by the erosion of buying power due to inflation for those in their retirement years (Blackie, 1983).

The housing situation affects elderly individuals of higher economic status as well. Noting the increasing emphasis placed on retirement living today, Winklevoss and Powell (1984) observe:

> America's current system of housing and long-term care is being deeply affected by the speed with which these societal changes are occurring. The elderly are demanding higher quality service. They are better educated, longer living, more active, and better off financially than any elderly group before them (p. 4).

Yet, regardless of income level, there have been few alternatives between living at home and living in an institution (Winklevoss & Powell, 1984).

The number of older individuals needing special living arrangements is substantial. Brody (1981) estimates one-third of older people are in need of supportive services. Atchley (1980) reports on a study by the Better Housing League of Cincinnati, which found that:

> almost half of older Cincinnatians needed help in getting around and handling daily living tasks.

> This proportion went up as age increased (p. 321).

Nachison and Leeds (1983) conclude that the elderly person's distribution of needs shifts with age.

> Shelter comes to occupy a relatively small part of the individual's perception of need, while needs for supportive social and medical services increase substantially (p. 7).

Yet, independence is still of primary importance to the elderly.

New types of housing for the elderly are being developed and, while availability is limited in different areas of the country, the variety of housing alternatives is extensive. They cover all levels of service and care, with many different options at each level. Taken together they form a continuum of care that potentially could meet the needs of an elderly person in nearly any situation. These alternatives fall into four general categories: (a) in-home support services for older people still at home, (b) shared or group housing, (c) government-sponsored low-cost housing, and (d) planned retirement communities that may or may not include medical care.

Although not strictly a housing type, no discussion of the continuum of care is complete without the mention of in-home support services. These services form the simplest alternative, particularly for elderly individuals with slight disabilities, because they provide care without

requiring a move. While not available in all locations, overall there is a wide variety of possible services. They can range from shopping escort service or mailing letters to 24-hour nursing care (Nachison & Leeds, 1983). Meals may be provided. Handyman services help with minor repairs. Aides do housekeeping and assist in personal care. Visiting nurses give nursing care in the home. Day care and respite services provide needed relief for family members. Unless the individual is quite ill, these in-home services are less costly than institutionalization (Soldo, 1980). They are also less expensive than government housing programs (O'Bryant, 1983). While there is some difficulty with overlapping and conflicting services (Nachison & Leeds, 1983), Atchley (1980) believes that increases in the very old population will result in "increases in the need for in-home services to semi-independent households" (p. 321).

For elderly people who can no longer live alone, shared or group housing may be a viable alternative (Brody, Kleban, & Liebowitz, 1975). Blackie (1983) describes shared housing as:

> a situation in which at least two unrelated persons live together in a dwelling unit, where at least one is over sixty years of age, and each has a private space and shares common areas such as kitchen, living room, and dining room (p. 79).

Ownership arrangements and division of private space vary.

Help with household chores may be hired or the tasks may be divided among residents. In their study of one such set of housing units, Brody et al., (1975) concluded that those who moved into shared housing fared better than either those who did not move or those who moved to other housing situations. One very attractive feature is the relatively low cost of such housing to the individual (Brody et al., 1975).

For some low income people, government housing provides another desirable alternative. Carp's (1975) Victoria Plaza residents rated their housing higher and were in better health (Carp, 1977) than non-movers, even after eight years of residency. With current reductions in government subsidies for low-income housing, however, there has been a decline in such units (Blackie, 1983). Further, this option is not widely available, especially in rural areas, where many of the elderly reside (Atchley & Miller, 1975).

Finally, planned retirement communities offer a wide variety of housing and tenure types, financial arrangements, levels of planned activities, and, in many cases, medical care. Individual communities tend to be homogeneous by age, social class, and racial or ethnic background (Atchley, 1980). This option is quite satisfactory for those who prefer the life style they offer

(Atchley, 1980; Bultena & Wood, 1969; Hamovitch & Peterson, 1969). While they exist for people at most points of the social spectrum, they tend to be primarily for the more affluent (Atchley, 1980), and as such, are not usually an option for those with limited economic resources.

In sum, the housing situations of elderly Americans are in a state of change. Because people are living so much longer, there is a dramatic increase in the population of elderly individuals, particularly of the frail elderly. This increase is expected to continue. At the same time, the elderly as a group prefer to retain their independence and privacy for as long as possible. Many housing and support service options are being developed to help them accomplish this goal. The array of possibilities is extensive, and the development of options is proceeding rapidly. To aid in the future development of such alternatives, it is important to know about housing satisfaction among the elderly.

Variables Included in the Study

Housing Satisfaction

The importance of housing satisfaction to an individual's overall life satisfaction has been clearly established. Campbell, Converse, and Rogers (1976), in

their extensive research on the quality of American life, found that satisfaction with housing, neighborhood, and community are positively related both to life satisfaction in general and to satisfaction in other major areas of life. In a study of low-income housing residents, Noelker and Harel (1981) concluded that:

> residents who perceived the housing estate and surrounding neighborhood more positively and who preferred to continue living there had higher levels of morale (p. 21).

Other writers note the importance of housing to the individual. The results of Angrist's (1974) study of the well-being of public housing families indicate that an individual's perception of his or her housing and neighborhood are important to his or her well-being. Housing is a "multi-purpose envelope of much human activity" (Hempel & Tucker, 1979, p. 410). It is "integral to the individual's sense of place in the world" (Fried, 1982, p. 107).

While Nachison and Leeds (1983) feel housing plays a less important role in the individual's distribution of needs with age, most writers believe housing takes on added significance for the elderly (Atchley, 1980; Carp, 1976; Montgomery, 1972; O'Bryant, 1983). The space within an individual's home becomes more important with age because limitations due to health and income so restrict the environment (Carp, 1976; O'Bryant, 1983). "Housing is

often a major variable, physically, socially, and psychologically in the lives of older persons" (Montgomery, 1972, p. 37). It is also a key feature in the relationship of the older individual to the community (Atchley, 1980).

Concerning the importance of home to the older person, Carp (1976) writes:

> Conceptual models which summarize research on person-environment interaction suggest that the older person is more critically affected by the living environment than is the young person and that with increasing age, living environments should be increasingly supportive (p. 264).

Quoting from the Proceedings of the 1971 White House Conference on Aging, Carp (1976) observes that aside from one's spouse, "housing is probably the single most important element in the life of an older person" (p. 244).

Because housing is so important, understanding the components of housing satisfaction is vital. Such knowledge aids in the planning of services and of housing for the elderly, making their housing options more viable. Further, it reduces the likelihood of error in choosing new housing.

> Because of the overwhelming importance of home to the older person, a mis-move can have pervasive and enduring negative consequences (Carp, 1976, p. 266).

In studying housing satisfaction, many researchers have noted the importance of the fit between the needs and preferences and the actual housing of the individual

(Atchley, 1980; Campbell et al., 1976; Golant, 1982; Morris & Winter, 1978; Nelson & Winter, 1975). It is the evaluation of that fit by which the individual determines whether his or her housing is satisfactory. The person's needs are to a large degree determined by norms, guidelines for appropriate behavior which are shared by members of a society and exist for all social situations, including housing (Tremblay, 1981).

Morris and Winter (1978) have proposed a model of housing adjustment which takes these factors into account. In this model, families are said to have certain norms that govern their housing behavior. These are a combination of the norms for the culture as a whole and the specific norms of the family, weighted according to the relative importance to the family on any given attribute of housing. They prescribe the kind of housing that is acceptable for the family at their stage of the life cycle. The family would tend to be dissatisfied with housing that is not in accordance with the norms, and will attempt to rectify the situation by moving, altering their existing housing, or adjusting their norms. The alternative chosen depends on the constraints the family faces, including external constraints such as discrimination, income, market factors, and satisfaction with other aspects of their present dwelling.

The housing of elderly individuals often ceases to meet their needs when those individuals become frail or their health deteriorates. Such people frequently are moving from normative housing--a single family, detached house that is owner-occupied (Tremblay, 1981)--as their level of functioning declines, resulting in an inability to care for themselves in that environment (Lareau, 1982). Lareau believes that older people:

> who relocate to housing which matches their norms will fare better than those who relocate to housing which does not match their norms (p. 9).

Ownership

Home ownership is widely acknowledged as a very important housing norm (Morris & Winter, 1978; Tremblay, 1981). Home owners were reported to be considerably higher in housing satisfaction than renters in Campbell, Converse, and Rogers' (1976) study of the quality of American life. Speare (1974) notes that owners ranked significantly higher on residential satisfaction than did renters. In a nationwide sample of over 2600 people, Fried (1982) found ownership to be "among the strongest predictors of residential satisfaction" (p. 117).

Morris, Crull, and Winter (1976) studied the relationship of housing norms and satisfaction to propensity to move. They report renting while wishing to

own to be negatively related to housing satisfaction. Tremblay's (1981) study of four housing norms showed two of them--home ownership and living in a single-family dwelling--to be the strongest of the four norms tested.

In Golant's (1982) study of individual differences in housing satisfaction of the elderly, there was a positive correlation between ownership and housing satisfaction. He speculates that renters are less satisfied because so much about their dwelling is beyond their control and because rental housing overall may be of lower quality than owner-occupied housing.

Home ownership has both advantages and disadvantages for older people. Carp (1976) lists as advantages the rent-free housing of elderly homeowners and their independence. But she notes they also must carry the burden of maintenance, which is a particular problem for those with reduced financial or physical resources. Chen (1970) feels pride in housing and economic security are advantages of home ownership for the elderly. Security is a result of the equity that has been built up in the home and the low-rent or rent-free nature of owner-occupied housing with no mortgage. Disadvantages include the physical and/or financial burden of maintenance, too much space, and the possibility of high property taxes.

In fact, there is some evidence that ownership may not

be as attractive to the elderly as it is to younger people. Dillman, Tremblay, and Dillman (1979) studied the influence of housing norms and personal characteristics on housing preferences. Their results indicate that preference for single-family home ownership is very strong, regardless of the respondent's current tenure status. However, preference for this housing type declines with age, beginning with those in the 45-54 age group. The authors suggest that the need to conform to norms declines as age increases. In an examination of retirement communities, Sherman (1972) reports some resistance to home ownership among respondents. Her findings indicate that some older people feel it is better not to buy a house if one is moving late in life.

Home ownership is clearly a strong housing norm in our society, and is just as clearly correlated with housing satisfaction. Still, while the elderly tend to be homeowners, there is some indication that this status holds difficulties for them not present for younger homeowners. These disadvantages may be salient enough to lower the preference of older groups for home ownership.

Age

Research on housing satisfaction suggests it varies with age. In studies across age groups, satisfaction with

housing increasingly is higher for successively older groups (Angrist, 1974; Campbell et al., 1976; Galster & Hesser, 1981; Speare, 1970; Winter & Morris, 1979).

Campbell and his colleagues (1976) found a strong, linear relationship between age and housing satisfaction, with the aged showing remarkably high levels of satisfaction. In their study, age accounts for six times more variance in housing satisfaction than does income. They suggest these differences may be due to objective differences in quality--that older people actually do live in better housing and have more space per person than do younger people. The conclusion may be valid for their sample, but it is in direct contradiction to most findings that housing for the elderly is somewhat poorer in quality than that for the population as a whole (Atchley, 1980; Atchley & Miller, 1975; Struyk, 1977b).

In a longitudinal study of Rhode Island residents carried out between 1948 and 1967, Speare (1970) found residential mobility to be negatively correlated with age. Later research on mobility showed a positive correlation between age and the intervening variable housing satisfaction (Speare, 1974). Similarly, Winter and Morris (1979) in their discussion of satisfaction as an intervening variable, show a positive relationship between age and housing satisfaction.

Findlay and Morris (1977) noted that age is positively related to housing satisfaction in their examination of housing needs of 1500 older Minnesotans. They offer two explanations: 1) The individual makes decreasing demands on the environment with age and so is more easily satisfied. 2) The finding represents an age difference rather than an age change, an explanation which suggests that older cohorts are more satisfied because of their place in history rather than because one tends to profess more housing satisfaction as one gets older. Because no younger people were included in this study, these conclusions were drawn on a sample aged 65 and above.

Writing on the dimensions of well-being of public housing families, Angrist (1974) tested the correlations of several variables with five measures of well-being. Of the demographic variables explored, only age was related to livability. That is to say, "older tenants appear to find living conditions more tolerable than do younger families" (p. 512). Angrist surmises:

> Age may reflect the lower expectations characteristic of the poor of earlier generations, or the fact that elderly no longer need to worry about providing for children (p. 512).

Galster and Hesser (1981) tested age in their development of an explanatory model of residential satisfaction. They discovered that younger residents

consistently showed less satisfaction due to "different needs, aspirations, and/or abilities to alter their context" (p. 752). They concluded that "different household types differentially evaluate and/or adapt to similar contextual incongruities" (p. 752).

In his discussion of residential satisfaction, Fried (1982) comments that most people probably become desensitized to sources of dissatisfaction. He also points out that self-selection is at work in the study of housing satisfaction because those who stay are willing to put up with things they find dissatisfying. As noted earlier, Nachison and Leeds (1983) believe that within the scheme of needs of the elderly, other concerns have become so important that housing needs take a less important role.

Thus, while housing satisfaction is clearly correlated with age, the reasons for this relationship are unclear. Because most of the studies are cross-sectional, it is impossible to tell how (or whether) housing satisfaction changes over time. It is doubtful, however, that the higher satisfaction of older people is due to their having better quality housing. Not only does their housing tend to be of poorer quality than that of the population as a whole, but they also tend to respond more favorably than younger people to the same conditions.

Three explanations seem likely. The first is that

housing satisfaction actually does change with age, possibly because as they get older, people are more likely to have obtained satisfactory housing. Such change also may be due to the concerns of the elderly being so altered that housing becomes less important in the scheme of things. The latter explanation, however, is in direct contradiction to the conclusions of Carp (1976) and others as to the importance of housing in the lives of the elderly.

The second explanation has to do with age differences rather than age changes. While people may be expected to change as they age, there also may be differences between age groups that are not a part of the aging process. These differences are caused by other influences, and include period and cohort effects. A period effect is the impact a particular period of history has on the people who live through it. A cohort effect is the impact of external events, happening during their lifetimes, on people of the same cohort (or age group). Having been through more difficult times, older cohorts may tend to be more easily satisfied than younger people raised in a more affluent era. The observed differences among age groups, then, would be due to both period and cohort effects. Third, older people may simply be more likely to respond to survey researchers in a positive manner than are their younger

counterparts. Whatever the reason, age is clearly related to housing satisfaction.

In their model of housing adjustment, Morris and Winter (1978) observe that the individual's ability to obtain normative housing is in part affected by the constraints faced. Two constraints that are particularly salient for the elderly are income and health.

Income

Income is associated with housing satisfaction. It functions primarily as a constraint preventing the individual from obtaining more normative housing. Doling (1976) examined the relationship between housing and the family life cycle and concluded that housing size may be a function of income rather than family size.

> Although space is undoubtedly influenced by their changed family structure, the factor which allows them to act in the market appears to be that of increased wealth (p. 56).

Winter and Morris (1979), using data from the Omaha area, reported a positive relationship between income and housing satisfaction. Similarly, in Speare's (1974) study of residential satisfaction as an intervening variable, income was observed to have a small but significant correlation to housing satisfaction.

Higher social class, which is closely tied to income, correlated positively with higher housing satisfaction in

Fried's (1982) study of sources of residential and community satisfaction. He suggests this difference is largely due to objective differences in the residence environment. When social class is controlled, residential quality is "the strongest variable in accounting for residential satisfaction" (p. 113). Thus, it is the economic ability of those in a higher social class to obtain satisfactory housing that leads to higher residential satisfaction.

Dillman, Tremblay, and Dillman (1979) noted income correlated positively with ownership of a single family dwelling. Ownership of a single family dwelling, for younger people at least, is related to a high degree of housing satisfaction (Morris & Winter, 1978; Tremblay, 1981; Campbell et al., 1976).

Campbell et al. (1976) observed a tendency of homeowners in more expensive homes to be more satisfied with their housing than those in less expensive homes. At the same time, a slight trend for renters paying higher rents to be more satisfied with their housing was too weak to be taken seriously.

The objective quality of a housing unit, however, often does not merit the degree of the occupants' housing satisfaction (Golant, 1982; O'Bryant, 1983). Morris, Crull, and Winter (1976) suggest that those with lower

incomes may have become better at handling residential dissatisfaction at a psychological level.

Overall, the literature indicates a relationship exists between income and housing satisfaction. It functions primarily as a constraint, preventing people from obtaining the housing they want. This relationship is further complicated by the individual's own degree of tolerance for a less-than-satisfactory situation.

The elderly form a special group in terms of the relationship between housing and income as they are likely to have suffered a drop in income at retirement. Many elderly people have better housing than would be predicted from their current income level because they acquired it before retirement. Thus, they often have housing that is exceptional for their economic level (Chen, 1970). Their lower incomes, however, severely limit their current ability to exercise housing options (Montgomery, 1972; Morris and Winter, 1978), both in terms of their ability to purchase more suitable housing and to repair that which they already have. Struyk (1977a) argues the importance of aiding elderly homeowners by noting that as housing costs become excessive for them, repairs are likely to be neglected; such neglect adversely affects the nation's housing stock.

Health

Health may function to prevent housing from being viewed as satisfactory. This is particularly salient for the elderly as the likelihood of disability or chronic illness increases with age. What was satisfactory housing at one time now may be unsatisfactory due to changes in health.

Newman (1976) studied people with elderly relatives having disabilities that had lasted six months or more. These disabilities prompted discussion of moving in half the cases, with mental disabilities more likely to prompt consideration of change than physical disabilities. In his research on housing problems and mobility plans, Varady (1980) found that poor health is likely to force a move.

Findlay and Morris (1977) report a positive relationship between health and housing satisfaction in their retirement-age population. They suggest that with age, dissatisfaction with housing is more likely to be due to changes in the individual rather than changes in the housing; such changes would include alterations in family structure and in health. The housing norms of the elderly, then, "include both the cultural norms that apply to all regardless of age and the age- and disability-related needs" (Morris & Winter, 1978, p. 220).

Limitations of the Literature

Most of the studies discussed in this review share at least one of two limitations. First, many studies of housing for the elderly have as their samples special populations. These include research on older people in low-income housing (e.g., Carp, 1977; Carp, 1975; Lawton & Cohen, 1974; Noelker & Harel, 1981), congregate housing (e.g., Blackie, 1983; Brody et al., 1975), and retirement communities (e.g., Angrist, 1974, Beckman, 1969; Bultena & Wood, 1969; Sherman, 1972; Winklevoss & Powell, 1984). As such they are done in environments which are not representative of the housing situation of the majority of older people in the United States (Carp, 1976). The populations are small, self-selected, and probably not typical of the elderly in general on a number of measures (Carp, 1976; Golant, 1982). Little is known about the housing needs of the 18 million elderly living in non-specialized housing.

Further, many of these studies were done shortly after the respondents had moved into special housing. Yet, there are data which show that recent movers tend to be more satisfied with their housing than non-movers (Carp, 1976; Lawton & Cohen, 1974; Winter & Morris, 1979).

> For purposes of theory building as well as those of environmental design there is a need for studies on samples which represent the older population in general and which include the range

as well as the extremes (Carp, 1976, p. 263).

Second, most studies of housing for the elderly do not compare samples of older individuals with people from other age groups. In those studies where age groups are compared, the variable of age is often incidental to the research. Age is included because it is known to have an effect on housing satisfaction, but it is rarely the focus of the research and as such, receives relatively little attention. Thus, there is little written on the reasons for age differences in housing satisfaction. Yet, how and why the housing needs and correlates of housing satisfaction of the elderly are different from those of younger people cannot be known if the subject is not given special attention in cross-age research. Given the increasing necessity for special housing for the elderly, the need for such research is pressing.

The research described in this thesis is designed to examine the differences in housing satisfaction among people of different ages. Those studied live in standard housing rather than in specialized group housing. Because occupants of special housing are not included, the housing satisfaction of people in the bulk of the population is examined.

Chapter II consists of a description of the data sets used in the research, a discussion of the

operationalization of variables, and a description of the data analysis. In Chapter III, the results of the analysis are described. The implications of the results are discussed in Chapter IV.

CHAPTER II:

PROCEDURES

In the proposed research, the relationships among age, tenure type (ownership or rental), and housing satisfaction are examined. Two hypotheses are tested: (a) housing satisfaction is higher among the elderly than among younger respondents, and (b) homeowners are more satisfied with their housing than are renters.

The Data

Four data sets are used and are analyzed separately. They were chosen because all four projects were headed by the same principal investigator. As a result, each data set contains items specifically designed to address the hypotheses being tested in this research. With the exception of health, the items used to operationalize the variables were identical across the four studies. The studies span a time period from 1971 to 1983. All questionnaires were administered by personal interview.

Quality of Life Study

The first data set is from a North Central regional research project funded by the United States Department of

Agriculture and the experiment stations in participating states (Metzen, Williams, Shull, & Keefe, 1980). This project was designed to investigate differences in life satisfaction of non-institutionalized residents of metropolitan and non-metropolitan areas. The data were collected by personal interviews with household heads in Omaha-Council Bluffs and surrounding areas, on the Iowa-Nebraska border, during the summer and fall of 1977.

The sample was selected at random within specified strata by the Iowa State University Statistical Laboratory. It was designed to yield a total sample of 600 households. Two hundred of these were to be from rural areas fifty miles or more from the Omaha-Council Bluffs metropolitan area but not under the influence of any other metropolitan area. Another 300 interviews were to be from the two cities, 200 from Omaha and 100 from Council Bluffs. One hundred interviews were to be collected from the suburban "ring" around the metropolitan area. The final sample consisted of interviews with 485 households.

Tioga County Study

The second data set consists of 405 personal interviews conducted in the non-open-country, rural portion of Tioga County, New York in 1971 (Morris et al., 1976). Entitled "A Study of Residential Mobility, Life Style, and Housing Needs

and Choices," the study was funded by the Cornell University Agricultural Experiment Station (Project No. 404) and the Home Economics Research Institute at Iowa State University.

The Tioga County area was chosen for its rural nature and because it contained a preponderance of low-income residents. The sample was designed to include residents from both hamlets and villages in proportion to the actual number of households in each type of setting in Tioga County. The villages in the country were sampled using cluster and systematic sampling techniques. Hamlets were defined as areas with more than twenty residents per square kilometer. Using US Geological Survey topographical maps, 118 hamlets were located. Nineteen of these were selected at random and the entire population of each was interviewed.

Households were selected for the sample only if a female was present who was under age 65 and who had been married at least once. It was these women who were interviewed. Age 65 was chosen as the upper age limit for the study because detailed family histories were included and it was anticipated that women over this age would be more likely to have problems with memory. Thus, the number of household heads in the sample who are over age 65 is very small, and divorced, single, and widowed men are excluded entirely.

Fort Dodge Area Study

A study of housing needs and housing conditions in non-metropolitan Iowa comprises the third data set (Morris & Winter, 1977). Conducted in 1975 and 1976, this study was funded by the Iowa Agricultural and Home Economics Experiment Station, the Fort Dodge City Planning Department, YOUR, Inc., and the Department of Family Environment at Iowa State University. The major portion of Experiment Station funds were provided under Title V of the Rural Development Act of 1972.

The stratified random sample of 1237 households was selected from 13 cities and towns in the six-county area around Fort Dodge, Iowa (Calhoun, Hamilton, Humboldt, Pocahontas, Webster, and Wright counties). Probability samples were drawn from each incorporated city with a population of over 2,000 inhabitants. In addition, seven of the communities with populations of 2,000 or less were selected at random, and their populations were also sampled. The data were collected through personal interviews obtained by trained interviewers.

Energy Study

In the winter of 1982-1983, a study entitled "Some Determinants and Consequences of Energy Conservation" was conducted in the five largest communities of the nine-county

Fort Dodge Extension Area (Eichner & Morris, 1984). The project was funded by the Iowa Agriculture and Home Economics Experiment Station (Project No. 253d) and the Graduate College at Iowa State University. Three hundred households were selected by means of a systematic random sampling of phone books from each community. The number selected from each community was based on the proportion of households in that community relative to the number in the entire population of the five towns. Personal interviews with the household head, the spouse of the household head, or both were obtained from 198 households, but incomplete and missing data reduced the final sample to 194.

Operationalization of Variables

Tenure

On all questionnaires, tenure is measured by the question "Do you own or rent this home?" Table 1 illustrates that the large majority in all four samples are home owners. The percentages of owners and renters are similar across the four data sets--from 73% of the respondents in the Quality of Life study to 81% of those participating in the Tioga County study.

Table 1. Frequency distributions for tenure type

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Own	73.4% (356)	77.7% (961)	80.9% (157)	81.5% (330)
Rent	26.6% (129)	22.3% (276)	19.1% (37)	18.5% (75)
Total	100.0% (485)	100.0% (1237)	100.0% (194)	100.0% (405)

Age

The age of the household head is used to operationalize the second independent variable. The samples are broken into four groups by the age of the household head: (a) under 35 years of age, (b) 35 to 49 years of age, (c) 50 to 64 years of age, and (d) 65 years of age and older (Table 2). In most cases, each age group comprises around a quarter of the sample. The major exception is the Tioga County study, where only four percent of the population is age 65 and over.

Each of these age groups is divided according to whether the respondents own their dwelling (Table 3). In this way, eight age/tenure groups are formed to measure the combined effects of different tenure types and age groups on

Table 2. Frequency distributions for four age groups

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Under 35	28.2% (137)	25.5% (316)	25.8% (50)	32.8% (133)
35-49	25.6% (124)	20.7% (256)	19.6% (38)	34.6% (140)
50-64	22.5% (109)	25.1% (310)	23.2% (45)	28.6% (116)
65 and Over	23.7% (115)	28.7% (355)	31.4% (61)	4.0% (16)
Total	100.0% (485)	100.0% (1237)	100.0% (194)	100.0% (405)

housing satisfaction. The age/tenure groups tend to be quite similar across the four data sets. Because of the small number of retirement age people in the Tioga County study, the sizes of the age/tenure groups in this data set differ from the others. There are no renters age 65 and over, and only four percent of the sample are owners age 65 and above. The small numbers in these categories are reflected in somewhat higher percentages in the other categories of this data set.

Table 3. Frequency distributions for eight age/tenure groups

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Renters Under 35	13.4% (65)	9.9% (123)	8.2% (16)	9.6% (39)
Owners Under 35	14.8% (72)	15.6% (193)	17.5% (34)	23.2% (94)
Renters 35-49	2.9% (14)	3.2% (39)	2.6% (5)	5.4% (22)
Owners 35-49	22.7% (110)	17.5% (217)	17.0% (33)	29.1% (118)
Renters 50-64	4.1% (20)	3.0% (37)	3.1% (6)	3.5% (14)
Owners 50-64	18.4% (89)	22.1% (273)	20.1% (39)	25.2% (102)
Renters 65 and Older	6.2% (30)	6.2% (77)	5.2% (10)	0.0% (0)
Owners 65 and Older	17.5% (85)	22.5% (278)	26.3% (51)	4.0% (16)
Total	100.0% (485)	100.0% (1237)	100.0% (194)	100.0% (405)

Housing Satisfaction

The dependent variable in the analysis, housing satisfaction, is measured by an item asking, "In general, how satisfied or dissatisfied are you with your housing?" in all four data sets. Housing satisfaction as a single item

variable has been extensively tested in comparison with a scale made up of responses to questions about specific areas of housing satisfaction (Morris, Winter, & Crull, 1980). Very strong correlations were found between the scale of items and the single item on general housing satisfaction.

In two of the studies (the Quality of Life study and the Energy study), the possible responses range on a seven-point Likert scale from (1) extremely dissatisfied to (7) extremely satisfied. A four-point Likert scale was used in the Fort Dodge Area study and in the Tioga County study. The distribution of responses is presented in Table 4. Because the scales differ, all those answering in the "satisfied" range are combined, and all those answering in the "dissatisfied" range and those who answered "mixed" are combined. In the analysis itself, these data are left in their original form.

The percentage of respondents in each category are quite similar. Those who are satisfied with their housing range from 87% of respondents in the Energy study to 92% of those in the Fort Dodge Area study. When comparing data sets having like scales, the mean satisfaction rankings are quite similar (3.2 and 3.3 for the Fort Dodge Area study and the Tioga County study respectively and 5.6 and 5.7 respectively for the Quality of Life study and the Energy study).

Table 4. Frequency distributions for housing satisfaction

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Satisfied	87.6% (425)	91.9% (1127)	87.1% (169)	90.1% (365)
Dissatisfied	12.4% (60)	8.9% (110)	12.9% (25)	9.9% (40)
Mean	5.6*	3.2**	5.7*	3.3**
Standardized Mean	0.80	0.80	0.81	0.82
Sample	485	1237	194	405

*Seven-point scale.
**Four-point scale.

A standardized mean is also calculated for each data set by dividing the mean for the sample by the number of items on the scale used in the study. The results show that the four means are almost exactly the same.

Income

Household income is controlled in the analysis. In each of the studies, the respondents were asked to give gross income from all sources (including investments,

pensions, social security, disability income, and aid to dependent children) for all members of the family. Table 5 presents statistical data with regard to income for each data set, but comparisons of these data are questionable because they were collected in different years, and do not take inflation into account.

Table 5. Income statistics

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Mean	$11,820	$11,990	$24,237	$10,820
Median	$12,930	$11,000	$22,100	$9,500
Range	$0-50,000+	$0-99,800	$1,395-95,500	$0-35,000
Year Data Collected	1977	1975-76	1982-83	1971

Health

A variable measuring health is available in three of the four data sets; no health-related questions were asked in the Tioga County study. In the Quality of Life study, health is measured by the question, "How often does your own health or the health of other family members keep you from doing things?" Of the 485 respondents, 161 (33.2%) answered

"never," 207 (42.7%) said "seldom," 78 (16.1%) responded "sometimes," 29 (6.0%) said "often," and 10 (2.1%) answered "always."

In the Fort Dodge Area study, respondents were asked if there was a handicapped or disabled person in the household. One hundred twenty-three respondents (9.1%) answered yes. In the Energy study, respondents were asked if they themselves or any of their family members had any of 19 symptoms of illness or chronic health problems. The symptoms listed ranged from burning or watery eyes to skin rashes to nervousness and low spirits. The intention was to isolate symptoms that might result from poor air quality in the home, and as such, this item is not strictly a measure of health. The number of positive responses to this series of questions was totaled, giving that household a score on the health symptoms scale. The number of families having each health symptoms score was tabulated, and the results are presented in Table 6. For example, fifty-seven (29.4%) of the respondents said they did not have any of the symptoms listed, 36 (18.6%) responded positively to one of the symptoms, and so on.

There is more variability in items relating to health among the studies than on any other measure. The health variables in the three studies ask different types of questions and, therefore, cannot be considered to be

Table 6. Frequency distributions for the energy study health symptoms score

Response	Number Answering	Percent Answering
0	57	29.4%
1	36	18.6%
2	30	15.5%
3	20	10.3%
4	17	8.8%
5	11	5.7%
6	9	4.6%
7	5	2.6%
8	3	1.5%
9	3	1.5%
10	3	1.5%

measuring the same type or degree of illness. The absence of a handicap or disability cannot necessarily be equated with the absence of symptoms of illness, and neither of these can be directly compared with the degree to which illness in the family interferes with activity. It is felt, however, that health generally has enough influence on housing satisfaction to include these variables in the

analysis as control variables where possible, regardless of measurement differences.

In each of the three data sets, presence of health problems receives a higher numerical coding than no health problems. Because lower scores indicate better health, an inverse relationship between housing satisfaction and health is expected, with housing satisfaction being lower as health increasingly interferes with activities.

The Analysis

Each of the data sets is analyzed separately. The results of the four separate analyses then are compared. Three methods of analysis are used: frequency distributions (discussed in the first pages of this chapter), and Pearson correlation coefficients, and multiple regression, discussed in Chapter III.

Frequency distributions were obtained on the unrecoded data, as well as on the age variable once it was recoded from a continous variable into four groups, and on the eight resulting age/tenure variables. Pearson correlation coefficients were also obtained at each stage of the analysis to verify the strength and direction of the hypothesized relationships.

The recoded variables were analyzed using the multiple regression technique, which allows the examination of each

independent variable while simultaneously controlling on all the other variables. The eight age/tenure variables are entered into the analysis as eight dummy variables. Thus, each age/tenure variable was coded "1" to represent those in a particular age and tenure category, and "0" to indicate all others. According to Bohrnstedt and Knoke (1982), dummy variables are useful for analyzing the effects of a set of discrete states in a regression equation. That is to say, the use of dummy variables is appropriate when responses cannot logically be ordered on a continuum.

When running such an equation, all but one of the dummy variables are entered into the equation because all of the information available is present in those variables. The last variable is represented by the base class (Bohrnstedt and Knoke, 1982). In this research, it is the category "Renters Under Age 35" that forms the base class and is not entered into the equation in each case. In the analysis, each age/tenure group is compared to the base class to ascertain whether the housing satisfaction of that group differs significantly from that of the base class.

Using the results of the multiple regression, a predicted rank of housing satisfaction for each of the age/tenure groups is calculated. Taking all factors into account, the following ranking, from highest housing satisfaction to lowest, is hypothesized:

1. The owners in the oldest age group (65 and over) have the highest housing satisfaction.
2. Because ownership is not as important to the elderly as it is to those of other ages, renters age 65 and above have the next highest rank on housing satisfaction.

Younger owners are expected to rank in satisfaction according to their age group, as follows:

3. Owners in the 50-64 age group.
4. Owners in the 35-49 age group.
5. Owners under age 35.

Because rental is so much less desirable an option than ownership, the three least satisfied groups are expected to be:

6. Renters in the 50-64 age group--a group which probably rents primarily out of choice but which nevertheless is aware that they do not live up to societal norms.
7. Renters in the 35-49 age group, who may rent partly from choice and partly from necessity, and who may be keenly aware that they have not "made it" in terms of owning their own home.
8. Renters under age 35, who may see themselves as just starting out and anxious to establish a place for themselves in society. Since their standards are

high, hopes great, and housing non-normative, this group is expected to be the least satisfied of all.

The actual ranks based on the results of the analysis are obtained by adding the coefficients of the base class (Renters Under Age 35) to the coefficient of income multiplied by the mean income for that data set and to the coefficient of the health variable multiplied by the mean of the health variable for that data set. For each of the other age/tenure groups, the coefficient of that group is added to the predicted rank for the base class. The following equation is used in predicting the mean scores for each age tenure group:

$$\hat{R}=A+B_H(\overline{X}_H)+B_I(\overline{X}_I)+C_i(D_i)$$

where: $\hat{R}$ is the predicted mean score for a given age/tenure group;

A is the predicted score for the base class;

B is the coefficient for the control variables health (H) and income (I);

$\overline{X}$ is the mean score for health (H) and income (I);

C is the ith age/tenure class (the age/tenure group being considered); and

D is the set of variables representing the ith age/tenure class.

Finally, the R-squares are examined to indicate the percent of the variability in housing satisfaction that is

accounted for by age, tenure type, income level, and health status in each data set.

CHAPTER III:

ANALYSIS

In Chapter Two, the frequency distributions are discussed; in the present chapter, the results of the other two methods of analysis (Pearson correlation coefficients and multiple regression) are evaluated. The mean predicted score on housing satisfaction for each age/tenure group in each data set is calculated using the coefficients generated by the multiple regression analyses. These scores are ranked in descending order and the ranks are compared to the predictions made in the previous chapter. Further analysis suggested by the scores is carried out.

Pearson Correlation Coefficients

The Pearson correlation coefficients for each pair of variables in each data set are presented in Table 7. Those coefficients support the two hypotheses of this paper. That older people tend to be more satisfied with their housing than are younger people is supported by the positive and highly significant relationship between age and housing satisfaction in each data set. In a like manner, the positive and significant relationship between home ownership and housing satisfaction is confirmed in each case. Not

Table 7. Pearson correlation coefficients

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Age by Housing Satisfaction	.18**	.07**	.24**	.09*
Ownership by Housing Satisfaction	.29**	.16**	.15*	.15**
Age by Ownership	.18**	.17**	.14**	.20*
Ownership by Income	.32**	.17**	.32**	.24**
Age by Income	-.13**	-.22**	-.06	-.06
Income by Housing Satisfaction	.18**	.06*	.18**	.02
Age by Health	.18**	.13**	-.02	NA
Health by Income	-.15**	-.04	-.13*	NA
Health by Housing Satisfaction	-.10*	-.02	-.25**	NA
Ownership by Health	-.03	.03	-.06	NA
Number of Cases	485	1237	192	405

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

surprisingly, the results also indicate that the prevalence of home ownership tends to increase with age for each sample.

The use of income as a control variable is generally supported by the correlations that include income. The prevalence of home ownership goes up as income increases, a significant correlation for each sample. For all data sets, there are negative relationships between age and income, indicating a tendency for income to be lower for older people; the relationship is significant for respondents in the Quality of Life study and in the Fort Dodge Area study. Housing satisfaction is significantly higher for all but the Tioga County sample.

The correlations for the health status variable are less consistent. The relationship between health and age is negative and significant for both the Quality of Life study and the Fort Dodge Area study. There is no relationship between these variables in the Energy study. (No health variable was available for the Tioga County study.) On the other hand, income and housing satisfaction both are lower for those with health problems in both the Quality of Life study and the Energy study. There is no significant relationship between these variables and health status for respondents in the Fort Dodge Area study. Finally, there is no significant relationship between health and ownership of

housing in any of the samples.

The inconsistency in the relationships between health and other variables may be due at least in part to the differences in the make-up of this variable in each data set. There is no clear pattern in the results, however; health is not consistently significant in any one data set nor (with the exception of home ownership) across any one relationship. Because there are a number of significant relationships between health and other variables, however, it is retained as a control variable.

Multiple Regression Analysis

In the multiple regression analyses, eight age/tenure dummy variables are used to clarify the relationship between age, tenure, and housing satisfaction, as discussed in Chapter II. More detailed results of the regression analysis for each data set appear in Appendix A.

The regression coefficients for each variable in each data set are listed in Table 8. The base class (Renters Under Age 35) is represented by the constant. Thus, in the analysis, the housing satisfaction of all other age/tenure groups is compared to that of the base class. For each of the age/tenure groups, the asterisks indicate those groups whose housing satisfaction is significantly different from that of the base class in that data set.

Table 8. Multiple regression analysis coefficients for eight age/tenure groups, with Renters Age 34 or Less as the base class

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Owners Age 65 and Older	1.28**	0.39**	0.98**	0.43*
Renters Age 65 and Older	1.26**	0.42**	1.52**	----
Owners Age 50-64	1.00**	0.38**	0.86*	0.20
Renters Age 50-64	0.76**	0.12	0.12	-0.13
Owners Age 35-49	0.94**	0.39**	0.87*	0.16
Renters Age 35-49	-0.07	-0.01	0.16	-0.17
Owners Age 34 and Under	1.13**	0.42**	0.33	0.13
Income	0.01**	0.00	0.00	0.00
Health	-0.14**	-0.05	-0.12**	NA
Constant	4.79	2.83	4.98	3.13
R Square	0.16	0.04	0.17	0.03
F	10.05**	6.24**	4.05**	1.82
Degrees of Freedom	9 and 475	9 and 1227	9 and 184	7 and 397

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

The Quality of Life study may be used to illustrate the interpretation of these figures. In this study, the housing satisfaction of renters under age 35 as a group (the base class) is not significantly different from that of renters age 35-49, and could actually be the same number in the population from which the sample was drawn. On the other hand, owners under age 35 have higher housing satisfaction than does the base class. The difference in housing satisfaction between this group of young owners and the base class of young renters is significant at the .01 level. That is to say, 99 out of every 100 samples drawn from that population would yield a result as great.

In the case of the control variables, income and health, the asterisks indicate whether these variables make a significant contribution to housing satisfaction. The effect of income is extremely small across the samples. The influence of health status on housing satisfaction is significant in both the Quality of Life and the Energy studies, but not in the Fort Dodge Area study.

The R-squares denote the amount of the variance in housing satisfaction that is explained by age, tenure type, health status, and income. Housing satisfaction is so complex by nature that the R-squares for the Quality of Life study (.16) and Energy study (.17) may be considered adequate. Of note is the low level of the R-squares for the

Tioga County and Fort Dodge studies (.04 and .03, respectively). For those data sets, the variables included in this analysis contribute only a small portion to the overall explanation of housing satisfaction.

Predicted Mean Scores

If the figures listed on Table 8 are entered into the formula for calculating predicted mean scores for housing satisfaction ($\hat{R}=A+B_H(\overline{X}_H)+B_I(\overline{X}_I)+C_i(D_i)$), the calculations yield a predicted mean score for each age/tenure group in each sample. The resulting predicted mean scores are shown on Table 9. Levels of significance are indicated for those predicted mean scores that are significantly different from the predicted mean score of the base class in that sample.

The number of cases in a subsample affects the outcome of tests of significance. The more cases there are, the greater is the likelihood that the differences found will be significant. At the same time, statistical tests may be unreliable if the number of cases in the subsample is less than ten percent of the number of cases in the sample as a whole, especially if the total sample is small (less than 100 cases). Statistically significant differences reported in this section must be seen in the light of these limitations.

The results show that in most cases, the housing

Table 9. Predicted mean scores on housing satisfaction for eight age/tenure groups

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Owners Age 65 and Older	5.90** (85)	3.25** (278)	5.96** (51)	3.56** (16)
Renters Age 65 and Older	5.87** (30)	3.29** (77)	6.50** (10)	---- (0)
Owners Age 50-64	5.62** (89)	3.25** (273)	5.83* (39)	3.32 (102)
Renters Age 50-64	5.38** (20)	2.98 (37)	5.09 (6)	3.00 (14)
Owners Age 35-49	5.56** (110)	3.26** (217)	5.84* (33)	3.29 (118)
Renters Age 35-49	4.55 (14)	2.86 (39)	5.14 (5)	2.95 (22)
Owners Under Age 35	5.74** (72)	3.35** (193)	5.31 (34)	3.26 (94)
Renters Under Age 35 (base class)	4.62 (65)	2.87 (123)	4.97 (16)	3.13 (39)

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

satisfaction of home owners in all age groups is significantly higher than that of renters under age 35. In only four cases out of 12 is the housing satisfaction of home owners not significantly higher than that of the base

class; three of those cases are in the Tioga County sample. At the same time, while younger renters tend to share the level of housing satisfaction of the base class, older renters tend to rank their housing satisfaction significantly higher than do those in the base class. This is true in all data sets for those renters age 65 and above where data are available. (There are no renters in this age group in the Tioga County study.) It is also true for renters in the 50-64 age group in the Quality of Life study.

On the other hand, none of the renters age 35-49 rank their housing satisfaction significantly higher than do the renters in the base class. Of the eight groups of owners under age 50, five rate their housing satisfaction significantly higher than does the base class. Of the three that do not, two once again are in the Tioga County study. The results of the other three studies are quite similar. The results for renters are somewhat qualified by the small percentages of the subsamples involved. The statistical error for a subsample that forms a small percentage of the sample as a whole tends to be conservative. Therefore, it is possible that the statistical tests used do not adequately measure significant differences for the relatively small subsamples.

The next two tables illustrate the same results using different formats. Table 10 shows which age/tenure group

Table 10. Eight age/tenure groups by rank

Rank	Quality of Life	Fort Dodge Area	Energy	Tioga County
1	Owner Age 65 & Older	Owner Under Age 35	Renter Age 65 & Older	Owner Age 65 & Older
2	Renter Age 65 & Older	Renter Age 65 & Older	Owner Age 65 & Older	Owner Age 50-64
3	Owner Under Age 35	Owner Age 35-49	Owner Age 35-49	Owner Age 35-49
4	Owner Age 50-64	Owner Age 65 & Older	Owner Age 50-64	Owner Under Age 35
5	Owner Age 35-49	Owner Age 50-64	Owner Under Age 35	----
6	Renter Age 50-64	Renter Age 50-64	Renter Age 35-49	Renter Under Age 35
7	Renter Under Age 35	Renter Under Age 35	Renter Age 50-64	Renter Age 50-64
8	Renter Age 35-49	Renter Age 35-49	Renter Under Age 35	Renter Age 35-49

falls at each rank in each of the samples. In the Quality of Life study for example, the predicted mean score for housing satisfaction of renters age 65 and older is the highest of all the predicted mean scores for that sample. It, therefore, occupies the highest rank (Rank 1) for that data set.

These rankings are approximations. The analysis

indicates only the significance of differences between the scores for the base class and other scores. It does not show whether differences between two scores not in the base class are significant. It, therefore, is impossible to tell from this analysis whether the predicted mean score of owners age 65 and older (Rank 1) is significantly higher than that of renters age 65 and older (Rank 2) in the population from which the sample was drawn. If the difference is not significant, the mean scores for these two groups in the population as a whole really may be the same.

Keeping these factors in mind, this table can be compared to the rankings predicted in Chapter Two. As anticipated, owners age 65 and older tend to occupy the top rank. Renters age 65 and older tend to occupy the second rank. The three age/tenure groups of owners under age 65 tend to occupy the next three rankings, as expected. Finally, the younger three groups of renters occupy the three lowest rankings without exception. The rank orders of age/tenure groups yielded by the analysis (Table 10) support the rank order suggested by the literature and predicted in Chapter Two.

Because older people tend to occupy the higher ranks on Table 10 and younger people tend to occupy the lower ranks, these rankings suggest that the eight age/tenure groups might be combined into four groups. They are regrouped in

this way on Table 11, with scores significantly different from the base class for that sample being indicated by asterisks.

Table 11. Predicted mean scores for eight age/tenure groups regrouped by age and tenure type

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Owner:				
65 & Older	5.90**	3.25**	5.96**	3.56**
50-64	5.62**	3.25**	5.83*	3.32
Renter:				
65 & Older	5.87**	3.29**	6.50**	----
50-64	5.38**	2.98	5.09	3.00
Owner:				
35-49	5.56**	3.26**	5.84*	3.29
Under 35	5.74**	3.35**	5.31	3.26
Renter:				
35-49	4.55	2.86	5.14	2.95
Under 35	4.62	2.87	4.97	3.13

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

Clearly, the two older groups of owners belong together. In all but one case are their predicted mean scores on housing satisfaction significantly different from those of the base class. Similarly, renters under the age of 50 belong together. There are no significant differences between renters in the base class and renters age 35-49 in

each sample. At the same time, younger owners are different from younger renters, particularly for those in other than the Tioga County study. In most cases, these two groups of younger owners are significantly more satisfied than are renters under age 35. The same conclusion can be drawn for the groups of renters who are age 50 and older.

On the basis of these results, the data were evaluated using four combined age/tenure groups: (a) owners age 50 and above, (b) renters age 50 and above, (c) owners under age 50, and (d) renters under age 50. The use of four age/tenure groups allows more accurate rankings of the predicted mean scores because fewer relationships are involved. Specifically, multiple regression is used again, but four runs are made for each sample. In each run, a different age/tenure group is used as the base class. The results of such an analysis show whether each age/tenure group has a predicted mean score on housing satisfaction that is significantly different from those of the other age/tenure groups in the sample. While such results for eight age/tenure groups would be confusing, they are more meaningful in the simplified analysis. Further, combining groups increases the number of cases in each subsample, eliminating age/tenure groups with numbers too small to give reliable results.

Analysis of Four Age/Tenure Groups

The results of the second set of multiple regressions are presented in Table 12. In this table, the group of renters under age 50 makes up the base class. The multiple

Table 12. Multiple regression analysis coefficients for four age/tenure groups

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Owners Age 50 and Above	1.18**	0.39**	0.89**	0.29**
Renters Age 50 and Above	1.07**	0.32**	0.96*	-0.07
Owners Under Age 50	1.07**	0.41**	0.56	0.21*
Income	0.01*	0.00	0.00	0.00
Health	-0.14*	0.06	-0.13**	----
Constant	4.82	2.83	5.02	3.07
R-Square	0.15	0.04	0.13	0.02
F	16.92**	10.22**	5.58**	2.48*
Degrees of Freedom	5 and 479	5 and 1231	5 and 188	4 and 400

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

regression coefficients for the older group of owners are significantly different from those of the base class in all samples. The same is true for the older renters in all but the Tioga County study (in which the sample of older renters is small and none are over age 65). Young owners also have significantly higher housing satisfaction than do young renters in every data set except the Energy study.

Table 13 presents the predicted mean scores for the condensed age/tenure groups. The rank order of the

Table 13. Predicted mean scores on housing satisfaction for four age/tenure groups

	Quality of Life	Fort Dodge Area	Energy	Tioga County
Owners Age 50 and Above	5.79** (174)	3.25** (551)	5.89** (90)	3.36** (118)
Renters Age 50 and Above	5.68** (50)	3.18** (114)	5.98** (16)	3.00 (14)
Owners Under Age 50	5.68** (182)	3.27** (410)	5.57 (67)	3.27* (212)
Renters Under Age 50	4.61 (79)	2.86 (162)	5.01 (21)	3.06 (61)

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

predicted mean scores for each data set is shown in Table 14.

Table 14. Four age/tenure groups by rank

Rank	Quality of Life	Fort Dodge Area	Energy	Tioga County
1	Owner Age 50 & Above	Owner Under Age 50	Renter Age 50 & Above	Owner Age 50 & Above
2	Owner Under Age 50	Owner Age 50 & Above	Owner Age 50 & Above	Owner Under Age 50
3	Renter Age 50 & Above	Renter Age 50 & Above	Owner Under Age 50	Renter Under Age 50
4	Renter Under Age 50	Renter Under Age 50	Renter Under Age 50	Renter Age 50 & Above

The coefficients for the multiple regressions using each age/tenure group as the base class are presented in Tables 15 through 30 in the Appendix. These results show whether the predicted mean score for each age/tenure group is significantly different from those of all other age/tenure groups in the study.

The results of the analyses of significant differences are exactly the same for the Fort Dodge Area study and the Quality of Life study. For these two data sets, the housing satisfaction of each age/tenure group is significantly

higher than that of renters under age 50, but they are not significantly different from each other. As such, for these two samples, owners of all ages and renters age 50 and above can be said to have the same degree of satisfaction with their housing. Conversely, the housing satisfaction of young renters is significantly lower than that of the three other groups.

The results of the Energy study and the Tioga County study are not so clear cut. In the Energy study, the mean housing satisfaction scores for renters under age 50 are significantly different from those for both renters and owners age 50 and older. The housing satisfaction scores of young owners are not significantly different from those of any other group, indicating they probably fall on a continuum between the two older age/tenure groups and young renters. In sum, renters under age 50 are clearly less satisfied with their housing than both older renters and older owners, there is no difference in the housing satisfaction of renters age 50 and above and that of owners age 50 and above, and the predicted mean score on housing satisfaction for owners under age 50 probably falls somewhere between that of the older age/tenure groups and that of renters under age 50. The results for the Energy study, then, bear a strong resemblance to the results for the Quality of Life study and the Fort Dodge Energy study.

In the Tioga County study, the housing satisfaction of renters under age 50 is significantly lower than that for owners, regardless of age. It is not significantly different from that of renters age 50 and above. While the housing satisfaction of owners under age 50 is significantly higher than that of young renters, it is not significantly different from that of older people, renters and owners. The mean housing satisfaction of older renters is not significantly different from that of any other group, while that for older owners is significantly different from young renters. On the whole, owners of all ages tend to be more satisfied than renters of all ages in this sample.

Taken together, the results for the four data sets suggest that renters under age 50 tend to experience lower housing satisfaction than do those in other age/tenure groups. Both home owners as a class and older people as a class have higher housing satisfaction than do young renters.

CHAPTER IV:
CONCLUSIONS

Two hypotheses were tested in this study of the relationship between age, tenure type, and housing satisfaction. Housing satisfaction was expected to be higher among older people than among younger people. And homeowners were expected to be more satisfied with their housing than renters.

Discussion

The prediction that housing satisfaction would be higher for older people is not borne out for home owners in either phase of the analysis. Instead, the results suggest that owners tend to be equally satisfied with their housing, regardless of age. At the same time, renters show the predicted relationship; the housing satisfaction of renters does tend to be higher for older people. The results suggest a dichotomy, with renters above age 50 being satisfied with their housing to a similar degree while those under 50 are significantly (and equally) less satisfied. These results do not hold true for the Tioga County sample, probably because there are no renters above age 65 in that sample.

At the same time, the predictions about the preferability of ownership over rental is confirmed by the results, but only for the younger half of the sample. Renters under age 50 tend not to be as satisfied with their housing as their age mates who own, but older renters tend to be just as satisfied as older owners. The lower satisfaction usually reported for renters in relation to home owners may actually be the result of the low housing satisfaction of younger renters rather than of renters overall.

The results are somewhat surprising in view of the linear relationship usually found between age and housing satisfaction and the common finding that home owners are more satisfied with their housing than are renters. The data suggest that age and tenure type are interrelated in their effects on housing satisfaction.

The most unexpected finding is the high housing satisfaction among older renters, which may be explained in two ways. First, most of the older people in this sample probably have the tenure type they prefer. Some of the older renters may have rented all their lives; for them the norm of home ownership may never have been salient. It would be a mistake to conclude that the owners among them would be satisfied with rental housing. Rather, the conclusion to be drawn here is that there is a group of

elderly people who prefer and are highly satisfied with rental housing.

Second, a portion of older renters may be turning to rental for the first time in many years. For this group, rental may be satisfactory because it frees them from other constraints: fears about personal safety, difficulties in maintenance of a house and yard, or the desire to be in a more sheltered environment where peers and activities are close at hand. Thus, other considerations may take on greater importance than fulfilling the norm of home ownership.

It is also important to note that the differences between age groups in this cross-sectional study may be cohort differences. That is to say, the older people in this sample may have different housing preferences from those who are younger simply as a result of the times in which they have lived. It cannot necessarily be inferred that the preferences of the younger people in the sample will change as they get older. In other words, because a portion of the older people in our sample are highly satisfied with housing they rent does not necessarily mean that younger generations will be as highly satisfied with rental as an option when they get older.

This research confirms the importance of health in evaluating the housing satisfaction of populations that

include older people. For two of the three samples having a question relating to the health of family members, that variable made a significant contribution to the variance in housing satisfaction. Because in the third study (the Fort Dodge Area study) respondents were asked if a family member was handicapped or disabled, only the more severe health problems were reported. A more general question on the health status of family members may have yielded significant results.

Finally, exceptions to the findings reported here were more likely to occur in the Tioga County data set than in any other used in this research. Several reasons may be postulated to explain those differences. They include age, region of the country, era in which the study was done, and income level or social class.

The most obvious explanation for the differences is age. The oldest group (those 65 and older) makes up a very small portion of the sample. Because the elderly are underrepresented, they do not provide an adequate comparison with younger groups. Age, however, cannot account for the differences among those under age 65.

The overall income level of this sample also may cause the research results to differ from those of the other samples. The geographic area studied was chosen for its high incidence of low income people. While income was

controlled in the study, it cannot be controlled for the higher-income people not represented. Therefore, the Tioga County results may represent class differences in housing satisfaction.

The Tioga County study was also carried out in a different area of the country than were the other three studies. All three of the other studies were done in a small section of the midwest (primarily in the state of Iowa), while Tioga County is located in New York. Thus, the differences in the results may be due to regional differences.

Finally, the Tioga County study was done in 1971, while the other three studies were done in the past decade. The results may represent changes in attitudes over time. Any explanation of the reported differences must remain conjectural as it is impossible to know what factor or combination of factors is responsible for them. Researchers should note, that results may vary on these dimensions.

Implications

The research reported here is important primarily for its implications for the body of knowledge about housing adjustment. The notion that housing satisfaction is positively related to age is so common that it is almost taken for granted. The inclusion of age as a control

variable in the study of housing satisfaction is often automatic. The same is true for the relationship between housing satisfaction and tenure type. The finding that owners are more satisfied than renters is so common that it is rarely questioned.

The results of this study indicate that these relationships may be more complex than previously thought. It would appear from the data that age and tenure type need to be considered together when studying the relationship of either to housing satisfaction. Future researchers should control for tenure type when studying the relationship between age and housing satisfaction. At the same time, those researching the relationship between tenure type and housing satisfaction should control for the influence of age.

The findings of this study are consistent with the Morris and Winter (1978) housing adjustment model. Interpreted in terms of the model, the research shows that for young people, the norm of home ownership is salient. For that reason, young owners are more satisfied with their housing than are young renters.

The model would explain the lack of difference in housing satisfaction between older owners and renters in three ways. First, the norm of home ownership may never have been salient for some, and so rental is not a source of

dissatisfaction with housing for them. Second, those who were dissatisfied with rental housing when they were younger may have long since altered their tenure deficit by becoming owners. In contrast, dissatisfied younger renters may not yet have had time to alter their tenure situation. Third, for others, renting may relieve other sources of dissatisfaction with housing (such as difficulty with maintenance or fears about safety). The norm of home ownership may have become less salient as these other considerations take on added importance. Any or all of these three interpretations may account for the high housing satisfaction of older renters.

This study contributes to the understanding of housing options for the elderly in that it provides support for the notion that some older people may find rental housing a more satisfactory option than do younger people. Rental housing would be just as satisfactory to some older people as ownership provided that other housing constraints are relieved in the process. This information is important to those in a position to plan housing for the elderly. Such a conclusion must be subject to other verification, however. Because this study is general in nature, the conclusions about housing options drawn from it must be tentative.

Future Research

The findings indicate it would be appropriate for future researchers to control for tenure type when studying the relationship between age and housing satisfaction. By the same token, those studying the relationship between tenure and housing satisfaction would do well to control for age. Researchers also should include health as a control variable in the study of housing satisfaction of the elderly, as confirmed by this research.

Further research needs to be done to confirm the results found here, particularly in newer data sets. Samples should include respondents from owners living in multiple family dwellings, a group not represented in the data analyzed here. Research also needs to be done on the degree to which other considerations affect the salience of the norm of home ownership for older age groups. We need studies specifically aimed at finding out how disability, frailty, and the need for security affect the feelings of older people about home ownership. Such results should be compared with data on younger people.

We also need to find out more about how the importance of home ownership changes as the individual ages. Ideally, longitudinal data should be collected over several decades to show the changes people experience in their tenure norms

over time. Both types of research are important if we are to plan intelligently for housing older people.

The research done here redefines the relationship between age, tenure type, and housing satisfaction. As such it is a piece in the puzzle about the housing satisfaction of older people. As the number of elderly people grows, both the research described and the future research suggested will increase in importance as well.

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APPENDIX: REGRESSION ANALYSIS RESULTS

Table 15. Regression of all variables on housing satisfaction using four age/tenure categories for the Quality of Life data set, with Renters Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	1.17	0.47	7.55**
Renters Age 50 and Above	1.07	0.27	5.23**
Owners Under Age 50	1.07	0.42	6.78**
Income	0.01	0.09	2.05*
Health	-0.14	-0.11	-2.57**
Constant	4.82		
R-Square	0.15		
F	16.92		
Significance of F	0.00		
Degrees of Freedom	5 and 479		

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

Table 16. Regression of all variables on housing satisfaction using four age/tenure categories for the Quality of Life data set, with Owners Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.11	0.04	0.92
Renters Age 50 and Above	0.00	0.00	0.00
Renters Under Age 50	-1.07	-0.33	-6.78**
Income	0.01	0.09	2.05*
Health	-0.14	-0.11	-2.57**
Constant	5.89		
R-Square	0.15		
F	16.92		
Significance of F	0.00		
Degrees of Freedom	5 and 479		

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

Table 17. Regression of all variables on housing satisfaction using four age/tenure categories for the Quality of Life data set, with Renters Age 50 and Above as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.11	0.04	0.61
Owners Under Age 50	0.00	0.00	0.00
Renters Under Age 50	-1.07	-0.33	5.23**
Income	0.01	0.09	2.05*
Health	-0.14	-0.11	-2.57**
Constant	5.89		
R-Square	0.15		
F	16.92		
Significance of F	0.00		
Degrees of Freedom	5 and 479		

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

Table 18. Regression of all variables on housing satisfaction using four age/tenure categories for the Quality of Life data set, with Owners Age 50 and Above as the base class

Variable	B	Beta	T
Renters Age 50 and Above	-0.11	-0.03	-0.61
Owners Under Age 50	-0.11	-0.04	-0.92
Renters Under Age 50	-1.18	-0.36	-7.55**
Income	0.01	0.09	2.05*
Health	-0.14	-0.11	-2.57**
Constant	5.99		
R-Square	0.15		
F	16.92		
Significance of F	0.00		
Degrees of Freedom	5 and 479		

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

Table 19. Regression of all variables on housing satisfaction using four age/tenure categories for the Fort Dodge Area data set, with Renters Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.39	0.28	6.33**
Renters Age 50 and Above	0.32	0.13	3.84**
Owners Under Age 50	0.41	0.28	6.35**
Income	0.00	0.04	1.32
Health	-0.06	-0.02	-0.85
Constant	2.83		
R-Square	0.04		
F	10.22		
Significance of F	0.00		
Degrees of Freedom	5 and 1231		

**p<.01.

Table 20. Regression of all variables on housing satisfaction using four age/tenure categories for the Fort Dodge Area data set, with Owners Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	-0.02	-0.01	-0.44
Renters Age 50 and Above	-0.09	-0.03	-1.15
Renters Under Age 50	-0.41	-0.20	-6.35**
Income	0.00	0.04	1.32
Health	-0.06	-0.02	-0.85
Constant	3.24		
R-Square	0.04		
F	10.22		
Significance of F	0.00		
Degrees of Freedom	5 and 1231		

**p<.01.

Table 21. Regression of all variables on housing satisfaction using four age/tenure categories for the Fort Dodge Area data set, with Renters Age 50 and Above as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.07	0.05	0.93
Owners Under Age 50	0.09	0.06	1.15
Renters Under Age 50	-0.32	-0.16	-3.84**
Income	0.00	0.04	1.32
Health	-0.06	-0.02	-0.85
Constant	3.15		
R-Square	0.04		
F	10.22		
Significance of F	0.00		
Degrees of Freedom	5 and 1231		

**p<.01.

Table 22. Regression of all variables on housing satisfaction using four age/tenure categories for the Fort Dodge Area data set, with Owners Age 50 and Above as the base class

Variable	B	Beta	T
Renters Age 50 and Above	-0.07	-0.03	-0.93
Owners Under Age 50	0.02	0.01	0.44
Renters Under Age 50	-0.39	-0.19	-6.33**
Income	0.00	0.04	1.32
Health	-0.06	-0.02	-0.85
Constant	3.22		
R-Square	0.04		
F	10.22		
Significance of F	0.00		
Degrees of Freedom	5 and 1231		

**p<.01.

Table 23. Regression of all variables on housing satisfaction using four age/tenure categories for the Energy Study data set, with Renters Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.89	0.33	2.82**
Renters Age 50 and Above	0.97	0.20	2.27*
Owners Under Age 50	0.56	0.20	1.71
Income	0.00	0.14	1.89
Health	-0.13	-0.23	-3.34**
Constant	5.03		
R-Square	0.13		
F	5.58		
Significance of F	0.00		
Degrees of Freedom	5 and 188		

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

Table 24. Regression of all variables on housing satisfaction using four age/tenure categories for the Energy Study data set, with Owners Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.33	0.12	1.60
Renters Age 50 and Above	0.41	0.08	1.11
Renters Under Age 50	-0.56	-0.13	-1.71
Income	0.00	0.14	1.89
Health	-0.13	-0.23	-3.34**
Constant	5.58		
R-Square	0.13		
F	5.58		
Significance of F	0.00		
Degrees of Freedom	5 and 188		

**p<.01.

Table 25. Regression of all variables on housing satisfaction using four age/tenure categories for the Energy Study data set, with Renters Age 50 and Above as the base class

Variable	B	Beta	T
Owners Age 50 and Above	-0.08	-0.03	-0.21
Owners Under Age 50	-0.41	-0.14	-1.11
Renters Under Age 50	-0.97	-0.22	-2.27*
Income	0.00	0.14	1.89
Health	-0.13	-0.23	-3.34**
Constant	5.99		
R-Square	0.13		
F	5.58		
Significance of F	0.00		
Degrees of Freedom	5 and 188		

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

Table 26. Regression of all variables on housing satisfaction using four age/tenure categories for the Energy Study data set, with Owners Age 50 and Above as the base class

Variable	B	Beta	T
Renters Age 50 and Above	0.08	0.01	0.21
Owners Under Age 50	-0.33	-0.12	-1.60
Renters Under Age 50	-0.89	-0.21	-2.83**
Income	0.00	0.14	1.89
Health	-0.13	-0.23	-3.34**
Constant	5.92		
R-Square	0.13		
F	5.58		
Significance of F	0.00		
Degrees of Freedom	5 and 188		

**p<.01.

Table 27. Regression of all variables on housing satisfaction using four age/tenure categories for the Tioga County data set, with Renters Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.29	0.20	2.77**
Renters Age 50 and Above	-0.07	-0.02	-0.34
Owners Under Age 50	0.21	0.16	2.13*
Income	0.00	0.00	-0.15
Constant	3.07		
R-Square	0.02		
F	2.48		
Significance of F	0.04		
Degrees of Freedom	4 and 400		

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

Table 28. Regression of all variables on housing satisfaction using four age/tenure categories for the Tioga County data set, with Owners Under Age 50 as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.08	0.05	1.04
Renters Age 50 and Above	-0.28	-0.07	-1.50
Renters Under Age 50	-0.21	-0.11	-2.13*
Income	0.00	0.00	-0.15
Constant	3.29		
R-Square	0.02		
F	2.48		
Significance of F	0.04		
Degrees of Freedom	4 and 400		

*p<.05.

Table 29. Regression of all variables on housing satisfaction using four age/tenure categories for the Tioga County data set, with Renters Age 50 and Above as the base class

Variable	B	Beta	T
Owners Age 50 and Above	0.36	0.24	1.90
Owners Under Age 50	0.28	0.21	1.50
Renters Under Age 50	0.07	0.04	0.34
Income	0.00	0.00	-0.15
Constant	3.01		
R-Square	0.02		
F	2.48		
Significance of F	0.04		
Degrees of Freedom	4 and 400		

Table 30. Regression of all variables on housing satisfaction using four age/tenure categories for the Tioga County data set, with Owners Age 50 and Above as the base class

Variable	B	Beta	T
Renters Age 50 and Above	-0.36	-0.10	-1.90
Owners Under Age 50	-0.08	-0.06	-1.04
Renters Under Age 50	-0.29	-0.16	-2.77
Income	0.00	0.00	-0.15
Constant	3.37		
R-Square	0.02		
F	2.48		
Significance of F	0.04		
Degrees of Freedom	4 and 400		