

THE EFFECT OF TENURE TYPE, AGE MIX AND
SUBJECTIVE HOUSING VARIABLES ON
HOUSING SATISFACTION AND WELLBEING OF OLDER RESIDENTS
IN RENTAL, CO-OPERATIVE AND STRATA TITLE HOUSING

by

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Title of Thesis/Project/Extended Essay

The Effect of Tenure Type, Age Mix and Subjective

Housing Variables on Housing Satisfaction and

Wellbeing of Older Residents in Rental, Co-operative

and Strata Title Housing

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ABSTRACT

This study examined the influence of tenure type and age mix on the housing satisfaction and wellbeing of older people living independently in rental, condominium and non-profit co-operative buildings. It also explored the possibility that subjective housing variables predictive of housing satisfaction and wellbeing could be identified. Data were gathered by self-administered questionnaire from a systematic sample of 165 older Canadians.

Strong differences were found among respondents according to housing **tenure type** for both independent (personal attributes and housing characteristics) and dependent variables (housing satisfaction and wellbeing). Generally, renters had the lowest or least advantaged levels, co-op members intermediate ones, and condominium owners the highest.

Variations by **age mix**, i.e., between residents of age-integrated and age-segregated buildings, were less noteworthy than the contrast by tenure type. Residents of age-integrated complexes showed higher socioeconomic levels than their counterparts in age-segregated housing, but their degree of social integration and scores on the dependent measures were lower, though for negative affect this difference was not significant. This pattern held for renters and co-op members, but in some instances was reversed among condominium owners.

While condominium owners were typically well sustained by their higher socioeconomic resources, residents of rental and co-operative developments proved more vulnerable to, and able to be supported by, characteristics of their housing environment. In particular, co-operative housing and age-segregated housing appear to have beneficial effects for people in middle and lower socioeconomic groups.

Three subjective housing variables, perception of fairness, sense of effective control and feeling of belonging, added 6% to variance in both housing satisfaction and positive affect with personal characteristics and other housing variables controlled. They showed little influence on negative affect, whose main predictor was the subjective sense of social integration.

These variables, along with perception of safety and perceived quality of maintenance, formed a cluster which may be described as a community factor, and operate interactively to improve housing satisfaction and wellbeing for older residents of multiunit housing.

DEDICATION

For Elizabeth

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I. INTRODUCTION

About 87% of older Canadians live in private households in the community (Statistics Canada, 1987, Chart 93-105 Table 8; Chart 93-104 Table 2). Most of those, like most other Canadians, occupy single family dwellings which they own; others, who rent housing, are more likely to reside in multiunit dwellings such as townhouses or apartments (Statistics Canada, 1986, Chart DW86A01). However, about 5% of owners prefer to reside in condominium or co-operative townhouses or apartments (Statistics Canada, 1987, Chart 93-105, Table 8). Like rental complexes, these condominium (in British Columbia called "strata title") or co-operative developments may be occupied by a mix of age groups, or may be reserved for mature adults or seniors only.

Preference surveys indicate that many older people consider moving to multiunit housing because it requires less upkeep, can be left with more security, and may be more conveniently located (e.g. Gutman et al., 1987). Given this interest in multiunit housing on the part of seniors, the question arises: how satisfactory are various kinds of multiunit housing for older people and what effect, if any, does living in such developments have on their wellbeing?

A. Objectives and Design of the Study

The goal of the research reported here was to determine the salience of several objective and subjective aspects of housing for the housing satisfaction and wellbeing of elderly people living independently in multiunit housing in the community.

More specifically, the purpose of this research was twofold: within multiunit settings,

1. to examine the influence of two objective housing variables, **tenure type** and **age mix**, on housing satisfaction and wellbeing of independent elderly people, and
2. to identify **subjective housing variables** which might also impact on housing satisfaction and wellbeing.

Data on personal and housing variables, and on housing satisfaction and wellbeing, were gathered by self-administered questionnaire from 165 elderly residents of various tenure type and age mix settings. Data were analyzed to address three major questions:

- * Do elderly residents of housing complexes with different tenure type and age mix differ on **independent variables**?
- * Do they differ with regard to the **dependent variables** of housing satisfaction and wellbeing?
- * What is the **pattern** of the relationship between independent and dependent variables in each setting? Do variables have different degrees of influence in different settings?

Within this context a more specific question was kept in mind:

* Does the inclusion of **subjective housing variables** in an analysis assist in predicting variance in housing satisfaction and/or wellbeing in the tenure type and age mix settings of interest?

A set of hypotheses was developed to guide the analysis. These were structured in an analytical framework as follows:

1. Independent Variables
 - a. Personal Variables (e.g. sociodemographic characteristics, quantity of social contact)
 - b. Housing Variables (e.g. housing cost, perceived safety, **tenure type, age mix**)
2. Dependent Variables
 - a. Housing Satisfaction
 - b. Wellbeing (positive affect and negative affect).

Tenure type and age mix, the variables of primary interest in the study, are found in the category of housing variables in the conceptual framework. The study hypotheses will be discussed in more detail below (page 49).

The sample consisted of respondents from three different tenure type settings:

- * members of co-operatives¹
- * renters, and
- * strata title (condominium) owners.

Two age-mix settings were also represented:

- * age-integrated (i.e., people of all ages live throughout the housing complex. There is no special section for seniors), and
- * age-segregated (i.e., older adults only, no resident children).

In order to examine the interaction of the two variables, both age mixes are represented in each tenure type sample and vice versa, creating a 2 x 3 sampling matrix as illustrated in Figure 1:

Figure 1: Sampling Matrix

Age Mix	Tenure Type		
	Co-operative	Rental	Strata
Age-Integrated			
Age-segregated			

All respondents lived in multiunit buildings in the Lower Mainland of British Columbia which provided no health or

¹ Although there are several variations of co-operative tenure in Canada, this research will focus on the non-profit continuing housing co-operative, which is discussed more fully on page 24. The term "continuing" housing co-operative distinguishes developments which are co-operatively owned from those which are built by a temporary co-operative but transferred to individual ownership on completion.

personal care to residents, and had no paid recreational staff.

B. Review of the Literature

1. Theoretical Literature: Housing, Housing Satisfaction and Wellbeing

The underpinning of much of the theoretical work in the area of environment and aging is the belief that all aspects of environment, but particularly housing as a key component, have an important effect on quality of life for the elderly (Lawton, 1980a; Lawton, 1983). Early work by Lewin (1935) specified the relationship between the person and the environment in the ecological equation:

$$B = f(P, E)$$

which asserts that behavior is determined by both the person and his or her environment. Murray (1938) argued that the environment constitutes a "press", which he defines as "a temporal gestalt of stimuli which usually appears in the guise of a *threat of harm* or *promise of benefit* to the organism (p. 40)".

On this basis most early housing studies

emphasized environment as a determinant of older people's behavior. Thus, the search for ways of improving the environment through good design and planning (was) typically justified in terms of their favorable "effect" on older people's wellbeing (Lawton 1985: 450).

That is, it was thought that adjusting the quality of the environment's "press" would improve the wellbeing of the older person. Environment was defined as the sum of the physical and social qualities of one's immediate surroundings; competence referred to the individual's biological health, sensory, perceptual, motor and cognitive capacities, and ego strength.

Building on Lewin's and Murray's work, Lawton and Simon (1968) proposed the Environmental Docility Hypothesis, which posits that the less competent the person, the greater impact environmental pressures will have on him or her. Lawton (1982) later revised this hypothesis, suggesting an "environmental proactivity hypothesis", which states that "environmental resources are likely to be better used by ... people of higher competence (Lawton, 1985a, p. 507)."² This principle incorporates more easily the ability of the individual to act on her own behalf and is consonant with the perspective of Kahana (1982) who describes the person-

² Lawton distinguishes *reactivity*, the "response to externally applied interventions", from *proactivity*, i.e., attempts by the person "to change himself or herself or (create) an environment to facilitate the desired behavior (1985a, p. 506-507)." Reactivity is a passive response to the environment as "press"; proactivity is an active mode in which the individual actively draws from the environment resources which enable a desired behavior or affect state to be brought about. Lawton suggests that the transaction between person and environment shifts between proactive and reactive as competence rises or falls relative to press. Wister (1986) suggests that older people accomplish a proactive stance by cognitive restructuring to a greater degree than was previously understood.

environment transaction in terms of "congruence": wellbeing lies in the *match* or congruence between the needs of the individual and the resources provided by the surrounding environment.

From the Environmental Docility Hypothesis grew the Ecological Model (Lawton and Nahemow, 1973), which described more explicitly the transactional nature of the person-environment relationship. It holds that one's wellbeing in old age depends on a *balance or interaction* between one's competence and the "press" or demand level of the immediate environment: environment presses upon the individual, eliciting a response which is a function of *both* the individual's competence and the nature of the press. The model implies that behavior (i.e., both actions and affect) and ultimately wellbeing can be influenced by adjusting levels of competence or press. It also retains the tenet of the Environmental Docility Hypothesis that persons of less competence are more vulnerable than others to environmental conditions.

For example, in these terms a person whose competence was reduced, say by ill health, would be more likely than a well person to respond with maladaptive behavior or negative affect in the face of an environmental press such as noise.

Although at first both competence and press were narrowly defined, later work of Lawton (1980) and others (e.g. Eckert

and Murrey, 1984), with particular reference to the elderly, expanded the notion of competence to take wider social forces into account:

Just as behavioral manifestations of competence serve as indicators of internal competence, other kinds of reductions in competence reflect external processes that become incorporated as incompetence. "Ageism", social isolation, forced retirement, lowered income, personal losses, and so on are, first, social deprivations whose occurrence may tell us nothing about the competence of the person who experiences them. Yet the person often experiences them as reductions in competence....The results of such deprivations are called "**secondary incompetence**." This term suggests that although the deprivation originates outside the person, its net effect is a limitation on the person's ability to deal with the environmental press. To the extent that an older person has experienced no such decreases of competence, that person is not selectively vulnerable (p. 15, emphasis added).

Subsequently, Lawton (1982a) expanded further on the Ecological Model, revising Levin's (1935) equation to read:

$$B = f(P, E, P \times E).$$

This refinement of the Ecological Model lessens the dichotomous character of the previous formulation and bridges the gap between person and environment: behavior (which includes both overt actions and affective response) is a function of the person responding at the level of his/her competence to the demands or press of the environment *taking the person-environment interaction itself into account*. That is, the interaction term incorporates into the model two

attributes of the individual, personality style and environmental cognition, which mediate his or her experience of the environment and response to its demands.

Lawton describes personality style in terms of habitual ways of experiencing and responding to the environment (p. 51).

Environmental cognition is

processed environmental content, which differs from explicit physical environmental stimuli to the extent that personality style, variation in competence, and other personality factors not accounted for in this model intrude into the apprehension of the objective environment (p. 51).

The person responds to the environment as perceived in the moment, and according to his or her habitual style of understanding and response. In the example used above, even positive noise, such as laughter, can evoke negative response, since the response depends not solely on the quality of the press and the competence of the individual but interactively on his or her interpretation of the situation.

This more phenomenological approach to person-environment interaction moves the model from a normative, fairly deterministic description of behavior into the symbolic interactionist theoretical framework: individuals respond selectively to objective stimuli according to their definition of the situation. This theoretical development provides the basis for exploring subjective aspects of the relationship between older people and their housing environment in addition to the variables more traditionally examined. Being less

deterministic, it also allows for the possibility that individual factors of competence and environmental press are interacting to enhance the wellbeing of the older person.

Supporting the need to consider more subjective variables is the results of two decades of both longitudinal (e.g., Carp, 1966; Lawton and Cohen, 1974; Lawton et al., 1978) and cross-sectional (e.g., Schooler, 1970; Campbell et al., 1976; Teaff et al., 1978; Lawton et al., 1980) research using objective variables: a consistent and stable but very small positive effect of residential environment on the wellbeing of old people has generally been reported. Larson (1978) estimates the contribution to variance shown in the thirty years' research he reviewed to be from 1% to 4%, about equivalent to that shown by marital status and by transportation variables.

Housing satisfaction, is one subjective variable which has been studied, however, and has been shown to predict sense of satisfaction with life itself (Campbell et al., 1976; Lawton, 1980a). Lawton and several colleagues suggest a progressive aspect to the relationship between objective housing characteristics, housing satisfaction and wellbeing:

...we would anticipate that factors that initially only affect housing satisfaction would ultimately penetrate to deeper personal levels and affect morale (i.e wellbeing) as well. It has been suggested that poor environmental conditions first produce anger, then resignation, and finally a feeling that one is unable to cope. Thus the external environmental forces become internalized as a function of time spent in poor circumstances (1980: 223)

Later theoretical work by Lawton (1983) places the interaction of personal and environmental factors in promoting or diminishing wellbeing within a larger framework which incorporates subjective factors more explicitly than in the Ecological Model, and specifies more clearly relationships between objective and subjective factors. This construct, which he called "The Good Life", is shown in Figure 2:

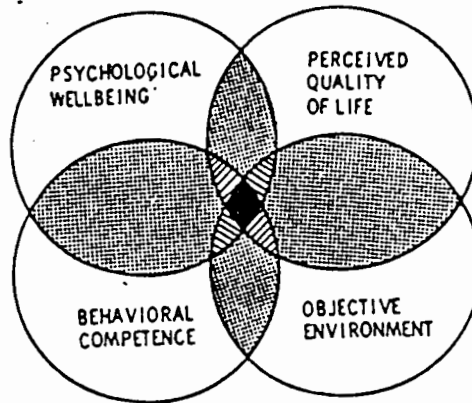


Figure 2: The Good Life (Lawton, 1983)

"The good life," says Lawton, "(and its polar opposite, the bad life) subsumes all that we define as legitimate personal and social goals. Its sectors together include every aspect of behavior, environment and experience (1983, p. 349)."³

³ Lawton's use of the first person indicates that this construct, like his other theoretical work, is not restricted to the elderly, but is intended as a more general description of person-environment relations. However, within that larger context, Lawton's work has been focused on "the aging process as a modifier of the relations between the person and the outside world (1983, p. 349)." It is this narrower topic which is considered here.

The first two sectors of this classification incorporate the dyadic person-environment relationship described in the Ecological Model:

- * **objective environment:** this includes the physical and social surroundings of the individual as described in Lawton's previous work
- * **behavioral competence:** also incorporating Lawton's earlier work, this category is indexed by health, functional health, cognition, time use and social behavior;

The other two sectors broaden the Ecological Model, addressing criticisms that it could not incorporate cultural, symbolic or phenomenological, i.e. subjective, concepts (Rapoport, 1982; Kahana, 1982; Anderson et al., 1985; Bernardin-Haldeman, 1987):

- * **perceived quality of life:** one's personal evaluation of some 12 to 15 factors in one's life and lifestyle including housing and neighborhood, leisure, family and friends
- * **psychological wellbeing:** "one's subjective evaluation of the overall quality of one's inner experience (Lawton, 1983, p.350)"

The sectors are considered to be overlapping, about as much as shown in Figure 2, which implies that although essentially independent, they do correlate to some extent.

It should be noted, however, that "The Good Life" model is essentially a taxonomy. It specifies the components of the good life but does not posit any causal relationships among

them. The purpose of the model itself is simply to map the territory, to show which general aspects of human life need to be taken into consideration in attempting to achieve quality of life. It is left to other research and other researchers to define particular independent and dependent variables and to spell out the paths between them.

In terms of this model, in most research on housing for the elderly, housing characteristics (objective environment) are usually discussed in terms of their relationship to housing satisfaction (perceived quality of life) and/or life satisfaction or morale (psychological wellbeing), controlling for personal variables (behavioral competence).

The present study follows this pattern, assuming, for analytical reasons, that a linear relationship exists between the personal and housing characteristics (designated as independent variables) and both housing satisfaction and wellbeing (designated as dependent ones). In this research, housing satisfaction and wellbeing are considered separately.

Among the independent variables, in both the personal and housing categories the clearly *objective* variables such as marital status, frequency of family visits, tenure type or housing cost are considered along with more *subjective* ones such as satisfaction with degree of social integration, sense of safety in one's dwelling, and feeling of belonging. The

two variables of major interest, tenure type and age mix, are incorporated into the overall model as objective housing variables.

2. Empirical Literature

This section will follow the theoretical structure outlined above: it will consider the literature on the personal and housing characteristics of older people as they relate to housing satisfaction and the relationship of housing qualities to wellbeing. For the personal variables, after a brief discussion of the impact of sociodemographic variables, attention will be directed towards social integration. The housing variables focused on will be tenure type and age mix. The latter two constitute the primary interest of this study, but both have drawn the interest of researchers, to a greater or lesser degree, because of a presumed relationship through social integration to wellbeing. Finally, the small amount of research which has been done on subjective housing variables will be reviewed and the models for the study identified.

a. Personal Variables

i) Sociodemographic Variables

One of the few sociodemographic variables which shows high association with housing satisfaction among the elderly is **age** itself (Lawton, 1985). Age predicts not only satisfaction with housing, but also the wish to remain in one's current

home, regardless of its objective qualities, although the extent of this influence is not large (Campbell et al., 1976).

Consideration of **marital status** shows satisfaction to be relatively high among the married (Lawton, 1980a) and widowed (Campbell et al., 1976). With regard to **sex**, Lawton (1980a) reports greater satisfaction in male-headed households, but since the report does not distinguish between male and female respondents, this finding does not address differences in satisfaction between men and women as such.⁴

Other personal variables which have been studied, such as family **income** (Campbell et al., 1976; Varady, 1984), household **size** and household **type** appear to be relatively unimportant (Lawton, 1980a). Race has been found to be associated with housing dissatisfaction in the U.S. (Campbell et al., 1976; Lawton, 1980b). *Health* is a characteristic rarely addressed explicitly with regard to housing satisfaction in the studies of community-dwelling elderly which were reviewed, but it is known that "poorer housing is apt to be occupied by people in poorer health (Lawton, 1985, p. 463)."

⁴ It should be kept in mind that the results of these studies may be confounded by the higher income generally enjoyed by couples over the life course, and the consequently greater likelihood of their owning their home. As will be discussed below, owners tend to have higher housing satisfaction than renters.

The high levels of housing satisfaction expressed by elderly people are not necessarily consonant with the objective characteristics of their housing. In fact the paradoxical tendency of older people to express high satisfaction with housing which may be physically deficient has led researchers to suspect that more subjective factors are at work (Carp, 1975; Campbell et al., 1976; Lawton, 1980a; O'Bryant, 1983).

Overall, studies by Campbell et al. (1976) and O'Bryant and Wolf (1983) both found the contribution of sociodemographic variables to variance in housing satisfaction among elderly people to be about 10%. Lawton (1980a) in a similar study found a contribution of 15%. All three concluded that subjective factors had a stronger influence than objective ones on housing satisfaction.

To put these issues in context it should be mentioned again that for older people, the contribution of housing satisfaction and other housing variables to wellbeing as such has been found in most studies to be fairly small (1% - 4% is Larson's 1978 estimate). The more salient predictors of wellbeing, according to Larson's review of thirty years' research on the subject, are health (4% to 16%), income (1% to 9%) and social activity (1% to 9%), results which "are generally consistent with the findings of similar research on the well-being of adults of all ages (Larson, 1978, p. 116)."

ii) Social Integration

It was mentioned above (page 5) that the gerontological research on housing has been directed largely towards discovering ways to improve wellbeing (Lawton, 1985). A second assumption underlying much of the research is the principle derived from Durkheim (1893) that social integration is necessary for the happiness of the individual. These two tenets have prompted many housing researchers to examine the association between respondents' amount of social activity and their wellbeing, based on the belief that certain types of housing are more effective in promoting social activity.

With regard to the presumed link between social activity and wellbeing, much of the early research was inconclusive (Lemon et al., 1972; Ward, 1985). It is now recognized that for accuracy a distinction must be made between the *quantity* of social contact and its *quality*, the latter being probably more important to wellbeing. (This possibility was first raised by Lowenthal and Haven, 1968).

Research indicates that lack of positive family and confidant relationships is not compensated for by quantity of social contacts (Rosow, 1967; Lowenthal and Haven, 1968; Lemon et al., 1972; Hochschild, 1973; Liang et al., 1980; Strain and Chappel, 1982; Lawton, 1983). The widespread preference of

elderly people for independent living arrangements (i.e. as a couple only or alone) (Lawton, 1982; Wister, 1985a) specifies the type of family contact desired, which has been called "intimacy at a distance" (Rosenmayr and Kockeis, 1963). Some authors believe that old people often choose independent living precisely to avoid endangering relations with their family by adding the possibility of domestic tension (Hochschild, 1973; Fengler and Danigelis, 1982; Streib et al., 1985).

Others argue that socially based friendship networks do have key a place in the lives of elderly people because maintaining a social network separate from one's family relationships provides a valuable sense of competence, independence and control (Ward, 1979; Chappell, 1983). Furthermore, some assert that friends may be more important than family in that relationships are

voluntary rather than obligatory. When a friend helps you, it is clear it is out of a sense of caring or of reciprocity and that you will also help in return. With family, particularly children, the helping may be more one-way (Gee and Kimball, 1987, p. 95; see also Lowenthal and Robinson, 1976)

and therefore less satisfying. That members of social networks are normally of the same generation gives such friendships a congruence or an "all in the same boat" quality (Ward, 1979, p. 47) which also supports one's self-image. Finally, sheer geography may require that much of one's day-to-day social contact be with non-family (Sherman, 1975).

And, distinguishing between specifically social and instrumental or helping contact (Wister, 1985), it is often friends and neighbors close by who assist with shopping, transportation and other small but indispensable supports.

In sum, the clarification of the difference between objective and subjective social integration has enabled later researchers (such as Conner et al., 1979, Liang et al., 1980, and Ward et al., 1984) to examine intimate family and confidant relationships separately from more strictly social ones, and quality of contact (as indexed by degree of satisfaction with it) as distinct from quantity.

This distinction has illuminated some of the previous findings on the link between social integration and wellbeing. Quantity of social activity appears in general to have a small positive relationship to wellbeing (ranging up to about $r = .3$ according to Larson, 1978), which seems to be less salient among people of higher SES and those in good health. Subjective social integration, that is, the individual's own sense of whether she feels lonely, has one or more people with whom to share confidences, and is generally satisfied with her social relationships, is a much stronger influence. Liang et al. (1980) found that this factor contributes from 27% to 40% to wellbeing in various data sets. Ward et al. (1984) report a contribution of 26%.

The link between social integration and the literature on housing lies in the twofold tenet that physical proximity promotes social interaction (Rosenberg, 1970; Lawton and Simon, 1968) and that relationships will most easily be formed with age peers (Eisenstat, 1956). The assumption is that the elderly, to the extent that they are less mobile than people of other ages, are dependent on having age peers in their immediate neighborhood for friendship formation. Therefore it is presumed that housing shared by other older people would promote social integration by facilitating friendship development through "interpersonal interaction, organizational participation and helping patterns (Liang et al., 1980, p. 751)", i.e., opportunities for objective social integration. Another concept underlying this literature is the belief that the elderly, having lost the roles and often the friends of middle age, do in fact require the opportunity to make new friends (Ward, 1979).

In terms of the Ecological Model (Lawton and Nahemow, 1973), similarity and difference of the people in one's environment such as provided by the presence or absence of age peers constitute different levels of environmental demand or "press": more variety constitutes a greater demand. If those around one have different values, there will be fewer social supports and greater perceived psychological distance, that is, a low level of social integration and a high level of

press. The underlying *environmental docility hypothesis* (Lawton and Simon, 1968) indicates that persons of lesser competence would be more vulnerable than others to the effects of such social difference, and conversely, more able to function proactively when surrounded by people like themselves.⁵

b. Housing Variables

A few objective qualities of one's housing have been found to contribute to housing satisfaction. The main factors in dissatisfaction appear to be deficiencies such as the need for structural repair and lack of adequate heat (Lawton, 1980a). Number of bathrooms (more bathrooms presumably being an index of high quality housing) is the major positive indicator of housing satisfaction in the research to date (Lawton, 1980a). Relatively unimportant, on the other hand, are such features as the type of structure (single family house vs apartment), size of dwelling unit, age of housing (Campbell et al., 1976), building size or height (Lawton et al., 1975) and number of stairs (Lawton et al., 1978).

i) Age Mix

Many of the earliest housing studies in gerontology addressed themselves to objective housing variables, especially age mix.

⁵ (Lawton et al., 1984) suggest this "congruence deviation hypotheses" but note that it has not been empirically tested.

Particular interest has been shown in age-segregated housing. As mentioned above, it was thought that the proximity of other elderly people contributed to social integration and therefore enhanced wellbeing. Typically, number of activities, amount and type of social interaction, and helping patterns in various settings were measured as indices of social integration, and examined as to their correlation with measures of expressed housing satisfaction and morale.

Two decades of studies have failed to yield a clear conclusion on this point. Most researchers have found high housing satisfaction--even among those who had not thought, before moving in, that they would like it (Lawton, 1980)--and modest increments in social activity among residents in age-segregated planned housing (e.g. Teaff et al., 1978; Lawton and Nahemow, 1979; Gutman, 1983). On the other hand, it has also become clear that characteristics of the individual, particularly health and income, and more generally social class, are strong mediating variables in the contribution of age-segregated housing to wellbeing (Rosow, 1967; Messer, 1969; Gubrium, 1970; Rosenberg, 1970; Poulin, 1984). Specifically, people more vulnerable in terms of health and income, and with lower education and general socioeconomic status, appear to have somewhat higher levels of wellbeing in age-segregated environments than others do. Rosow (1967), for instance, in the classic work on this

subject, found that while working class people were more locally dependent for friendship than middle class people, the local dependence of middle class people increased with role loss and with age (i.e. vulnerability).⁶ The overall result of the research is that although a small positive relationship between age segregation and enhanced wellbeing has been demonstrated, it is a relatively minor influence and disappears when other variables are accounted for.

One factor in the failure to reach a conclusion on this matter is the nature of the settings which have been examined: most studies of *age-integrated* housing have been conducted in public housing in the United States, an environment which Lawton and Yaffe (1980) identified as one in which elderly residents experience increased fear of crime. Thus, observed differences between the respondents in age integrated and age-segregated settings have been confounded by this uncontrolled variable.⁷ Many of the studies of *age-segregated* housing, on the other hand, have taken place in planned and subsidized housing complexes where a whole host of confounding factors are to be found (e.g. the presence of supportive

⁶ Rosow found that "emotional dependence" on one's children was essentially unrelated to one's housing situation, in particular to its degree of age-segregation.

⁷ A study by Lawton, Nahemow and Yeh (1980) conducted in just such a setting did suggest, however, that the apparent positive effects of age segregation and physical security may be independent of each other.

staff), not least of which is the fact that residents have presumably already expressed a predisposition for age-segregated housing by moving in.

Whatever research may show about the effect of age mix on wellbeing, however, the real estate market for seniors-only or "mature adults only" housing remains strong, as a glance at the real estate section of any newspaper will show. Preference surveys show that about a quarter to a third of elderly people living in the community would prefer to live with elderly people only (Lawton, 1982; Lawton et al., 1984), and that "it is primarily (low) socioeconomic status that dictates the preference to live with many people of one's own age (Lawton et al., 1984, p. 100)." A minority of about a third of residents in age-segregated housing, on the other hand, would prefer to have some families with children among their neighbors (Lawton, 1980).

Components of the preference for age segregation, according to a study by Lawton, Moss and Moles (1984), appear to be "social advantage in proximity to age peers (p. 103)", sense of being similar to age peers, and an aversion to certain characteristics of the young (e.g. noisiness). Respondents who wished a mix of ages expressed a liking for having "more active" young people around. It is also reported that the preference for age-segregated housing, when expressed by

people living in age-*integrated* neighborhoods, is associated with low morale and low socioeconomic status.

Age-segregated housing, at its best, can provide a lively community of peers whose relationships have "a comradely side-by-side quality (Hochschild, 1973, p. 54)" which, through availability of social activity with peers, minimizes isolation and complements the more intimate and primary relationships with family and close friends. Age-integrated housing, at its best, incorporates elderly people into the ongoing life of the wider community, as advocated in particular by Mumford (1956). Either of these settings might be chosen for reasons of finances, health, or social desires, or simply by default. To the extent that the setting is appropriate for the preferences or competences of the individual, then behavioral competence can interact with objective environment to influence perceived quality of life and ultimately psychological wellbeing. Age-integrated or age-segregated housing can be a component of "the good life."

ii) Tenure Type

Another objective characteristic of housing which appears to contribute both to satisfaction and to wellbeing is tenure type. Owners have frequently been found to express higher satisfaction with their housing than renters (Campbell et al., 1976, Lawton, 1980a). Indeed, Fengler and Danigelis (1982)

found ownership directly predictive of life satisfaction for urban widows. While relocation decisions for older homeowners appear to be seldom the result of housing dissatisfaction (O'Bryant and Wolf, 1983), Varady (1984) found that tenants were five times more likely than owners to be interested in moving to seniors' housing. This supports Rosow's (1967) view that 30-35% of his urban tenant sample represented a "hard core of prospective movers, people on the verge of doing something about an unsatisfactory housing situation (p. 336)."

O'Bryant and Wolf (1983) explored the complexities of this difference between owners and renters in more detail. They discovered that personal, objective and subjective variables operate differently in explaining the housing satisfaction of the two tenure groups. Physical (objective) characteristics were the best predictors of satisfaction for renters, but subjective factors relating to "attachment to home" (which will be discussed in more detail below, page 41) were more important for owners.

It should be kept in mind, however, that in this study as in most research on elderly homeowners, the homes in question are single-family dwellings owned since family-formation years. More recently, the purchase of a *strata title* (condominium) unit--i.e. individual title to a unit with joint title to

common property in a multiunit complex--has become popular among retirees in some cities.⁸ Although at the time of the 1986 census, almost 5% of Canadians homeowners aged 65 and over lived in such units (Statistics Canada, 1987, Chart 93-105 Table 8), very little information is currently available about the housing satisfaction and wellbeing, of older people who have chosen this new tenure form (Lawton, 1985).

Differences between elderly owners and *renters* are generally representative of major disparities in lifelong socioeconomic status: "The housing one has on entry to old age is determined largely by 'trajectories' set in mid-life (Kendig, 1990, p. 291)." Since ownership of a single-family house is overwhelmingly the preferred tenure type in North America, some hold that only those who cannot afford to buy a house, or have had one and lost it, remain in the rental market when they reach old age:

Constraints more than preferences, particularly in the decisive early adult years, explain the divergence between eventual owners and permanent tenants. Irrespective of subsequent individual or market change, few owners wish to shift back to renting, and few tenants buy for the first time late in life (Kendig, 1990, p. 291).

An exception to this generalization is the position of widows, many of whom give up home ownership in late old age, often for

⁸ Statistics Canada reports that in 1986 almost three quarters of the condominium units in Canada were in Ontario and British Columbia (Chart 93-105, Table 8)

a supportive or institutional living arrangement (Struyk and Soldo, 1980; Lawton, 1980a; Priest, 1985; Berger, 1986; Kendig, 1990).

The group who remain or become tenants in old age (about 22% in the United States, 35% in Canada) is disproportionately female, of low income, and non-married (widowed, never-married or separated/divorced) (Berger, 1986). Housing satisfaction (Lawton, 1980a) and housing quality (Lawton, 1980a; Struyk and Turner, 1984) have both been found to be low among renters. In short, renters are among those who have the greatest housing need (Lawton, 1980a; Struyk and Soldo, 1980), a need which has been responded to over the last several decades with housing assistance programs, generally involving age-segregated developments with a minimal level of associated support (CMHC, 1985).

The *co-operative* form of tenure is less common in Canada than renting or owning. In 1987 there were 51,700 co-op units in Canada in over 1,350 projects (Selby and Wilson, 1988). This constitutes about .6% of the Canadian housing stock. These units are homes to about 150,000 people (Co-operative Housing Foundation 1988a).⁹

⁹ Lawton (1985) reports that about 167,000 elderly people live in American co-operatives. This constitutes about 41% of the co-op stock in that country. Lawton notes that, "the peak of co-operative building came a decade or so ago, and a segment of the original population has aged in place. Thus

Essentially, co-operative tenure consists of shared ownership of a multiunit housing development. Rather than holding individual title to their units as in strata title ownership, members own shares in the development as a whole. They hold their dwelling units by a lease with the co-operative as a corporate entity. Two key differences between co-operative and rental tenure are that the former provides security of tenure and that each development, like a strata complex, is managed on a democratic basis by the people who live there.

In practice there are two forms of co-operative housing, market and non-profit co-ops. In market co-operatives members may sell their shares for a profit, subject only to approval by the co-operative of the incoming members. Non-profit co-operatives redeem shares at par when the member wishes to move, reselling to the incoming member at the same price. This research will concern itself exclusively with the non-profit form of housing co-op.

The non-profit co-operative has been used in Canada as a vehicle for housing assistance to low and moderate-income

co-operative populations may have been notably stable (p. 466)."

The co-operative form is more common in some European countries, such as Denmark and Sweden, than in North America: 15% of Sweden's housing stock was held by co-operative tenure in 1980 (Appelbaum, 1986).

families since 1973. Although the co-operative program is primarily intended for family housing, about 3,000 seniors live in non-profit co-ops. 2,000 of these people are in 41 age-segregated co-operative developments, most of which were built in the early years of the program (Co-operative Housing Foundation, 1988b).¹⁰

The main purpose of non-profit co-operatives in Canada is to provide affordable housing. Proponents believe, however, that these co-operatives provide social benefits beyond this fundamental objective: communities are formed in which members have both housing security and the neighborliness born of working together to build and manage their housing developments (Laidlaw, 1977; Selby and Wilson, 1988).

Co-operatives have their roots in economic hardship and social-political ideals. These principles reflect the economic and social objectives at the base of every co-operative. While the primary reason for joining a co-operative may be economic, in the long run the social advantages are just as important (Co-operative Housing Foundation Annual Report, 1988).

More specifically, a belief in the supportive value for individuals of participating in real decisions which concern their housing (as different from social or recreational

¹⁰ Recently a new form of housing co-op has arisen, intended specifically for older people, which retains the non-profit character of the earlier ones, but is financed entirely by member equity, without government subsidy. About 150 units have been occupied so far in the suburbs of Vancouver, and two more developments are in the planning stages.

involvement) suffuses the non-academic literature produced by the co-op sector. For example:

When dwellers control the major decisions and are free to make their own contribution to the design, construction or management of their housing, both the process and the environment produced stimulate individual and social well-being. When people have no control over, nor responsibility for key decisions in the housing process, on the other hand, dwelling environments may instead become a barrier to personal fulfillment and a burden on the economy (Turner, 1976: xxxiii).

Some attempts have been made to assess the *housing satisfaction* of co-op residents in Canada, although little attention has been paid to the reactions of seniors as such. Schiff (1982a, 1982b and 1983), undertook surveys of co-operative members in Ottawa, Toronto, and Montreal. Between a quarter and a third of respondents stated they were "completely satisfied" (11 points given on an 11-point scale) with their housing. The average score on the scale ranged from 8.5 to 8.7. Schiff also reports about two-thirds of those surveyed in Ottawa and Toronto and half in Montreal stated that the quality of life in general had improved as a result of moving to a co-op. Andrews and Breslauer (1976) in an in-depth case study of a Toronto co-op also found very high overall levels of satisfaction with the co-operative living environment.

The Cornerstone Planning Group (1977), comparing resident responses in several Vancouver locations, judged that

Residents of the ... Co-operative (50 of the 65 units responding) were generally very satisfied with their townhouses and the development. The number and variety of criticisms about the units were minimal compared with other compact housing developments ... previously surveyed Resident comments reflected an awareness of their housing that had not been expressed in other similar surveys, perhaps an outcome of the resident interactions in the Co-operative Housing Association (p. 7).

With regard to elderly people in particular, Walker (1983), in a study of three seniors' co-ops in B.C., found high levels of satisfaction with their communities as a whole: in two, 100% rated their co-op as "very successful" as a retirement community; the third, newer co-op, was considered "very successful" by 73% and "somewhat successful" by 18% of its members.

Wide *participation* in the tasks of co-ownership accompanies the high satisfaction levels cited above. Schiff (1982a, 1982b and 1983) found that 55% to 65% of respondents were currently on the Board of Directors or a committee, or had served in the past year. Fewer than 15% said they had not spent any time on co-op activities in the past year, the mean amount contributed being between 11 and 14 hours a month.

A study by Canada Mortgage and Housing (1983), the federal crown corporation which delivers the non-profit co-op program, found much higher levels of resident participation in project meetings in co-operatives than in public housing or non-profit

rentals. It also notes that "a high proportion of respondents in co-operative projects indicated that they thought their suggestions would be seriously considered (p.244)" and carried out if possible.

Walker (1983) reports that all interviewees but one in the three seniors' co-ops studied attended the annual meeting (compared to 73.3% in the non-profit rental project surveyed), and 85.3% attended other meetings as well. 90.9% of co-op respondents indicated that they felt themselves to be part of the decision-making process. Thus the literature currently available on non-profit co-ops for families and seniors indicates high levels of both participation in governance and general housing satisfaction.

It has proven very difficult, in housing co-ops as elsewhere, to link "participation" with "satisfaction" empirically, because individuals differ in their need and desire for local involvement (Andrews and Breslauer, 1976; Davidson, 1976), i.e., because of subjective differences.

The reviews above reveal a striking parallel between the co-operative literature, both academic and non-academic, and the gerontological literature. Both are based on the idea that one's housing, particularly in its social aspects, will eventually influence one's wellbeing. An important

difference between the co-operative and gerontological perspectives, however, lies in the factor which is assumed to provide the primary link between participation or social integration and wellbeing. In the co-operative philosophy, wellbeing is believed to derive from the control this form of tenure provides, in gerontology it has usually been held to be the result of social support. This difference is exemplified in the following parallel quotations:

As to co-operatives: An important goal of the Canadian co-operative housing movement is the creation of communities which, through shared experiences and problem solving and social interdependence, develop a sense of identity and solidarity among residents Indeed, communities shape lives, and membership in healthy communities has been credited with countering isolation, apathy and personal and social instability, and with fostering the development of support networks and a sense of individual commitment and responsibility (Selby and Wilson, 1988, p. 23).

For gerontology: Housing represents a "context for living" (Carp, 1976) whose important elements include not only physical characteristics, but also the interpersonal and social environment, characteristics of the surrounding neighborhood, and the availability of services (Ward, 1979).

In practice this distinction reflects only a difference in perspective. Both sets of literature are addressing wellbeing as a function of control and support. On the one hand "creating a supportive community (Wekerle, 1988)" is among the stated objectives of many housing co-operatives, and on the other hand there is abundant evidence (e.g. Langer, 1983; Baltes and Baltes, 1986) that perceived control is critical to

the health and wellbeing of elderly--in fact of all--human beings.

Just as gerontologists have believed that there is supportive value for older people in the simple proximity of people like themselves, so also the value of belonging and being involved in a locally-based community is held to be a strength of co-operative lifestyles "where residents know one another, friendships form, and a level of mutual aid develops (Wekerle, 1988: 133)." Although studies of neighborhoods (Wellman, 1979), like studies of seniors' housing complexes (e.g. Sherman, 1975), have shown repeatedly that people living in them have their own personal networks which transcend local boundaries, yet the belief persists in both sets of literature that local belonging has supportive power, which is often termed "a sense of community (e.g. Simon, 1986: 12)."

Co-operatives do not have a monopoly on community or the claim to promote community. Indeed, Fry (1977) points out that "community" is the commodity being sold by many marketers of condominium and retirement developments:

it is the "way of life", the culture, the social organization which is the implicit, if not an explicit, part of the deal....We can thus view the packaging of community culture as an effective marketing device (p. 116).

Osgood (1982) has provided a detailed description of three retirement communities in the southern U.S. in which self-government was the key to the lifestyle and satisfaction.

However, Streib and colleagues (1985), in a wider study of 36 American retirement communities note that desire for self-government is often

latent. Residents may not wish to be constantly involved in self-government, but they want the *possibility* of involvement and the power to make decisions if a perceived need arises (p. 409).

The authors note that to assume an overriding importance of the decision-making facet of life in these communities

...is to overestimate the importance of the extent to which residents seek to actively influence decisions and to lose sight of the main and ever-present "mission" of retirement communities--a leisure-oriented lifestyle in which residents may pursue whatever activities they choose (p. 408).

This suggests that the causal linkage of control with community support argued in the co-operative literature may not apply in other types of community, or in communities of elderly people.

Although the housing developments in this study, with the possible exception of the age-segregated co-operatives, are not set up to be "retirement communities" in this sense, it is well to keep in mind other situations in which the issues of control and community support arise in housing settings for elderly people.

iii) Subjective Housing Characteristics

There are two reasons stemming from the literature for including subjective housing variables in a study such as this. One is that the various objective factors researched to date account for relatively little of the variance found in housing satisfaction. Lawton (1978) found 22% of the variance in satisfaction explained by objective elements of housing (e.g. heat, number of bathrooms, physical deficiencies), and in a later study (1980a), 19%. Campbell et al. (1976) cite a contribution to variance of 12%. O'Bryant and Wolf (1983), disaggregating by tenure type, found that objective qualities of housing contributed 25% to housing satisfaction variance for renters, but only 14% for homeowners. While, as Lawton noted, these results demonstrate that the contribution of quality indicators is not negligible, he concluded that

...those factors that "ought" to make one less satisfied with one's housing because they are associated with poorer objective quality simply behave this way to a lesser extent than one would think (1980a: 318).

A second, but related, reason for studying subjective variables is that levels of housing satisfaction expressed by elderly people often do not correlate well with more objective assessments of their housing (Lawton, 1980a; Lawton, 1985).

Researchers, seeking to understand this discrepancy between objective quality and housing satisfaction among the elderly, have invoked a number of explanations. Carp (1975) suggested

that older people simply deny that poor conditions exist, in order to resolve cognitive dissonance. Others have supposed that they simply have lower expectations, (Campbell et al., 1976; Montgomery et al., 1980), are resigned to their lot, (Birch et al., 1973), or actually fail to notice housing deficiencies (Lawton, 1985). O'Bryant (1982) pointed out, however, that this phenomenon might well have more positive explanations than had been previously supposed. Lawton, too, concluded that "...idiosyncratic subjective factors transform the apparent 'reality' of the physical environment into terms that have greater psychological reality (1980a: 318)." Following this line of thought, O'Bryant went on to identify a set of subjective factors which she labeled "attachment to home" variables (O'Bryant, 1983; O'Bryant and Wolf, 1983), to be discussed below.¹¹

For purposes of this study, subjective factors will be considered under two separate headings: perceived housing variables and subjective housing variables as such. These correspond roughly to opinions and feelings about one's home, and both belong in the category of "perceived quality of life" in Lawton's (1983) "good life" model.

¹¹ This work has been going on parallel to the research into subjective aspects of wellbeing (e.g. Liang et al 1980, Ward et al 1984).

The *perceived* housing variables (Campbell et al., 1976) consist of one's personal opinions about aspects of one's home: how convenient its location is, how well it is maintained, whether it is big enough, whether the neighborhood is safe. These judgements have a fairly high cognitive content. Nevertheless, they are subjective in the sense that they vary with the individual's perceptions and will be affected by personality, culture, cognitive style (Rapoport, 1982; Lawton, 1983).

They are also influenced by the sense of "relative deprivation" (Easterlin, 1978; Rapoport, 1982). For instance, a home with a single bathroom may be considered perfectly adequate by one family but may be a source of dissatisfaction to another, based in part on what the family members are used to and what is usual among their associates. Related to this is level of aspiration and feeling about the equity of one's situation. It has been suggested that the high levels of life satisfaction expressed by the elderly as a group are a function of aspirations which are lower than those of younger people (Easterlin, 1978; Campbell et al., 1976; Wister and Burch, 1987). Carp and Carp (1982), while confirming this conclusion, found also that considerations of equity--whether life was treating one fairly in some domain such as housing--were more important than aspiration level as a predictor of

satisfaction in a number of domains, including housing, for elderly people.

The *subjective* housing variables belong to the affective or symbolic dimension (Becker, 1976) which Lawton suggests "probably forms an important aspect of subjective quality (1980a, p.324)." These are much more fundamentally related to "the overall quality of one's inner experience (Lawton, 1983, p. 350)" than the "perceived" variables. They involve issues of meaning, self-concept and identity which have until recently been left out of both empirical and theoretical consideration by social gerontologists (Rapoport, 1982, 1984). For Becker (1976), the housing environment

provides a set of cues that people interpret in different ways and that they use as a basis for making inferences about what activities are appropriate, how others treat them, and how they think and want others to think about themselves (ix).

Relph (1976) states that our dwelling is

...the fountain of our identity as individuals and as members of the community...not just a house you happen to live in,...but an irreplaceable centre of significance (p.39).¹²

Several researchers have made a beginning in identifying subjective housing variables. Considering a person's own experience with the home itself, the meaning it has as part of

¹² From this point of view the sense of fairness discussed above should probably be considered a "subjective", rather than "perceived" housing variable.

one's life (Rapoport 1982, 1984), O'Bryant (1983) has identified four "attachment to home" values (traditional family orientation, cost vs comfort trade-off, status value of homeownership and competence in a familiar environment) which explained 25% of the variance in housing satisfaction for homeowners. Gnaedinger's (1986) findings from more qualitative research were similar: "pride of ownership and the satisfaction of being able to look after one's own home....Familiarity and comfort with the house and neighbors....(and) emotional attachment to the place (p. 108)" were the cornerstone of widows' decisions to remain in their homes.

Both O'Bryant's and Gnaedinger's work is most applicable to homeowners. O'Bryant and Wolf (1983) did, however, contrast the influence of "attachment to home" variables on the housing satisfaction of owners with that of renters. They found the physical qualities of the dwelling more important for renters, and the subjective variables for owners. In seeking to explain the relative importance of objective housing variables for renters, the authors suggest that since housing costs are likely higher for them than for homeowners, the presence of deficiencies may generate dissatisfaction proportionate to the height of the rent.

It might be added, on the basis of Carp and Carp's (1982) work, that the sense of generally being treated with less fairness than homeowners may add to housing dissatisfaction for renters.

Another suggestion made by O'Bryant and Wolf is that the key factor may be

who is responsible for a housing problem. The renter is not sure that his or her landlord will ever resolve a particular problem and feels little personal control over the situation (O'Bryant and Wolf 1983: 229).

This raises again the issue of *control*, this time in a gerontological context. Control is "the ability to regulate or influence intended outcomes," which involves "the expectations of being able to participate in making decisions and engaging in actions in order to obtain desirable consequences and avoid unfavorable ones (Rodin, 1986)." Rodin and Langer (1980) suggest that self esteem and the ability to maintain control of one's surroundings are closely related: "as self esteem decreases, belief in one's ability to exercise control over the environment also declines (p. 13)."

The large literature on the importance of control of one's surroundings in the light of the losses and physical decrements of aging (see for example, Baltes and Baltes, 1986) will not be reviewed here. However, it clearly links with the more interactive interpretations of Lawton's theoretical

model. Lawton's (1982) "environmental proactivity hypothesis" implies that the ability to use environmental resources (i.e. to employ control), is a key component in the shifting competence of the individual to respond to the press of his or her environment (p. 13)."

With regard to housing issues as such, the tendency suggested by Lawton (quoted above, p. 10) for poor environmental conditions, in this context a perceived lack of control, to undermine one's ability to cope may render older tenants more at risk than owners to lowered satisfaction and ultimately wellbeing. The converse of this principle underlies the focus in the co-operative housing literature on the constructive value of control in the housing setting and the contribution of such control to developing a supportive community. It must be mentioned, however, that little research has been reported on control in the housing setting as regards elderly people except with nursing home populations (Langer, 1983).

If the issue of control is relevant to tenure type it may also be important to age mix. Age-segregated housing, because it creates a relatively homogeneous environment, may be valued by some older people because it presents fewer unpredictable social situations in which one would feel uncertain of being able to influence the outcome. Certainly this concept clarifies the finding that age-integration in housing works

best where seniors are in the majority (Zamprelli, 1986) or when intergenerational contact is within the control of the older person (Lawton, 1977a).

In this light O'Bryant's (1983) other subjective factor, the experience of competence in a familiar setting, and the often-reported tendency of housing satisfaction to rise with age, may both reflect the increasing importance of a setting where one has control of one's surroundings and of access to one's personal space. If old people have a particular need for a place of security, "a place of retreat, closed-in space, secure from the ravages of the alien outside (Rowles, 1978, p.121)," then again it may be because one's surroundings are under one's own control and self-concept is not threatened. This is not unrelated to the common need for privacy, but it may be intensified if mobility and energy decrease and environmental control and autonomy become fragile in old age (Lawton, 1970).

A final subjective housing variable to be discussed is the sense of *belonging*, more specifically, the sense of belonging to a visible geographically-based community. There is little research on this topic, although studies of retirement communities suggest that belonging to age-graded intentional communities is found highly satisfactory by residents (Mangum, 1982). Osgood (1982) cautions, however, that such communities

may become extremely lonely places when illness or widowhood lessen one's capacity for participating in the social and leisure-oriented lifestyle on which the sense of belonging is based.

The importance of the sense of belonging is, however, implicit in much of the literature on social integration reviewed above. To the extent that a housing development offers opportunities for involvement, friendship, and assistance when necessary, then it could be predicted from the literature that housing satisfaction would be high and wellbeing would be enhanced. For older people who choose to move from their long-time home, a sense of belonging would be an important factor in seeking to substitute for its familiarity, pride and family connections.

Theoretically speaking, the sense of belonging should also be related to the sense of control. If "competence" is the capacity to be proactive in one's environment and "press" is the sum of the demands and resources available in that environment, then a balance between these implies a comfort and satisfaction with those resources and one's capacity to interact with them. It means that one is both enabled and supported in being oneself, which are surely the requirements of community, the hallmarks of a place where one belongs.

In fact, the sense of belonging encapsulates many of the values and concerns found in the gerontological literature. Certainly research on age-segregation in housing has focused on the possibility that housing environments of age peers would be places where older adults would feel comfortable and at home. The literature on tenure type has focused on the sense of familiarity and pride of the older homeowner, but, as discussed above, co-operative housing also makes a claim to be a supportive community where people are known and can have a say. The inclusion of more subjective variables in studies of housing for the elderly expands and clarifies the earlier research.

iv) Models for the Study

Finally, a few words should be said about the previous studies on which this research is based. Campbell, Converse and Rodgers, (1976); Lawton (1980a) and O'Bryant and Wolf (1983) all sought to find the factors which contributed to variance in housing satisfaction and/or wellbeing. In general, characteristics of the individual and objective characteristics of their housing were analyzed by hierarchical regression to determine the percent of variance each set, and variables within the sets, contributed to housing satisfaction.

As mentioned above, Lawton (1980a) found 19% of the variance in satisfaction explained by objective elements of housing.¹³ Campbell et al. (1976) cite a contribution to variance of 12%. Both authors note that the relatively low explanatory power of the more objective variables they had considered gave "further support to the idea that idiosyncratic subjective factors transform the apparent 'reality' of the physical environment into terms that have greater psychological reality (Lawton, 1980a, p. 318)."

O'Bryant (1983), actually identified four subjective "attachment to home" variables and with a colleague explored their incremental contribution, finding that they raised the overall predictive power of the personal-demographic and housing variables to 38%.

The relative contributions to housing satisfaction of the factors studied by O'Bryant and Wolf are worth reproducing here, since they are parallel to the clusters of variables which were treated in the present research. See Table 1:

¹³ In another study reported in 1978 Lawton found a contribution to variance of 22%)

Table 1: Proportion of Variance in Housing Satisfaction Explained by Personal, Objective and Subjective Factors, by Tenure

Variables	Variance Explained (%)		
	Owners	Renters	Combined
Personal-demographic	10	9	38
Housing Characteristics	14	25	
Attachment to Home	24	14	

Source: O'Bryant and Wolf (1983)

Using these studies as a model, the current research examined the relative contribution of personal and housing variables to housing satisfaction and wellbeing. Within each set of variables subsets were identified which, conceptually and according the theoretical and empirical literature reviewed above, were thought to be salient. These variables were arranged in a conceptual framework as follows:

I. Independent Variables

A. Personal Variables

1. Sociodemographic
2. Objective Social Integration
3. Subjective Social Integration

- B. Housing Variables
 - 1. Objective Housing Variables¹⁴
 - 2. Perceived Housing Variables
 - 3. Subjective Housing Variables

II. Dependent Variables

- A. Housing Satisfaction
- B. Wellbeing
 - 1. Positive Affect
 - 2. Negative Affect

After the independent variables and dependent variables were examined singly, the patterns of relationship were examined within the framework for the different tenure type and age mix groups.

3. Study Hypotheses

The study hypotheses were constructed within the framework shown above. Since a major objective of the study was to discover whether differences exist between tenure type and age mix groups, the hypotheses were structured around those two variables in particular.

Two central tenets, drawn from the literature, underlay many of the tenure type hypotheses. One was that there would be sociodemographic differences by tenure type. The difference

¹⁴ includes tenure type and age mix

between owners and renters as such is well established and it was supposed that this disparity would extend to strata owners. Since one objective of the co-operative program is to serve low and moderate-income people, it was thought that co-op respondents would differ from strata respondents at least. The second assumption made was that the necessity of group decision-making in co-operative and strata title developments would lead to higher levels of social contact between residents of those settings. Many of the hypotheses about tenure type follow from these two presumptions.

The literature on age mix is less conclusive than that on tenure type, except that levels of social contact and of housing satisfaction appear to be somewhat higher in age-segregated settings. It was therefore less easy to establish underlying principles for the age-mix hypotheses. Assumptions made for the purpose of constructing hypotheses were that residents of age-segregated settings would prove to be older than those in age-integrated ones and that levels of social contact would be higher in the former.

The hypotheses are listed, within the conceptual framework, below. The hypotheses for the independent and dependent variables are presented, followed by the hypotheses for the patterns of relationship.

STUDY HYPOTHESES

I. Independent Variables

A. Personal Variables

1. Sociodemographic Variables

Hypothesis 1a: Residents of different tenure-type developments will differ in sociodemographic characteristics.

Hypothesis 1b: Residents of age-segregated housing do not differ from those living in age-integrated housing on sociodemographic variables.

2. Objective Social Integration

Hypothesis 2a: Co-op members and strata title owners will have higher levels of objective social integration than renters.

Hypothesis 2b: Residents of age-segregated buildings will have higher levels of objective social integration than residents of age-integrated buildings.

3. Subjective Social Integration

Hypothesis 3a: Levels of subjective social integration will be higher among co-operative members and strata title owners than among renters.

Hypothesis 3b: Levels of subjective social integration will be higher among residents of age-segregated buildings than of age-integrated buildings.

B. Housing Variables

1. Objective Housing Variables

Hypothesis 4a: Monthly housing cost will be inversely related to housing amenities. Highest costs will be found among renters, and

highest level of amenities among strata title owners.

Hypothesis 4b: Highest costs and highest level of amenities will be found among age-integrated residents.

2. Perceived Housing Variables

Hypothesis 5a: Perceived adequacy of size, perceived quality of maintenance, and sense of safety will be higher among co-op and strata respondents than among renters.

Hypothesis 5b: Perceived adequacy of size will be higher among age-integrated residents. Perceived quality of maintenance and sense of safety will be higher among age-segregated residents than among age-integrated ones.

3. Subjective Housing Variables

Hypothesis 6a: Levels of the sense of fairness, control and belonging will be higher among co-op and strata residents than among renters.

Hypothesis 6b: Levels of the sense of fairness, control and belonging will be higher in age-segregated than in integrated buildings

II. Dependent Variables

A. Housing Satisfaction

Hypothesis 7: The highest levels of housing satisfaction will be found among co-op members, strata title owners, and residents of age-segregated buildings.

B. Wellbeing

1. Positive Affect

Hypothesis 8: The highest levels of positive affect will be found among co-op members, strata

title owners, and residents of age-segregated buildings.

2. Negative Affect

Hypothesis 9: The lowest levels of negative affect will be found among co-op members, strata title owners, and residents of age-segregated buildings.

III. Patterns of Relationship

A. Housing Satisfaction

Hypothesis 10: Age mix does not predict housing satisfaction when sociodemographic and social integration variables are controlled.

Hypothesis 11: Tenure type makes a greater contribution than age mix to variance in housing satisfaction.

Hypothesis 12: Subjective housing variables as a group make the greatest contribution to variance in housing satisfaction.

Hypothesis 13: Of the subjective housing variables, the sense of control and the sense of belonging make the greatest contribution to variance in housing satisfaction.

B. Wellbeing

1. Positive Affect

Hypothesis 14: Tenure type makes a greater contribution than age mix to variance in positive affect.

Hypothesis 15: Subjective housing variables as a group contribute to variance in positive affect.

Hypothesis 16: Of the subjective housing variables, the sense of control and the sense of belonging make the greatest contribution to variance in positive affect.

2. Negative Affect

Hypothesis 17: Tenure type makes a greater contribution than age mix to variance in negative affect.

Hypothesis 18: Subjective housing variables as a group contribute to variance in negative affect.

Hypothesis 19: Of the subjective housing variables, the sense of control and the sense of belonging make the greatest contribution to negative affect.

II. METHODOLOGY

After briefly setting out the general characteristics of the sample obtained, this chapter will discuss:

- A. the *procedures* used
 - 1. to select *housing developments*, and
 - 2. to recruit *individual respondents* in those developments;
- B. the *instrument* employed; and
- C. the *analytical procedures* undertaken, including
 - 1. the *measurement* of variables; and
 - 2. the *statistical analysis* performed.

The *sample* consisted of 165 respondents: 63 men and 102 women aged 56 to 94. All lived in multiunit housing with no support services provided on site. The 28 housing developments in which they lived were located in municipalities within 1 1/2 hours' drive of Vancouver: Abbotsford, Mission, Richmond, Maple Ridge, Pitt Meadows and Langley.

The number and percentage of respondents according to the tenure type and age mix of the housing complex in which they lived is set out in Table 2 below:

Table 2: Number and Percentage of Respondents by Tenure Type and Age Mix of Building

Age Mix	Tenure Type			
	Co-op	Rental	Strata	Total
Integrated	33 (44%) (47%)	23 (31%) (47%)	19 (25%) (42%)	75 (45%)
Segregated	38 (42%) (53%)	26 (29%) (53%)	26 (29%) (58%)	90 (55%)
Total	71 (43%)	49 (30%)	45 (27%)	165

Note: Percentages on top line in each cell are by age mix, those below are by tenure type.

The sociodemographic characteristics of the sample are discussed fully in the following chapter (Table 4).

A. Sampling Procedures:

The age criterion for respondents was set at 55 years and older. The procedure followed in obtaining the sample involved two steps: first, selection of the housing developments from which the subjects were to be selected and, second, recruitment of respondents within those developments. Circumstances in the field dictated that in some cases sampling procedure differed for different tenure groups. Therefore, after a general discussion of the settings from which respondents were drawn, and the standard recruitment procedure, the method of obtaining respondents will be discussed separately for each tenure type.

The *settings from which respondents were drawn* were selected according to several criteria. Those inherent in the study design, were that developments should be co-operative, rental or strata title in tenure, and age-segregated (older adults only) or age-integrated (i.e. having children in the development). Several other guidelines were also established. All were to be multiple unit housing complexes with no support services provided on site. All were five years old or more, and were located in the central Fraser Valley region (Mission, Abbotsford, Maple Ridge, Pitt Meadows).

The guidelines regarding age and location of the developments in which respondents lived were set primarily to facilitate comparison with three age-segregated housing co-operatives in the Central Fraser Valley, all about ten years old. In addition, it was felt that residents in older buildings could have a length of experience in their particular type of housing and the effects of newness would be minimized. The confounding impact of design improvements and even luxury details found in newer buildings--amenities such as breakfast nooks, skylights and gas fireplaces which are more likely be found in strata-title buildings than rental or co-operative developments--would also be reduced. That is, older buildings were chosen so that respondents' homes would be comparable in design and amenities, so as to isolate more clearly the effects of the tenure variable.

Similarly, the geographical restriction was intended to confine the research to comparable housing markets. Vancouver and its inner suburbs were experiencing a booming real estate market at the time of the study, with rapidly rising housing costs posing particular difficulty for older renters. It was decided to carry out the study where the housing market was less volatile in order to avoid economic factors which would confound effects more specific to age mix or tenure type.

Housing developments which met the criteria were generally identified by using community informants. The three principal community sources of information were the director of the Seniors' Centre in Clearbrook, a volunteer with the continuing education department at Fraser Valley College (Mission campus), and a student at Fraser Valley College (Abbotsford campus) who was in the process of compiling a list of local housing developments occupied by seniors. Through these resources, it was possible to identify all or most of the complexes in the area which were age-segregated or at least housed a substantial majority of older people. In other cases, particularly with regard to age-integrated rental buildings, it became necessary to consult managers or occupants already contacted or to drive around neighborhoods in a physical search for other suitable buildings. Finally, a list of all housing co-operatives in the study area was obtained, making identification simple for that tenure group.

The general **procedure** used in recruiting respondents was as follows. After securing the permission of Board or management or the agreement of one resident to support the project, an introductory form letter was distributed, followed by personal contact within one to three days.¹⁵ Depending on the number of older people living in the development, either all households in the desired age category, or a systematic sample (every second or third unit) were approached¹⁶. If the occupant agreed to fill out the survey form, a copy was given to him or her with an envelope in which it could be sealed. Respondents were told when the completed forms would be collected (usually within 24 hours).¹⁷ The researcher would come back to their unit if the respondent wished, but the survey forms could also be left outside their door for pickup or in another place which had been designated by the contact

¹⁵ A copy of the form letter may be found in Appendix 1.

¹⁶ In sampling buildings with many older residents, the researcher skipped households if no one was home. In complexes with fewer potential respondents, survey forms were left at the door, if no one answered, with information about when they would be picked up.

¹⁷ In some complexes the procedure was varied slightly: in two, potential respondents were contacted by telephone two weeks before the researcher came to the door; occasionally a stamped self-addressed envelope was provided to eliminate a return trip for just one or two questionnaires. In three instances the researcher stayed to fill out the form for an interested person who had difficulty writing.

person or manager (e.g. the manager's office). People were also given the option of mailing the questionnaires back. Fifteen developments were systematically sampled in this way, yielding 96 respondents (58% of the sample). In the case of the remaining 13 buildings and 69 respondents the procedure varied as indicated below.

a. Co-op Members

i) Identification of Developments

As mentioned above, co-operatives were identified from a list of all the co-ops in the study area. Co-operatives are governed by elected resident Boards of Directors but day-to-day operations are usually carried out by paid personnel with an office on site. The researcher has a background in the co-operative sector which helped in discovering and contacting the person or persons (manager or Board) from whom permission to seek respondents should be gained.

There were 12 co-operatives in the study area. Ten of these were contacted. The two not approached and two others which had agreed to participate were eventually eliminated from consideration when the size of the co-operative sample was judged to be large enough for the purposes of the study. One of those not contacted was left out on the additional basis that it was made up of an age-segregated building for seniors within a family development. It was felt that including

respondents from this co-operative would blur any contrasts between age-integrated and age-segregated developments. No housing co-operative declined to participate.

The co-ops in the study may be considered fairly representative of those in the area, since almost all existing co-ops were approached and all of those approached agreed to participate. It is possible, however, that those which were left until last to contact, and therefore not used when the sample size became large enough, are somehow different from the others (e.g. perhaps less well known to the researcher).

ii) Sampling Method

Respondents from the three age-segregated co-ops in the study area were recruited by the usual procedure. Older members of age-integrated co-ops were contacted in other ways. In three of these all the older members ($n = 6$) were approached by telephone and all agreed to participate in the study.

Two other age-integrated co-ops with a large complement of seniors were sampled differently. In one, the manager found it convenient to invite older members to come to the community building for morning coffee at a time when the fire alarm was to be tested in their building. The form letter was delivered to each household together with the announcement of the meeting. At that gathering, the researcher outlined her

request and distributed questionnaires to all those interested. Of the 33 older members in this co-operative, 14, most of whom had attended the gathering, returned completed survey forms.

In another co-operative, the researcher was referred to the chair of the seniors' committee and invited to a regular meeting/social attended by most of the older members. Again, the researcher outlined her request to the group and gave questionnaires to those interested in participating. All but one of the 14 older households in this co-operative responded.

In these two meetings the researcher, besides presenting the request for participants, also found it necessary to answer questions about the study and to discuss in general terms the situation faced by older people in securing appropriate housing. Care was taken in these circumstances to avoid prejudicing responses, and it was stressed to the listeners that their own opinions were desired and would be held confidential.¹⁸

Although the sampling method for the age-integrated co-ops does not produce a systematic sample, it should be noted that

¹⁸ It should also be mentioned that the researcher had a prior relationship with a few of the members of the first of these co-ops, having been the project co-ordinator during its development in 1982.

in all but one of them, the sample includes all or almost all senior members. Therefore the sampling procedure is not as problematic as it might otherwise be. The size of the sample from age-integrated co-operatives is 33.

iii) Response Rate

Thirty-eight of the 69 members approached in the *age-segregated* co-ops filled out the questionnaire, for a response rate of 55%. The return from the *age-integrated* co-ops was 33 out of 36, giving a rate of 92%. The overall co-op response rate was 68%. (The response rate for all tenure groups is summarized in Table 3, page 72.)

b. Renters

i) Identification of Developments

Renters were recruited from buildings identified using community informants and physical search as described above. Rental buildings usually have on-site staff who can be approached for permission to canvass the occupants. Such permission was requested of the manager, or in two cases the non-profit board, of ten rental complexes in the study area. Authorization was withheld in two cases: the non-profit Board of an age-segregated complex in Maple Ridge denied the request giving no reason, and the manager of one age-integrated

complex in Abbotsford refused, citing the need to safeguard residents' privacy.¹⁹

ii) Sampling Method

If permission was granted, it was possible in most cases to attempt to contact all the residents of the development. Respondents in eight rental buildings were contacted by the systematic procedure described above. In two rental developments, however, the manager suggested or required other methods of contacting residents feeling it important to protect tenants from being generally solicited. In one, a 40-unit building with a large number of senior tenants, the manager listed 18 households in which she felt the individuals were well enough to be approached and might respond. All were contacted by the usual method, yielding a response of 9. In another building, containing 39 units, the manager allowed the form letter to be put in the mailboxes of older tenants, but kept the questionnaires in his office for pickup by those interested. He then contacted individuals he thought might be willing to complete the survey form. Of the 17 seniors in the building, only 3 responded.

iii) Response Rate

¹⁹ Three other suitable age segregated developments in Abbotsford were not contacted when it was discovered that another researcher was working in the area, since it seemed inappropriate to subject residents to multiple requests.

Forty-eight tenants were approached in *age-integrated* rental buildings; 22 (46%) responded. Twenty-five respondents were obtained from the 59 contacted in *age-segregated* rentals (42%). The overall response rate from renters (44%) was much lower than the rate from co-op members (68%).

c. Strata Title Owners

i) Identification of Developments

Strata title owners proved to be much more difficult to recruit than co-op members or renters. Like co-operatives, strata developments are mostly governed by Boards of Directors, but in many cases, at least within the area chosen for this study, there is no manager accessible on site, nor an office where someone in charge could be contacted. Thus, there was usually no one person who could be asked for permission to approach residents unless a member of the strata council could be identified.

Furthermore, many age-segregated strata developments have explicit policies designed to protect the privacy of residents. Physically, age-segregated buildings are usually well provided with entrance security devices and "no soliciting" signs. Age-integrated strata developments in the study area are typically more physically open, being usually townhouse rather than apartment complexes, but the difficulty remains of identifying senior residents and getting permission

or, at a minimum, support from a fellow resident in canvassing them.

Although it is possible to approach residents individually without explicit permission, it was clear to this researcher from the initial contacts that authorization from the Board or at least support of neighbors would be critical in gaining residents' co-operation. Strata developments therefore had to be accessed through networks and it had to be accepted that systematic sampling would not always be possible.

The approach taken in these circumstances was to contact a member of the strata council or another person living in the complexes through informal networks (i.e. through friends or colleagues). Although these individuals were often willing to complete the questionnaire themselves, most of them did not feel that they could pass on the researcher's request to fellow residents. Even when they were willing to help by recruiting others, they were often reluctant to support a general infringement on the privacy of their neighbors by the method proposed, namely circulation of a form letter followed by door-to-door canvassing.

A particular problem arose in the attempt to identify age-integrated strata title complexes. It soon became clear that there are very few such developments in the Central

Fraser Valley area. Conversations with community informants and with five real estate and property management firms confirmed this observation.²⁰ One of the few age-integrated strata complexes in the area yielded very few respondents because of the manner in which it had to be sampled (see below page 68). Another yielded four participants from its nine senior households. Eventually it was decided that the remainder of the sample for this category would have to be drawn from another municipality. Richmond was chosen because its southern section is still a good distance from the Vancouver market, and because the personal networks of the researcher made access possible to two strata developments with the required age mix.

The general problem of gaining access to strata title developments led to a relaxation of the criterion for building age: two of the five age-integrated buildings and three of the seven age-segregated ones were less than three years old. Similarly it was necessary to change the original age criterion for respondents from 65 and over to 55 and over.

²⁰ Their explanation was that as far west as Langley, the region is attractive to seniors as a retirement centre, and that when retirees choose multiple-unit housing it is usually seniors-only or at least adults-only. Families, on the other hand, if they can afford to buy a home, prefer a single-family dwelling and can usually find one within their price range.

Sixteen strata title developments were approached to participate in the study. In four buildings, as mentioned above, only the person initially contacted (and in two cases a neighbor as well) agreed to complete the questionnaire. In three other buildings permission to survey was refused.

Of the two age-segregated strata developments which declined to participate, the council in one large complex decided to stand by its no-soliciting policy, partly because it had received simultaneous requests from two researchers. In the other, the strata chair cited the need to protect residents' privacy. The only refusal received from an age-integrated strata complex was from one in Richmond whose strata council chair declined to identify senior households for the purpose of a survey.²¹

ii) Sampling Method

One of the three age-integrated strata building from which respondents were drawn was sampled in the same way as the rental building discussed above: residents were informed of the opportunity and the questionnaires were kept in the office. Again, very few people responded. The two survey forms returned from this complex were the result of personal

²¹ A fourth complex which would have been otherwise appropriate was not approached because it had an ethnic population (Mennonite) very similar to that in a building already sampled.

contact by the researcher. In two age-integrated complexes strata council members did agree to having their names used on a form letter which was then distributed to all the owners whom they identified as seniors, followed up by a personal approach in the usual way. Thirteen respondents came from these two developments.²²

All seven age-segregated strata developments in the study were sampled using internal networks. In one (n = 10) the strata chair distributed the questionnaire to 12 of the 33 residents whom he felt he could approach for co-operation. In a second (n = 8), occupants suggested others in the building they thought would be willing to participate. In two others (n = 4 and n = 2) an occupant recruited neighbors. In three more buildings a single individual agreed to participate in the survey but not to recruit neighbors.

iii) Response Rate

Thirty-two residents of *age-integrated* strata buildings were approached for participation, with 20 (62.5%) responding. Out of 34 residents of *age-segregated* stratas who were approached 27 (79.4%) agreed to participate. The overall response rate

²² Coverage of senior households within these complexes may not be complete because information about age of potential respondents depended on the contact person's knowledge of his or her neighbors.

from owners of strata title units was 71.2%, similar to the response rate for co-operatives.

d. Summary

i) Selection of Developments

The respondents in this study clearly constitute a non-random sample. The developments in which respondents lived were not systematically selected, although an effort was made to contact all the buildings on the lists available from community informants. As discussed above, a number of buildings which met the study criteria did not participate either by reason of management's refusal or because, for reasons unrelated to the study itself, they were not requested to. The age-integrated rental complexes and the age-segregated strata title developments, in particular, were chosen as they came to the researcher's attention. On the other hand, more confidence can be placed in the degree to which co-op respondents may be representative of other co-op residents in the region, since participants were drawn from 8 of the 12 co-operatives in the study area.

ii) Sampling Method

The sampling method differed according to circumstances. Although 58% of the respondents were recruited by systematic sampling, there are two subsamples of concern. In all the age-segregated strata developments, respondents were selected

by fellow residents, and one third of the age-segregated renters were drawn from a group designated by the building manager.

Two other subsamples are non-systematic but of less concern. A large portion (82%) of respondents from the age-integrated co-operatives attended a meeting before completing the questionnaire. However, in all but one of the age-integrated co-ops the sample actually includes almost all of the senior residents, a fact which lessens concerns about representativeness. About two thirds of the age-integrated strata owners, though systematically selected within their developments, live in a different geographical area from the other respondents but are otherwise similar.

In general, the sample from co-operatives and from the age-integrated developments may, in terms of sampling method, be considered fairly representative of the general population in the housing complexes from which respondents are drawn.

iii) Response Rate

It is difficult to make a summary statement about the rate of response by individuals in this study, for several reasons. First, as discussed above, a variety of sampling methods was used, each with a different level of personal contact attached to the request to participate. It could be expected that

people would be more likely to fill out the questionnaire when the request was made by someone they knew or who came well recommended, and less likely when the researcher was unknown.

Secondly, in buildings with few senior residents, if people were not home when the researcher called, a questionnaire was left at their door in the hopes that it would be returned. Although some of these questionnaires were completed, the request to participate lacked the personal contact and explanation received by others.

Finally, there was a flaw in the recording of completed questionnaires. Records were kept of those who agreed to take questionnaires, of those who refused, and of those homes where questionnaires were left "on spec". Exactly which households actually completed and returned the survey form was, however, not recorded. Some people who agreed to fill out the survey form in fact returned it blank. Others who agreed to mail their responses in did not do so. Some questionnaires left "on spec" were returned, others were not. Some people chose not to return the consent form, from which the necessary information could have been reconstructed, and others chose only to sign it, leaving out their address. For this reason, the response rates reported below have been calculated as a percentage of the number of questionnaires distributed in each building added to the number of refusals. Therefore, the

summary response rates by tenure type and age mix shown in Table 3 can be considered indicative only. To the extent that they are inaccurate, they are probably an underestimate of the true rate, since they include the actual number of responses as a percentage of both personal contacts and instances in which a questionnaire was simply left at the door.

Table 3: Response Rates in each Building by Tenure Type and Age Mix

#	Number Senior Units	Number Asked ¹	Re-fused	Not Re-turned	Com-pleted	Completion Rate (%)
Co-op Members						
Age-integrated						
1	33	15	0	1	14	14/15: 93.3
2	2	2	0	0	2	2/2: 100.0
3	15	15	0	2	13	13/15: 86.7
4	3	3	0	0	3	3/3: 100.0
5	1	1	0	0	1	1/1: 100.0
Total						33/36: 91.7
Age-segregated						
1	84	30	9	2	19	19/30: 63.3
2	90	23	7	7	9	9/23: 100.0
3	64	16	5	1	10	10/16: 62.5
Total						38/69: 55.1
All Co-op Members						71/105: 67.6
Renters						
Age-integrated						
1	9	9	1	3	5	5/9: 55.5
2	13	13	0	7	6	6/13: 46.1

#	Number Senior Units	Number Asked ¹	Re-fused	Not Re-turned	Completed	Completion Rate (%)
3	18	18	2	12	4	4/18: 25.0
4	7	7	0	3	4	4/7: 57.1
5	16	3	0	0	3	3/3: 100.0
Total						22/50: 44.0
Age-segregated						
1	38	21	2	8	11	11/21: 52.4
2	32* ²	18	3	6	9	9/18: 50.0
3	59	20	2	13*	5	5/20: 25.0
Total						25/59: 42.4
All Renters						47/109: 43.1
Strata Owners						
Age-integrated						
1	9	9	1	4	4	4/9: 44.4
2	18	16	6	1	9	9/16: 56.2
3	4	4	0	0	4	4/4: 100.0
other³		3	0	0	3	3/3: 100.0
Total						20/32: 62.5
Age-segregated						
1	33	12	0	2	10	10/12: 83.3
2	39	10	0	2	8	8/12: 80.0
other		12	0	3	9	9/12: 75.0
Total						27/34: 79.4
All Strata Owners						47/66: 71.2
All Age-integrated Residents						75/118: 63.6
All Age-segregated Residents						90/162: 55.5
OVERALL RESPONSE RATE						165/280: 59%

Note 1: "Asked" consists of the number of questionnaires distributed added to the number of refusals.

- Note 2: * denotes an estimate
- Note 3: "Other" denotes individuals who were approached through personal networks
- Note 4: Response rates are calculated by building. Renters in strata buildings are counted with owners. For this reason totals will differ slightly from the count of individual respondents found elsewhere.

The overall rate of response was about 59%. The table shows a wide discrepancy between tenure types, however. The mean response rate was much lower in the rental developments than in the co-operatives and stratas, and somewhat lower in the age-segregated buildings than in the age-integrated ones. The tenure type/age mix categories show a fairly large range in the response rates by building, usually attributable, again, to differences in sampling method. The least variance within age-mix categories is shown by the co-operatives, but there is a much greater difference between the age-integrated and age-segregated co-op groups than occurs in the other tenure types. Again, this may be partially because most of the age-integrated sample in the co-ops was derived from meetings, while in the age-segregated co-ops it was obtained by surveying from door to door.²³

²³ It is interesting to note that the researcher's links with the co-operative sector appear not to have influenced the response rate unduly: the rate for strata developments is higher than that for co-operatives. Her links with two age-integrated strata developments were used only to identify a contact person.

With regard to the representativeness of the sample, then, the final caveat is that the lower response rate in rental developments must be kept in mind when interpreting the data.

To summarize, this sample of 165 respondents from co-operatives, rental projects and strata title developments, both age-integrated and age-segregated, is a convenience sample of the housing complexes surveyed. Only in the case of co-operatives are the developments fairly representative of all such developments in the study area, and the respondents reasonably representative of the other residents.²⁴

Finally, it must be kept in mind when interpreting the data that while two-thirds or more of co-op and strata residents approached did complete the survey form, the response rate for renters is only 44%.

²⁴ The number of developments from which respondents were drawn is summarized by tenure type and age mix below:

Age Mix	Tenure Type			
	Co-op	Rental	Strata	Total
Integrated	5	5	5	15
Segregated	3	3	7	13
Total	8	8	12	28

B. Instrumentation

Data were gathered by means of a self-administered questionnaire, which took respondents about an hour to complete. A copy of the questionnaire is included as Appendix 1.

Although an interview format might have been preferable for this study, particularly in exploring subjective variables, the method of a self-administered questionnaire was chosen for practical reasons. On the one hand the objectives of the study required a large enough sample to permit comparisons of six subsamples, and on the other, the time and resources necessary for gathering that amount of data by interview were simply not available. In the light of this limitation, particular care was taken in the design of the survey form, as will be discussed below.

1. The Survey Instrument

There were three different forms of the questionnaire: Form C for co-operatives, Form R for rental buildings, and Form S for strata title complexes. The forms differed only in the wording of questions about housing tenure (e.g. "How well do you like being a member of a housing co-operative, ...being a renter, ...being a homeowner? How much do you pay monthly for rent, ...housing charge, ...maintenance/mortgage/taxes?"). Also, Form S included two items assessing the importance of

the home as an asset, and inquired whether the owner carried a mortgage.

The questionnaire contained a mixture of fixed-end and open-end questions. The former required the respondent simply to check one from a list of possible answers. The latter offered no response categories. Rather they asked for a few words, either to enlarge on an answer previously given (for example, with the stem "Why do you say that?") or to answer a new question (such as "What are the things you like least about living here?") The open-ended questions obviously gave more leeway for subjective reactions and allowed multiple responses.

Questions were arranged in five clearly labeled sections: information about the home, opinions and feelings about the home, social aspects of the housing complex, housing satisfaction, and demographic information. The first section asked for very straightforward information, mostly in a fixed-end format. The second and third parts needed more thought and writing. The last two sections again required simply checking off data categories. It was hoped that with a simple beginning, the more demanding questions in the middle, and the easily-answered sociodemographic items at the end when respondents might be tiring, the questionnaire would engage

their interest and be completed by all who agreed to attempt it.

I. Information about your Home. This section sought details about objective and perceived housing characteristics such as the number of bedrooms and bathrooms, perceived convenience of location, respondents' judgement as to the adequacy of heat and maintenance, and their sense of safety within and outside the unit. It also explored the individual's choice of that unit, asking how long he or she had lived there, why it had been chosen, why the previous home had been left, and what alternatives had been considered at the time.

II. Opinions and Feelings about your Home. Subjective housing characteristics were focused upon in this part of the survey form. Respondents were asked their views on their home's suitability, the relationship between cost and comfort, and their personal criteria for housing choice. They were asked what they felt about the equity or fairness of their housing situation. In addition, several aspects of control were inquired about: a general sense of being in control of matters to do with their housing, the perception that their opinion would be heard and their actions could have an effect, and feelings of satisfaction or dissatisfaction with the level of control they felt they had.

This section also included two open-ended questions asking what respondents liked best and least about living in their complex. It focused finally on the two objective variables of particular interest, namely age mix and tenure type, asking how well the individuals liked their present situation, what were seen as its advantages and disadvantages, and whether they had any plans to move.

III. Social Aspects of your Housing Complex: This part of the survey form consisted mainly of multiple-choice questions inquiring about objective social integration. It asked how frequently individuals got together with family, friends and neighbors, how easily available were various kinds of assistance, and to what degree the respondent participated in the organizational life of the housing complex.

Questions about their satisfaction with opportunities for social participation at various levels (from social activities to confidant relationships) elicited information about subjective social integration. In addition, to flesh out the information previously gained on subjective housing characteristics, respondents were asked whether they ever felt lonely in the complex where they lived, whether they felt it was a "supportive" place, and to what extent they thought it would be so in the future. They were also asked whether they

thought it could be described as a "community", and if so, to what degree they felt included in that community.

IV. Housing Satisfaction and Wellbeing. This part of the survey form focused on the two major dependent variables, housing satisfaction and wellbeing. It also contained a third section designed to explore the importance of certain subjective variables tentatively labeled "importance of home variables."

The housing satisfaction scale was a visual analogue scale with nine items: unit size, safety, physical condition of unit or building, management, social atmosphere, location, design, cost, and general satisfaction. A tenth item asked respondents to indicate in the same way how much their unit felt like their "real home" or "just a place you happen to live."

Wellbeing was measured by the Bradburn Affect Balance Scale (Bradburn 1969). Using the stem "In the past few weeks, did you ever feel..." it lists five positive and five negative affect states, asking for a response of yes or no. The items, in the order they were presented, read as follows:

- pleased about having accomplished something
- so restless you couldn't sit long in a chair
- bored
- that things were going your way
- depressed or very unhappy

- proud because someone complimented you on something you had done
- particularly excited or interested in something
- very lonely or remote from other people
- upset because someone criticized you
- on top of the world

Two other items, also found in Bradburn, requesting a more general assessment of the person's happiness were added to the above scale for purposes of correlation:

- Taken all together, how would you say things are these days, would you say you are very happy, pretty happy, or not too happy?
- In getting the things you want out of life, would you say that you are doing very well, pretty well, or not too well?

The "importance of home" questions explored various subjective aspects of one's home, such as its familiarity, privacy, and connection with memories. These variables are often cited in the literature as being of particular importance to elderly people (e.g. Rowles, 1978). A secondary purpose of this section was to explore the salience of a connection between one's home and one's identity, that is, how meaningful one's home is as a support and reflection of one's self. Given a set of statements, respondents were asked to indicate the importance of each one on a 4 point scale ranging from very important to very unimportant. Aspects listed were:

- It is familiar.
- It is a refuge from the outside world.
- It is a place where I am in control of things.
- It is private.
- In it I am independent.

- It is an expression of myself.
- It is a place to visit with my family.
- It is a showplace for the things I have collected over the years.
- It is a place to entertain my friends.
- It contains my belongings and memories.
- It shows who I am in the world.

The form for respondents in strata-title homes included two further items:

- As an asset, it is part of my financial security.
- It is something to leave to my children.

V. Demographic Information. This section of the questionnaire requested the usual information about age, sex, marital status, education, occupational history, income and health, for inclusion in the set of sociodemographic variables. Respondents were also asked the amount of their monthly housing costs, whether these included the cost of utilities such as heat, light and water, and whether they had any difficulty meeting their shelter payments. Form S asked strata-title owners whether they carried a mortgage on their home and if so, how much.

At the end of the questionnaire space was left for respondents to add "further ideas or opinions" about housing for older people. Sixty-four people (38.8%) wrote comments ranging from a line or two to a page or more in response to this opportunity.

2. Evaluation of the Survey Instrument

As mentioned above, a self-administered survey instrument was chosen for this study primarily because of limitations in time and resources. The main disadvantage of using a self-administered questionnaire is that information may be lost or distorted. Firstly, the respondent may purposely or inadvertently skip questions, or may answer them in such a way that the response cannot be tabulated. Secondly the person may answer the question in a misleading way, either because he or she has misunderstood it, or from a wish to hide the truth. The interview method, by contrast, allows clarification of both questions and responses, and ensures that the information on each questionnaire is complete.

Because of the drawbacks of self-administered questionnaires, special efforts were made to design a form which older people would find understandable and easy to complete. The introductory form letter and the directions given for filling out the survey instrument were composed with a view to promoting an interested, co-operative attitude among study participants. Questions which involved some thought and writing were carefully placed, and interspersed with others which required only a check mark. The hope was that even if the information from open-ended questions was lost, the fixed-end data could still be collected.

As part of the effort to develop an effective survey instrument, the questionnaire was piloted (n=10), revised, and piloted once again (n=18) in January and February of 1989. In both pilot tests the survey forms were completed by volunteers living in age-segregated non-profit rental developments, the first in North Vancouver, the second in Vancouver.

The revisions made as a result of the pilot tests were mainly to reduce the length of the survey form and to clarify the wording of certain questions. In addition, a paragraph was added to the introductory page explaining that a spontaneous response was all that was required for most questions, but that

...to get the information we need, some of the questions have to be fairly personal. They may also seem a bit repetitious. Please bear with us on these points and be assured that your confidentiality will be preserved.

It was hoped by this addition to forestall the reaction reported by some of the pilot respondents, namely irritation at questions which seemed irrelevant, invasive or repetitious.

Evaluation of the success of efforts to perfect the questionnaire involves considering the extent to which the information desired was obtained. The main questions to ask are: were all the questions answered, and were they answered appropriately (i.e., were the questions apparently understood)?

a. Frequency of Non-response

i) Fixed-end Questions

On average, each fixed-end question was left unanswered by only 7 of the 165 respondents (4.2%). Often it is clear that the omission was inadvertent--two pages were turned together, a question at the top of the page was overlooked or, in one or two cases, a page was missing in the questionnaire.

ii) Open-ended Questions

The open-ended questions have an average of 40 omissions each (24%). This is much too high to represent accidental factors. A closer look at the responses reveals that the stem "Why do you say that?" after an fixed-end question was often ignored (30.9%). Two exceptions to the trend for the open-ended questions were "What are the things you like best about living in your building?" (4.8% left blank) and "What do you think are the most important things to look for when choosing housing for yourself?" (5.4%). The fact that these two questions were more specific than the others may have contributed to their being answered more often. In fact, these two are "real" questions while the others are simply prompts offering the opportunity to elaborate on a question already answered in a fixed-end form.

The pattern of omissions for the open-ended questions, coupled with notations written in the margins, suggests that when the

respondent had nothing to say he or she simply left the line blank. This occurred in particular with the "Why do you say that?" stem, as if respondents, having given their opinion once, considered the question superfluous. This treatment was also accorded to questions in the later part of the questionnaire which seem to have been judged redundant. Apparently feeling that they had already given the information, some respondents referred to earlier answers, but others who left the lines blank may have done so for the same reason.²⁵

In cases where negative information is sought (for instance, where disadvantages or problems are discussed), the omission rate is higher than for positive items.²⁶ Only 4.8% left the "like best" lines empty, while 19.4% wrote nothing in the "like least" section. Whereas 14.5% of respondents did not fill in the "advantages" part of the question on tenure type, 38.5% declined to discuss "disadvantages." A question which did not require any positive or negative evaluation (e.g., the most important criteria for choosing housing), on the other hand, elicited a much higher response (only 5% omitted). This pattern suggests that a blank may represent a situation where

²⁵ A similar pattern was found in a questionnaire used with rural elderly by Gutman and Hodge (1990) (G. Gutman, personal communication.)

²⁶ This pattern has also been observed in studies where the data are collected by personal interview (cf. Gutman, 1983)

the respondent *either* had nothing negative to say *or* wished to avoid saying something negative.

The problem with interpreting missing cases in the open-ended questions is that in most cases it is impossible to tell whether the omission was inadvertent, whether the respondent had nothing more to say, or whether he or she simply preferred not to write down a reply which would have to be negative. Since the open-ended questions were designed to shed light on the answers given to the others, to "flesh out the picture," so to speak, the lower response rate and the difficulty of interpreting it are not critical to the overall analysis, although the probability of a positive bias by default must be kept in mind. It should also be remembered that, given the probability of a positive bias, negative circumstances may be strongly negative if they are reported by a respondent at all.

iii) Dependent Variables

*** Bradburn Scale**

With regard to the dependent variables, the non-response to the individual items of the Bradburn Scale was 2.5% (positive scale 3%, negative scale 1.9%). One hundred and fifty questionnaires (90.9%) had complete positive and negative scales which were used for the final analysis.

One item on the Bradburn which seems to have been problematic for respondents was "on top of the world". Some people, either in conversation or in marginal notes, expressed puzzlement, saying that life was generally very good, but that they rarely felt "on top of the world." They seemed to feel that answering "no" to this item gave a false picture of a state of mind where such excitement was not necessarily a factor in "how life in general seems to you." The non-response rate for that item was 6%.²⁷

* Satisfaction Scale

The number of missing cases for the satisfaction index (Question 68) is higher than for the other dependent variables (4.7%). The number of complete satisfaction scales available for the analysis was 136 (82.4%).

In this case a visual analogue scale was used, modeled on that used in the similar study by O'Bryant and Wolf (1983). A series of lines represented the range from very unsatisfied to very satisfied for nine different aspects of housing satisfaction. Respondents were instructed to "put a mark at the point which shows how satisfied you are with various aspects of your housing." An example was then given.

²⁷ An interesting discussion of the appropriateness of the Bradburn items for older respondents is found in Connidis (1984).

However, a minor change made to these instructions in the final version of the questionnaire, after two successful pilots, seems to have caused some misunderstanding. In the example given to explain how the question was to be answered a mark was placed, in the pilot questionnaires, near the centre of the continuum. In the final version, the mark was placed near the "very unsatisfied" end of the range. The researcher became aware through marginal notations that a few people filling out the index thought that the mark could be placed only at either end of the scale.

To remedy this misunderstanding, the later questionnaires (the last 65) were provided with a note emphasizing that the mark could be placed anywhere on the line. A comparison of the mean scores for those who were and were not given this extra instruction shows that there is a significant difference between the two groups in housing satisfaction ($p = .004$) which, however, disappears when negative affect is taken into account. It is possible--in fact, it is probable, given comments written in by two or three respondents in the first group--that some individuals may have declined to mark certain items in the scale because neither end of the range was appropriate and they didn't realize they could use the middle.

Because of this possible confusion the satisfaction index was coded as a 6-point scale, rather than over 20 points as in the

O'Bryant and Wolf study, in the hope that larger categories would minimize the impact the cases in which the scales may have been treated as dichotomies. The reliability of the scale as indicated by Cronbach's Alpha was .8003. Clearly, though, if an interview format had been used or if the questionnaire had been more broadly piloted, these instructions could have been clarified and more completed scales would have been available for analysis.

b. Misunderstandings

Several questions had to be disregarded because they were widely misunderstood or misinterpreted. One of these (#87) asked if the respondent had "any difficulty meeting your housing-related costs...." Only three people answered "yes" to that question, although the observed relation of income levels to housing costs would have warranted many more affirmative responses. It was apparent from comments written into the margins that many respondents considered housing costs their priority expense. Any "difficulty" experienced appeared to be attributed to other expenses than housing.

Some phraseology appears to have been inappropriate for certain tenure or age-mix settings, or potential differences in interpretation were not foreseen. An example of this is the global question on sense of control (#26). Asking "about how much do you feel in control of matters affecting your

personal housing...." appears to have provoked a different response from renters than from co-op members and strata owners. Responding to the "why do you say that?" stem which followed, renters tended to mention the freedom to move out, while co-op members and strata owners spoke of the degree to which, or the reason why, they could or could not make changes in their housing developments (e.g. being on the Board, being responded to--or ignored--by the Board, being outvoted by younger people, etc.). While this difference in interpretation is in itself interesting, it makes the fixed-end scale uninterpretable.

Another flaw in the survey form occurred in Question 63, which inquired how many people the respondent felt really close to (i.e. saw as confidants). The question was asked separately about those living inside and outside the housing complex. The following question, which was on the next page, asked, "Of the people in this complex whom you feel close to, how many have you met since moving here?" It left a blank space to be filled in by the respondent. In many cases the number in that blank contradicted the answer to the previous question. The problem may simply have been a function of splitting the question over two pages, but because of it, 74 cases had to be disregarded and in consequence the question was discarded from the analysis.

C. Analytical Procedures

The analysis of the data gathered in this study focused on three major questions:

* Do residents of housing complexes with different tenure type and age mix differ on the **independent variables** under consideration?

* Do they differ with regard to scores on the **dependent variables** of interest, namely housing satisfaction and wellbeing (positive and negative affect)?

* What is the **pattern** of the relationship between independent and dependent variables in each setting? Do variables have different degrees of influence in different settings?

Within this context a more specific question was:

* Does the inclusion of **subjective housing variables** in an analysis assist in predicting variance in housing satisfaction and/or wellbeing in the tenure type and age mix settings of interest?

Clearly the first step in the analysis is to establish which data will be used. This step will be addressed in the section entitled Measurement below. It will be followed by a section on Analytical Procedures which will describe the way in which the data were organized and the statistical methods which were applied.

1. Measurement

a. Indices for Independent Variables

In order to incorporate information more economically into the analysis, five indices were formed:

i) Objective Integration Indices

Three aspects of objective social integration were considered in the questionnaire. These were:

family and friends: living arrangement; presence of family members nearby; frequency of seeing family; frequency of seeing friends from outside the housing development;

neighbors: frequency of socializing with neighbors; number of neighbors known well enough to visit in homes or to exchange small services (e.g. borrow a tool); reliance on neighbors for more active assistance (e.g. a ride) and for emergency help;

organizational participation: volunteer activity; occurrence of social activities in the housing complex; attendance or assistance in organizing activities; attendance at meetings; membership on Board or committees

The set of objective integration variables in the questionnaire was subjected to a principal components analysis in order identify clusters which might be used to form indices. The procedure yielded five readily interpretable factors. These factors and their loadings were as follows:

Factor 1: Neighborhood Participation

- frequency of attendance at social events	.898
- frequency of organizing social events	.866
- attendance at annual and general meetings	.689
- whether group activities are planned	.870
- membership in board or committee	.487

Factor 2: Neighborhood Friendship

- how many neighbors know to visit	.844
- how often get together with neighbors	.689
- how many neighbors known well enough for exchange of small services	.809
- confidence of emergency assistance	.488
- reliance on neighbors for active assistance (e.g. car rides, repairs)	.546

Factor 3: Activity

- frequency of seeing outside friends .782
- hours of volunteer work .548
- board or committee membership .534

Factor 4: Family Support

- number of family living nearby .763
- frequency of seeing family .827

Factor 5: Living Alone²⁸

- living alone .867
- attending annual and meetings .405
- board or committee membership .396

These factors were used to create indices of objective social integration. The index score was calculated by summing the values in the questions which loaded highest in each factor. The items included in the indices were as follows:

Neighborhood Participation (PARTICIPATION): Alpha = .8838²⁹

- frequency of attendance at social events
- frequency of organizing social events
- whether group activities are planned

(Values: most of the time = 3, some of the time = 2, never = 1, none planned = 0)

Total for index = 9

Neighborhood Friendship (NEIGHBORS): Alpha = .7484

- how many neighbors know to visit
(Values: 5+ = 3, 1 - 4 = 2, none = 0)

²⁸ The components of this factor appear at first to be puzzlingly distinct. However, respondents living alone may attend more meetings and participate in more committees both because they have no competing obligations to co-residents and also because they may feel more need for the social contact inherent in community involvement.

²⁹ Alpha's are unstandardized.

- how often get together with neighbors (weekly or more often = 3, monthly or more = 2, less than monthly = 1, never = 0)

- how many neighbors known well enough for exchange of small services (some = 1, none = 0)

- confidence of emergency assistance (yes = 1, not sure/no = 0)

Total for index = 8

Frequency of Seeing Family (FAMILY) (Question 41), and **Frequency of Seeing Outside Friends (OUTFRIEND)** (Q. 43) were used as single representatives of factors 3 and 4 in the analysis.

ii) Subjective Integration (SUBJINT)

The questionnaire contained a set of questions based on the work of Liang et al. (1980) and Ward et al. (1984) to examine satisfaction with one's social situation. Respondents were asked how satisfied they were with the social opportunities they had with family, friends and neighbors, including their sense of whether they had enough people they could really talk to and to what degree they ever felt lonely. Items were:

satisfaction with frequency of seeing family and outside friends; number of confidants inside and outside the housing complex; satisfaction with frequency of seeing neighbors, with opportunities to socialize with neighbors, and with degree of help available from neighbors.

Responses to these items were formed into an index of subjective integration as follows. First, a principal

components analysis was performed. This analysis produced interpretable factors, but initial indices formed from them proved to be low in reliability. However, by trial and error a usable index (Alpha = .7197) was constructed by summing the responses to the questions on:

- satisfaction with frequency of seeing family (q.42)
- satisfaction with frequency of seeing outside friends (q.44)
- satisfaction with frequency of seeing neighbors (q.48)
- satisfaction with help available from neighbors (q.52)
- satisfaction with social opportunities with neighbors (q.62)
- satisfaction with opportunity to share confidences (q.65)
- degree of loneliness (q.66).

One point was given for the response "about as much as I wish" in each of the above questions, except that degree of loneliness was scored 2 for "rarely" and 1 for "sometimes". This formed an 8 point index which was used as the sole indicator of subjective social integration. For convenience, the label SUBJINT was attached to this index.

iii) Subjective Housing Variables

Two indices were formed for use in measuring subjective housing variables: effective control (CONTEFF) and the sense of belonging (BELONG). Items were chosen for these indices on the basis of their conceptual importance, a preliminary review of their relationship with the dependent variables, the clarity of the construct involved, and the apparent consistency with which the question had been interpreted by

respondents. In the case of CONTEFF, it was also possible to calculate an alpha coefficient.

The index for effective control (CONTEFF) was formed from a cluster of more specific questions concerning the practical impact the respondent felt he or she could have in the housing setting: how maintenance requests were responded to (Q. 20), whether opinions were heeded (Q. 27), whether action or opinion could have any effect on social-recreational matters (Q. 28a) or on regulations and management decisions (Q. 28b and c). A maximum of 2 points was allocated to each of these 5 questions, forming a 10 point index which proved to have an Alpha of .8237. This index constitutes a judgement by the respondents of the degree to which they can influence events in their housing environment. It shows the sense of whether they will be listened to and thus whether they have some degree of control in practical terms in the environment beyond their own unit.

The second subjective housing index is the sense of belonging (BELONG). This name has been given to a composite variable measured by combining two questions: first, respondents' sense of whether the housing development where they lived could be termed a "community" and if so, to what degree they

themselves felt included (Questions 67a and b)³⁰, and second, their rating of their home on a continuum between "just where I live" and "my real home". The latter item, taken from Bradburn (1969), had been included as the last item on the satisfaction scale. The total for this index is 10 points: a maximum of 2 for each part of Question 67, and 6 for the "real home" portion.³¹

b. Indices for Dependent Variables

i) Housing Satisfaction Scale

Housing Satisfaction, as mentioned above (page 81), was measured by a nine-item visual analogue scale, each item containing a six-point subscale, for a total possible score of 54 points. Items measured were unit size, safety, physical condition of unit and building, management, social atmosphere, location, design, cost and general satisfaction. The items were coded as a six-point scale with 0 representing "very unsatisfied" and 6 representing "very satisfied". The Alpha coefficient for this scale was .8003.

³⁰ It should be mentioned that this question did not include a "why do you say that?" stem which might have alerted the researcher to inconsistent interpretations.

³¹ There were not enough items in this index to make the calculation of an alpha coefficient meaningful.

ii) Bradburn Affect Balance Scale

The Bradburn Affect Balance Scale (Bradburn, 1969), consisting of two five-item subscales measuring positive and negative affect separately, was used to measure wellbeing. These two facets of wellbeing, at least as measured by this instrument, have been shown to be generally independent of each other: positive affect has been found to be correlated to social relationships and activity, while negative affect is associated with worry and anxiety (Bradburn, 1969). As a consequence, scores on the two subscales normally show a low to moderate correlation. Wellbeing as such is measured by a calculation which is essentially the difference between the positive and negative scales, producing the Affect Balance Scale (ABS).

Of the various indices of wellbeing available, the Bradburn scale was selected for several reasons. Firstly, the Bradburn is a commonly-used and well-validated measure of adult wellbeing. Secondly, its use would facilitate comparison of the study results with those of similar studies. In particular, O'Bryant and Wolf's (1983) research on subjective components of housing satisfaction employed this measure. Third, research suggests that many measures of wellbeing are composed of three major dimensions: positive affect, negative affect, and congruence of expectation and achievement (Lawton et al., 1984). In this particular study the objective was to

provide a measure of respondents' present affective state. Since there was no life review component, the use a measure which included a life review was not necessary. The widely-used Philadelphia Geriatric Centre Scale (Lawton, 1972) and the Life Satisfaction Index (Neugarten et al., 1961) were rejected because they contained a life review component. Additionally, the PGC Scale was considered inappropriate because it is intended for use with a very old and frail population different from the independent, community-living respondents selected for this study.

As expected, the positive and negative subscales showed a low correlation, with an Alpha of .4217. The negative subscale of the Bradburn performed reliably, with Alpha = .7372. It was felt that it could be used as it stood. The positive scale of the Bradburn, however, showed only Alpha = .6613.

The reliability of the positive scale was, however, able to be increased by the addition of two more general items, also derived from Bradburn (1969), which had been added to the questionnaire for purposes of validation:

- Taken all together, how would you say things are these days--would you say that you are very happy, pretty happy, or not too happy?
- In getting the things you want out of life, would you say that you are doing very well, pretty well, or not too well?

A maximum of three points was added to the scale for each of these questions, producing an 11-point index. Thus enhanced, the reliability of the positive scale rose to $\text{Alpha} = .7584$ and it could be used with some confidence as a dependent variable.

In order to examine separately the two quite different constructs of positive and negative affect, it was decided to analyze the two subscales rather than the combined measure provided by the Affect Balance Scale.

2. Analytical Procedures

The three major questions under consideration were each approached in different ways:

* To examine whether residents of different tenure type and age mix settings differed with regard to the independent variables, cross-tabulated frequency distributions were set up and chi-square statistics calculated.

* To discover how residents of various tenure type and age mix settings differed on the dependent variables, analysis of variance was used.

* To explore the pattern of relationship between independent and dependent variables in the tenure type and age mix settings, a multiple regression was performed.

This last procedure also made it possible

* To discover whether the inclusion of subjective housing variables could raise the predictability of dependent variables.

While chi-square analysis of frequency distributions and analysis of variance do not need further elaboration here, the use of the regression, in this case a hierarchical multiple regression, to explore the pattern of relationships will be briefly discussed.

This statistical tool analyzes the general nature of the relationship between independent and dependent variables, showing the degree to which variables are associated with each other and the pattern of the relationship. While such a relationship does not imply causation, it does make it possible to estimate the value of an independent variable which will be associated with any given value of a dependent one, within a specified margin of error. Data can be analyzed over multiple variables to determine the association of characteristics, individually or in sets, with the dependent variables.

In this case, after initial examination of the frequency distributions and the relationship of the different tenure type and age mix combinations with the dependent variables, a group of independent variables which appeared to be of particular interest was selected for further analysis. The selection of variables was based on both their salience in this data set and their importance in the light of theory and previous research. These variables were then arranged in sets

of from 1 to 4³² in a conceptual framework dictated by the theory reviewed in Chapter I above.

Finally, a separate regression of the variables in this framework on each of the three dependent variables was performed for each tenure type and age mix subsample (e.g. for housing satisfaction in co-op settings). The procedure consisted first of an analysis of each set of variables (e.g. the relationship of sociodemographic variables to housing satisfaction). Then a cumulative regression was done, in which all sets of variables were entered successively. The resulting statistic of interest for this particular study is the R^2 value, which represents the proportion of variance contributed to the dependent variable by the independent variable or set of variables in question.

The term *hierarchical* regression implies an order in which the factors of interest are examined. In this case the order is determined by the conceptual framework, which assumes *a priori* that personal factors as a group are more important to all three dependent variables than housing factors, and that within each category the sets of objective factors have more

³² The sets of variables have been kept to 4 or fewer to strengthen the statistical power of the analysis. A ratio of 1 variable per 10 cases or less has been adopted, dictating that for the smallest subsamples (respectively 45 and 49 respondents), no more than 4 variables would be considered for each set.

fundamental influence than perceived or subjective factors. In this way the cumulative regression allows, for instance, an assessment of the contribution of subjective housing factors into housing satisfaction *after* accounting for the impact of the objective variables.

It is particularly useful, in this instance, to have a clear sense of the contribution of variables already known to affect housing satisfaction and wellbeing, such as sociodemographic variables, before proceeding to explore the new territory of subjective housing variables. The exploration is of benefit only if the effects of established variables have already been accounted for, a procedure easily accomplished by a hierarchical regression.

Within each set the variables were analyzed in a *stepwise* fashion. That is, the 1 - 4 variables in each set were examined simultaneously, allowing the computer program to select in turn those which were the strongest predictors for the particular subsample. For instance, although health, gender, marital status and income are all known to be important predictors of wellbeing, there was little theoretical basis to indicate a priority among them, and the variables within the set with the highest R^2 values were entered first.

To minimize the effects of data loss from missing cases, the data for scales and indices were analyzed on a *pairwise* basis. With this approach statistics are calculated individually for all cases on which there are data on both variables in the comparison rather than for only those sets of variables in which all data are available. For instance, if a respondent missed one item on the housing satisfaction scale, comparisons would be made on a one-to one basis between each of the independent variables and each of the items which was completed. This gives results which are not as strong as would be if no cases were missing, but not as weak as if only complete cases were used.

To conclude this discussion of the regression, a caution is in order with regard to the strength of the statistical analysis. As mentioned above, the sets of variables were reduced to 4 or fewer for the regression to accommodate the smaller subsamples. The analysis *by sets* can then be considered with some confidence. Clearly, however, the use of all 16 variables on a subsample of 45 respondents does not permit the researcher to draw firm conclusions. For the strata and rental populations the results can be considered indicative only. Statistics for the co-op sample, at $n = 71$, and for the two age mix groups at $n = 75$ and $n = 90$, are more reliable, but only the statistics for the entire sample of $n = 165$ can be considered without considerable caution. The difficulties

raised by the small size of the subsamples are lessened, however, by the fact that it is the *comparison* of effects in different subgroups, rather than the levels of the effects themselves, which are of major interest in this research.

Having discussed the survey procedures, instrumentation, measurement and analytical procedures for this study, this report will now turn to presenting the data collected and the results of the analysis.

III. RESULTS

The results of the data analysis will be set out in three sections. First, in order to compare the characteristics of respondents in the different tenure type and age mix settings, the percentage distribution of the independent variables in each of those settings will be tabulated and chi-square distributions reported. Second, respondents in the different settings will be compared with regard to their scores on the dependent variables using analysis of variance. Third, the pattern of relationship between the independent and dependent variables in each setting will be presented using regression analysis. The hypotheses advanced in Chapter I will be addressed within each section as they arise.

A. Independent Variables by Tenure Type and Age Mix

In this section the percentage distribution of scores on the independent variables will be set out. This presentation will be organized according to the conceptual framework discussed in Chapter I rather than the order in which the questions appeared in the survey form. Personal characteristics will be presented first, followed by housing characteristics, and within each category, more objective variables will precede perceived and subjective ones. Although the data presented is for each tenure type and age mix sample as a whole, supplementary information on the tenure type by age mix

subsamples (e.g. age-integrated co-ops) will be given when it affects the interpretation of the data in the larger samples.

1. Personal Characteristics

a. Sociodemographic Characteristics

Table 4 presents a summary of the sociodemographic characteristics of respondents, cross-tabulated separately by tenure type and by age mix.

Table 4: Sociodemographic Characteristics of Respondents by Tenure Type and Age Mix (%)

Characteristics	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	Total n=165
Age (Mean)	73.4	71.0	70.8	69.3 ³³	74.2	72.0
Sex (female)	62.0	57.1	66.7	64.0	60.0	61.8
Marital Status	**					
- married	57.7	20.4	51.1	52.0	38.9	48.8
- widowed	36.6	40.8	42.2	29.3	47.8	39.4
- sep/div	2.8	28.6	0.0	13.3	6.7	9.7
Duration of Status (35+)	47.0	17.8	43.2	42.5	32.9	37.4
Living Arrangement (alone)	**					
	43.7	75.5	46.7	45.3	61.1	53.9
Hsehld Income (< \$12,000)	**			*		
	39.4	71.7	17.0	36.2	49.4	43.1

³³ Difference in mean age is not statistically significant, but the age distribution is significant at $p < .002$. Almost 53% of age-integrated residents were under the age of 70, while only 37% of age-segregated respondents were less than 70.

Characteristics	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	Total n=165
Income Problem (no)	94.3	87.5	95.5	87.8	96.6	92.6
Health						
-exc/good	62.0	42.9	62.3	57.3	55.5	56.3
-fair	33.8	36.7	31.1	29.3	37.8	33.9
-poor/v.poor	4.2	20.4	6.7	13.3	6.7	9.7
Disability (no)	77.1	67.3	84.1	74.7	77.3	76.1
Services (no)						
- housework	74.6	77.6	81.4	81.3	73.9	77.3
- meal/bath/ nursing	>98.6	>95.9	>95.3	>96.0	>97.7	>97
Ethnic Backgrnd (English Cdn)	* 82.9	63.0	55.8	71.6	68.2	69.8
Education (>high schl)	33.3	35.5	50.0	41.7	36.0	38.6
Occupation						
- prof/mgr	27.1	17.4	36.4	25.7	27.9	26.9
- housewife	21.4	15.2	25.0	23.0	18.6	20.6
Work Status (none paid)	97.1	97.5	95.6	95.8	97.6	96.8
Volunteer Work (none)	** 53.7	80.0	57.8	65.3	59.8	62.4

Note 1: Numbers are percentages unless otherwise noted. Since only the salient points of the distribution are presented, percentages will not add to 100.

Note 2: * = chi-square $p < .05$; ** = $p < .01$.

i) Tenure Type

Hypothesis 1a: Residents of different tenure-type developments will differ in sociodemographic characteristics.

As can be seen from Table 4, this hypothesis is upheld. Although respondents from the three tenure groups did not vary greatly in age or sex, there were notable differences in other characteristics. Significant differences occur for marital status, living arrangement, income, ethnic background and proportion of respondents who do no volunteer work. Even where distributions are not statistically significant there is still a strong trend, generally to the disadvantage of renters.

Significantly fewer of the renters than co-op members were married, more were divorced or separated, with a corresponding difference in length of marital status. Consequently, almost twice as many renters as co-op and strata residents were living alone. Only the renters reported poor or very poor health in any numbers, and similarly a smaller fraction of renters said that they had no disabilities which prevented walking more than a few blocks. With regard to ethnic background, the co-operatives had a significantly larger representation of English Canadians than other tenure groups.

The income distribution was also significant: the proportion of renters with incomes under \$12,000 was 55% greater than that of strata residents, with co-op members between. Although a low proportion of all groups actually stated that

they had an income problem, more renters did so than others.

The percentage of respondents who had education beyond the high school level was virtually the same in co-ops and rental buildings but somewhat higher in strata title complexes. This advantage is reflected in strata residents' having a higher percentage whose lifetime occupation had been at the professional-managerial level. Proportionately more co-op members than renters had attained this status. About equal portions of co-op and strata residents, but fewer renters, had been primarily housewives. Almost all of the respondents no longer undertook paid work.

The only significant difference which appears in the education/occupation characteristics of the sample is that significantly more of the renters reported that they did no volunteer work. This is probably related to the fact that both co-operatives and strata title developments call upon residents for volunteer management, maintenance and social activity.

This sample displays the well-known characteristics of renters as compared to owners: the renters are more likely than strata owners to be non-married, to live alone, to report poor health, to have less than a high school education, to have non-professional occupations and to report incomes under

\$12,000.³⁴ Co-op residents, who have not been previously studied, appear to occupy an intermediate position in sociodemographic terms. Socially, they appear to be not unlike the strata owners: they are similar in marital status, duration of marital status, living arrangement, reported health and frequency of doing volunteer work. On the other hand, in economic characteristics they are more like renters: their education level is very close to that of renters, and their income and occupation levels are roughly halfway between those of respondents from the other two tenures.

ii) Age Mix

Hypothesis 1b: Residents of age-segregated housing do not differ from those living in age-integrated housing on sociodemographic variables.

As shown in Table 4, differences among the respondents by age mix are less striking than by tenure type. Only the age distribution and the proportion with incomes under \$12,000 significantly differentiate between the age-mix subsamples and the hypothesis is upheld.

Where differences do occur they are usually to the disadvantage of those in age-segregated housing. The latter are older, less likely to be married (though also less likely

³⁴ An exception to this generalization is that whereas renters in general are disproportionately female, in this sample proportionately fewer of the renter respondents than of those from strata buildings were women.

to be separated or divorced), more likely to live alone and more likely to have incomes under \$12,000. Most of these disparities follow from the difference in mean age.

The two groups have very similar proportions of women, English Canadians, people with more than a high school education, lifetime housewives, and those retired from professional-managerial work. Almost equal proportions report their health to be good or excellent, although more respondents from age-integrated developments said theirs was poor or very poor. Disability levels are about the same, but fewer of the age-segregated residents stated they received no help with housework.³⁵

b. Objective Social Integration

The levels of objective social integration reported by respondents are presented in Table 5 below. Responses with a prevalence of 15% or greater in any cell are reported.

³⁵ It should be noted again that since this is a convenience sample, conclusions drawn about the sociodemographic characteristics of these respondents cannot safely be applied to the population of buildings with similar tenure type and age mix.

Table 5: Levels of Objective Social Integration Reported by Respondents by Tenure Type and Age Mix (%)

Objective Integration	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	Total n=165
Family Nearby						
- three/more	33.8	36.7	42.2	34.7	38.9	37.0
- one or two	39.4	22.4	37.8	38.7	30.0	33.9
- none	26.8	40.8	20.0	26.7	31.1	29.1
Frequency See Family						
- weekly/more	25.7	35.4	36.4	35.1	28.4	31.5
- mnthly/more	48.6	27.1	40.9	40.5	39.8	40.1
- yearly/more	17.1	20.8	18.2	16.2	20.5	18.5
Frequency See Outside Frnd						
- weekly/more	32.9	40.4	45.5	36.5	40.2	38.5
- mnthly/more	45.7	31.9	43.2	41.9	40.2	41.0
- yearly/more	20.0	14.9	9.1	17.6	13.8	15.5
NEIGHBORS (mean)	** 6.4	5.3	6.0	* 5.7	6.3	6.0
Rely on ngrs for rides etc						
- sometimes	* 31.0	10.4	24.4	20.3	25.6	23.2
- rarely	36.6	27.1	42.2	37.8	33.3	35.4
- never	23.9	52.1	28.9	32.4	34.4	33.5
Check-up Arrangement						
- none	* 27.1	37.5	56.8	* 43.2	34.1	38.3
- in complex	45.7	29.2	31.8	25.7	46.6	37.0
- outside	24.3	29.2	11.4	29.7	15.9	22.2

Objective Integration	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	Total n=165
PARTICIPATION (mean)	** 6.9	3.5	5.5	** 4.3	6.8	5.6
Attend General Meetings	**			*		
- yes	88.7	17.0	95.6	65.3	73.9	69.9
- no	11.3	34.0	4.4	13.3	18.2	16.0
- no meetings	0.0	48.9	0.0	21.3	8.0	14.1
Activities Planned by	**			**		
- residents	95.8	32.6	62.8	49.3	84.3	68.8
- no one	4.2	60.9	37.2	50.7	12.4	29.4

Note 1: Percentages denote the proportion among those who responded. Responses with a prevalence of 15% or more in any cell are reported. For this reason, percents may not add to 100.

Note 2: * = $p < .05$; ** = $p < .01$. Probability statistics reported for indices are for F-tests (Anovas). All others are chi-squares.

i) Tenure Type

Hypothesis 2a: Co-op members and strata title owners will have higher levels of objective social integration than renters.

This hypothesis, as it is stated, is not upheld. However, to see the picture clearly, it is necessary to examine relationships with family and friends separately from those with neighbors living in the same housing development.

With regard to contact with *family and friends*, Table 5 shows that although a somewhat greater proportion of renters than of other respondents have no family living within half an hour's drive, the fraction who have three or more family members nearby is about the same for all groups. Similar proportions of renters and strata owners see family and outside friends weekly or more often. Co-op members are more likely to see family members and outside friends monthly. None of these variances are statistically significant.

Relationships with *neighbors*, on the other hand, do exhibit significant differences by tenure type, in the hypothesized direction. Mean scores on the NEIGHBORS index (maximum = 8 points) are highest for co-op members, somewhat lower for strata residents, and lowest for renters. These differences are reflected in the next item: more than half of renters, as opposed to about a quarter of co-op and strata respondents, stated that they never relied on neighbors for assistance in such matters as household repairs, furniture moving or rides. On the other hand, strata residents were much more likely than others to have no arrangement with anyone to check regularly that they were all right. Co-op members were most likely to have such an arrangement, and almost half had it within their own housing development.

Levels of *social participation* within the housing development differ significantly by tenure type in the same way, but less markedly than for the previous category. The PARTICIPATION index (maximum = 9 points) is notably higher for co-op members than strata residents, and quite low for renters. Light is thrown on this difference by examining the two subsequent items: almost half of renters reported that there were no general meetings in their buildings, and 61% said that no activities were planned by anyone in the development. Co-op residents reported high levels of attendance at general meetings and resident-planned activities. Strata respondents showed even higher attendance at meetings, but appear to have fewer activities planned by residents or anyone else.

ii) Age Mix

Hypothesis 2b: Residents of age-segregated buildings will have higher levels of objective social integration than residents of age-integrated buildings.

Reference to Table 5 shows that the hypothesis is upheld. The NEIGHBORS index is significantly higher for age-segregated residents, and there is a much larger proportion of resident-planned activities in those settings. The PARTICIPATION index shows significantly higher scores in segregated than in integrated complexes, and there are fewer reports of buildings in which there are no meetings and no activities planned.

On the other hand, presence of family nearby, frequency of seeing family and frequency of seeing outside friends are at about the same levels in age-integrated and age-segregated settings. Similarly, there is little variance in the percentage who felt they could ask for assistance from neighbors. Significantly more respondents in age-segregated buildings than in age-integrated ones had a check-up arrangement with someone else in their complex, but this disparity may be more reflective of the difference in age distribution between the two housing settings than of relationships with neighbors, since the need for a check-up arrangement may not yet be felt by the younger respondents from age-integrated developments.

It is interesting to examine the means for the two objective integration indices crosstabulated by tenure type and age mix. These crosstabulations, with analysis of variance results, are shown in Tables 6 and 7.

Table 6: Mean Scores on NEIGHBORS Index by Tenure Type and Age Mix (maximum = 8 points)

Age Mix	Tenure Type			
	Co-op	Rental	Strata	Total
Integrated	6.3	5.0	5.2	5.7
Segregated	6.6	5.8	6.5	6.3
Total	6.4	5.3	6.0	6.0
Main Effect for Tenure Type			p<.001	
Main Effect for Age Mix			p<.021	
Two-way Interaction			p<.372	

Table 7: Mean Scores on PARTICIPATION Index by Tenure Type and Age Mix (maximum = 9 points)

Age Mix	Tenure Type			
	Co-op	Rental	Strata	Total
Integrated	6.6	1.6	2.9	4.3
Segregated	7.1	5.6	7.1	6.8
Total	6.9	3.5	5.5	5.6
Main Effect for Tenure Type			p<.000	
Main Effect for Age Mix			p<.000	
Two-way Interaction			p<.000	

With regard to the NEIGHBORS index, it will be noted that while the co-op means are similar by age mix, there is a considerable difference in the other two tenure types, with residents of age-integrated complexes scoring lower than those who live in segregated ones. The level for segregated stratas is close to that for the co-operatives. Similarly, for

PARTICIPATION, the co-op means are close, the renters and strata residents show a strong difference by age mix, and the segregated stratas are close to the co-op scores.

To summarize, on both these indices of social integration, the co-op respondents in general have high mean scores, the renters in general have low ones, and the stratas differ quite markedly by age mix. In all cases the mean scores in integrated settings are lower than those in segregated ones.

c. Subjective Social Integration

Hypothesis 3a: Levels of subjective social integration will be higher among co-operative members and strata title owners than among renters.

Hypothesis 3b: Levels of subjective social integration will be higher among residents of age-segregated buildings than of age-integrated buildings.

This personal characteristic was measured by a single independent variable, the SUBJINT index, measuring respondents' satisfaction with various aspects of their social life. Distribution of mean scores on this index is shown in Table 8 below.

Table 8: Mean Scores for Subjective Social Integration by Tenure Type and by Age Mix (%)

Subjective Integration	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	
SUBJINT (mean)	** 6.3	5.0	7.2	5.9	6.4	6.2

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

Hypothesis 3a is upheld: levels of satisfaction with social contacts are highest among respondents living in strata developments and lowest for renters, with co-op members scoring in between. While these differences are statistically significant, the small variance between respondents living in age-integrated and age-segregated housing developments is not. Therefore, Hypothesis 3b is not upheld.

Further information is gained from examination of the mean scores for SUBJINT crosstabulated by tenure type and age mix, and the analysis of variance results, shown in Table 9:

Table 9: Mean Scores on SUBJINT Index Crosstabulated by Tenure Type and Age Mix

Age Mix	Tenure Type			Total
	Co-op	Rental	Strata	Total
Integrated	6.0	4.8	7.3	5.9
Segregated	6.5	5.3	7.1	6.4
Total	6.3	5.0	7.1	6.2
Main Effect for Tenure Type			p<.000	
Main Effect for Age Mix			p<.339	
Two-way Interaction			p<.703	

In this table the general pattern of the renters being lower than co-ops and stratas is maintained and, except for the stratas, the age-integrated residents continue to score somewhat lower than those who live in age-segregated complexes. The effect for age mix is non-significant, however.

It is interesting to note that although residents of integrated stratas scored low on the two indices of objective social integration, they appear to be the most satisfied in subjective terms. This may be because a very high proportion of respondents in integrated stratas (89.5%) were married at the time of the study.³⁶

³⁶ Interesting patterns occur in the means for SUBJINT when considered by health and income categories. Mean levels of SUBJINT for respondents in the top three categories (excellent, good, fair) are 7.1, 6.6 and 5.9 respectively. The mean for those reporting poor or very poor health was 4.3

2. Housing Characteristics

a. Objective Housing Characteristics

The objective housing characteristics of the respondents are set out by tenure type and age mix in Table 10:

Table 10: Objective Housing Information by Tenure Type and Age Mix (%)

Objective Housing Characteristics	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Age Mix						
- integrated	46.5	46.9	42.2			45.5
- segregated	53.5	53.0	57.8			54.5
Tenure Type						
- co-op				44.0	42.2	43.0
- rent				30.7	28.9	29.7
- strata				25.3	28.9	27.3
No. Bedrooms	**			**		
- none (bach)		24.5			13.3	7.3
- one	23.9	40.8	13.3	21.3	30.0	26.1
- two	57.7	32.7	37.8	34.7	53.3	44.8
- three +	18.3	2.0	48.9	44.0	3.3	21.8
No. Bathrooms	**			**		
- one	82.9	100.0	40.9	59.5	91.0	76.7
House Cost /mo	**					
- <\$200	9.0	18.4	69.2	15.1	37.8	27.0
- \$200 - \$349	65.7	32.7	15.4	42.5	42.7	42.7
- \$350 +	25.4	48.9	15.4	42.5	19.5	30.2
Utilities Incl. (yes)	**					
	5.7	35.6	0.0	8.9	19.0	14.8

($p < .0001$). Similarly, means for SUBJINT show a shift at the \$12,000 income level, with the two categories under that amount having means of 5.2 and 5.4 respectively. The top three groups have means of 6.5, 6.9 and 7.0 ($p < .0004$).

Objective Housing Characteristics	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Length Present Residence						
- 0 - 4	52.9	59.6	60.0	63.5	51.1	56.8
- 5 - 9	22.9	25.5	17.8	20.3	23.9	22.2
- 10 +	24.3	14.9	22.2	16.3	25.0	21.0
Length Previous Residence	**					
- 0 - 4	20.3	54.5	24.4	37.0	25.9	31.0
- 5 - 9	27.5	18.2	15.6	20.5	22.4	21.5
- 10 +	52.2	27.2	60.0	42.4	51.8	47.6
Previous Type	**					
- single fam.	46.5	31.3	75.6	45.9	53.3	50.0
- apartment	29.6	35.4	11.1	28.4	24.4	26.2
Previous Tenure						
- co-op	11.6	2.2	0.0	8.2	3.5	49.0
- rented	40.6	50.0	13.6	38.4	33.7	35.8
- owned	43.5	30.4	77.3	41.1	55.8	44.0
- other	4.3	17.4	9.1	12.3	7.0	9.4

Note 1: Percentages denote the proportion of those who responded. Responses with a prevalence of 15% or more in any cell are reported, therefore percents will not add to 100.

Note 2: * = $p < .05$; ** = $p < .01$

i) Tenure Type

Hypothesis 4a: Monthly housing cost will be inversely related to housing amenities. Highest costs will be found among renters, and highest level of amenities among strata title owners.

This hypothesis is upheld. Monthly housing cost shows salient differences by tenure type, again to the detriment of renters. While almost half of the renters paid more than \$350 per

month, only a quarter of co-op members and 15% of strata owners spent that much, though it must be kept in mind that a fair proportion of renters had utilities included in that cost.³⁷

With regard to number of bedrooms and bathrooms, which is used here as a rough indicator of the size and degree of amenity in the unit, clearly strata title developments have the highest level and rental buildings the lowest. Almost a quarter of the renters report living in bachelor suites, but no co-op or strata residents are similarly restricted. About 60% of co-op respondents occupy two-bedroom apartments compared with only a third of the renters. For strata residents three bedrooms is more common, half of them reporting units of that size, and only 13% living in one-bedroom apartments. The same pattern occurs with bathrooms: no renter has more than a single bathroom, while 83% of co-op residents but only 41% of strata units have just one.

Considering other objective housing characteristics, respondents' housing history varied somewhat by tenure type.

³⁷ The fact that some units were subsidized and others not is a factor in the distribution of housing costs, but not a large one. Subsidized renters and co-op members pay an amount equal to 25-30% of income, or to the market rents in the area, whichever is lower. At 25%, a co-op member with an income of \$12,000 would pay \$250, utilities not included; an income of \$16,000 would lead to a charge of \$333. All of the co-operative respondents and 64% of the renters in segregated buildings had the potential of being subsidized in this way.

Although length of time in present residence was about the same, significant differences occurred in the length of time respondents had lived in their previous home. More than half of the renters, but less than a quarter of respondents from the other two groups had lived in their previous dwelling four years or less. Half of the co-op members, on the other hand, and 60% of the strata owners had lived in their previous homes for more than ten years.

While three quarters of strata owners had previously lived in single family dwellings, less than half of co-op members and less than a third of renters had done so. The largest group of renters had previously lived in apartments, but a full third had lived in a variety of other settings such as mobile homes, duplexes and shared or collective dwellings.

In the main, previous tenure had been the same as present tenure: half of renters had previously rented, 77% of owners had previously been owners. Co-op members appear to have been drawn equally from rented and owned dwellings, but examination of the distribution controlling for age mix shows that 61% of respondents from age-segregated co-ops but only a quarter from integrated co-ops had previously lived in dwellings they owned individually. The "other" category, which is most prevalent among renters, includes a variety of arrangements such as living with relatives or in a nursing home.

ii) Age Mix

Hypothesis 4b: Highest costs and highest level of amenities will be found among age-integrated residents.

Generally, this hypothesis is upheld. While the difference in the distribution of housing costs by age mix is non-significant, disparities are present at the extremes of the range. Only 15% of integrated residents, compared with 37% of segregated ones pay less than \$200 per month for housing. There is also a disparity by age mix among renters. Virtually all integrated renters pay from \$300 to \$500 per month (42% pay between \$350 and \$399), while the cost for segregated renters is evenly distributed over the range from \$100 to \$500.

As to other objective housing characteristics, only the number of bedrooms and bathrooms in the unit distinguishes between these two groups. All the bachelor units were in age-segregated complexes, and almost all respondents from segregated complexes had two bedrooms or fewer. The largest group of age-integrated dwellers, on the other hand, had three bedrooms or more, usually because they lived in housing designed for families. Differences in housing history by age mix are slight.

b. Perceived Housing Qualities

Perceived housing qualities, representing the respondents' judgements about various aspects of their housing, are set out in Table 11 below.

Table 11: Perceived Housing Qualities by Tenure Type and Age Mix (%)

Perceived Housing Qualities	Tenure Type			Age Mix		Total n=165
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	
Adequate Size (yes)	* 88.7	80.4	100.0	91.9	87.4	89.4
Maintenance (well maint.)	71.4	65.3	86.7	** 56.8	87.8	73.8
Safety very safe in						
- unit	93.0*	75.0	91.1	82.4	91.1	87.2
- building	87.3*	71.4	88.9	78.7	86.7	83.0
- neighborhd	62.9	52.2	62.2	49.3*	68.2	59.6
Problems Bldg Design +						
- none	55.2	56.1	61.5	51.5	62.9	57.2
- unit design	12.1	14.6	12.8	17.6	8.6	13.0
- storage	17.2	22.0	5.1	19.1	11.4	15.2
Adequate Heat (yes)	91.5	93.9	95.6	** 86.7	98.9	93.3
Adequate Repair (yes)	** 98.4	85.7	100.0	92.6	97.5	95.3

Perceived Housing Qualities	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Location (convenient)	91.4	83.3	95.6	91.9	88.8	90.2
Places hard to reach +						
- none	63.4	40.6	69.2	54.9	60.4	57.6
- none/car	4.9	9.4	19.2	11.8	8.3	10.1
- medical	4.9	15.6	11.5	7.8	12.5	10.1
- large shopping	12.2	18.8	3.8	9.8	14.6	12.1
Usual trans- port +						
- drive	78.9	61.2	84.4	50.7	48.9	49.7
- walk	46.5	46.9	40.0	44.0	44.4	44.2
- transit	11.3	28.6	15.6	8.6	5.6	6.7
- rides othrs	14.1	18.4	6.7	6.7	4.4	5.5

Note 1: Percentages denote the proportion of those who responded. Responses with a prevalence of 15% or more in any cell are reported.

Note 2: Multiple-response questions are indicated by "+". For these responses no chi-square values can be calculated and percents will not add to 100.

i) Tenure Type

Hypothesis 5a: Perceived adequacy of size, perceived quality of maintenance, and sense of safety will be higher among co-op and strata respondents than among renters.

This hypothesis is upheld. Differences in the proportion who found their unit size adequate were statistically significant. While only 80% of renters were satisfied on this score, 89% of co-op respondents and all of the strata owners were content with the size of their units. Closer examination of the data shows that dissatisfaction among renters in age-segregated

buildings is the major factor in this difference. This result can probably be attributed to the respondents who lived in bachelor suites.

The proportion of respondents who judged their *buildings* to be well maintained differed somewhat by tenure type, with renters lowest, co-op members next and strata residents highest, but the difference was not significant. When asked whether their *apartment* was adequate as to state of repair, however, a significantly smaller fraction of renters than other respondents checked "yes".

A closer look at the data shows that satisfaction with maintenance is lowest among respondents from the integrated co-op and rental complexes. Just under half of them, as opposed to 90% of owners from integrated strata buildings, felt their buildings were well-maintained, a difference which is statistically significant.

Feelings of safety within the unit and within one's housing complex differed significantly by tenure type but sense of safety in the neighborhood did not. For unit and building, the proportion feeling "very safe" was virtually identical for respondents living in co-op and strata buildings, but significantly fewer renters reported the same sense of security. With regard to buildings, however, a look at this

effect in the age-integrated and age-segregated buildings separately shows that the sense of being unsafe in one's building is primarily confined to renters in age-integrated settings. The portion who stated they felt very safe in the neighborhood were much lower for all groups, with renters again lowest of all.

Although answers to the open question "What, if anything, do you feel may threaten your safety...?" were too divergent to present in a table, the bulk of responses concerned theft, burglary, and vandalism. Fire was another fear specified, and general concern was expressed about being out after dark, when shops are closed and there are few people around.

Although the stated fear of burglary was general, specific concern about theft was confined to the integrated co-ops, and about vandalism to the integrated stratas. The fear of fire was most often expressed by residents of age-integrated co-ops and stratas. The statement that they feared little or nothing was most often made by renters (46%), second by co-op members (34%) and least by strata residents (27%).

It should be noted that there is a strong correlation between perceived quality of maintenance and the sense of safety in all settings, although for co-operatives the association is considerably lower than for the others. For the entire sample the correlation is .435; for co-op members, renters, and

strata respondents the figures are .270, .679 and .337 respectively.

With regard to other factors, most respondents had little problem with the design of their units. Similarly, all but a very few respondents found their units adequately heated, and there was little disparity by tenure type. It appears that residents in these small Canadian towns are not subject to the heating problems found by Lawton's (1980a) research in older American cities.

Evaluation of locational convenience is roughly the same for co-op and strata respondents, with renters less pleased and correspondingly less likely to state that none of their usual destinations was difficult to reach. This difference is possibly explained by the fact that almost half the renters, as opposed to a quarter or fewer of co-op and strata residents, relied primarily on public transportation or rides from others.

ii) Age Mix

Hypothesis 5b: Perceived adequacy of size will be higher among age-integrated residents. Perceived quality of maintenance and sense of safety will be higher among age-segregated residents than among age-integrated ones.

Although there are fewer notable differences by age mix than by tenure type in the perceived quality of respondents' housing, the hypothesis is generally upheld. Perceived adequacy of size is somewhat higher in the integrated buildings, but not significantly so. Perceived quality of maintenance, on the other hand, is sharply lower in the integrated buildings. As mentioned above, the age-integrated co-op and rental developments appear to be the most wanting in residents' opinions.

As discussed above, the sense of being less than "very safe" in one's unit and in the building is expressed primarily by renters living in age-integrated settings. Although age-integrated residents in general did not show this pattern to a significant degree, the trend is the same, and the feeling of being very safe in the *neighborhood* is significantly less prevalent among respondents from age-integrated buildings.³⁸

c. Subjective Housing Qualities

Subjective aspects of respondents' housing will be treated under three categories: factors in the choice of home,

³⁸ A look at the correlation matrices shows that the association of age-mix with the sense of safety in one's unit is non-significant for the entire sample ($r = .129$) and for the co-op and strata groups ($r = .075$ and $.049$ respectively). For the renters, however, the correlation is statistically significant at $.241$ ($p < .05$).

opinions and feelings about the tenure type and age mix of their home as such, and finally more personal issues such as what they like best and least, and their feelings of fairness, control and belonging. As before, these topics will each be treated separately by tenure type and age mix.

i) Factors in the Choice of Home

The factors in the respondents' choice of their present home are presented in Table 12.

Table 12: Factors in Respondents' Choice of Home by Tenure Type and Age Mix (%)

Choice of Home Factors	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Reason moved from previous home +						
- too much work	36.8	30.8	57.7	31.1	41.1	36.6
- location	10.5	34.6	11.5	27.0	17.8	22.0
- size	18.4	30.8	19.2	14.9	22.2	18.9
- expense	15.8	23.1	3.8	20.3	14.4	17.1
- structure	15.8	23.1	11.5	14.9	16.7	15.9
- feelings	15.8	23.1	7.7	14.9	15.6	15.2
- other ³⁹	44.7	42.3	26.9	43.2	38.9	40.9

³⁹ "Other" indicates a variety of reasons such as house or apartment being sold, a shared arrangement breaking up, moving to the Lower Mainland from smaller towns or from out of province, or desire to move out of a nursing home.

Choice of Home Factors	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Reason chose present home+						
- cost	77.5	66.0	53.3	75.5	60.7	67.5
- location	59.2	57.4	73.3	63.5	61.8	62.6
- safe	59.2	48.9	46.7	47.3	57.3	52.8
- size	50.7	38.3	64.4	50.0	51.7	50.9
- maintce	52.1	36.2	60.0	37.8	59.6	49.7
- fam/frnds	47.9	51.1	33.3	43.2	46.1	44.8
- neighbors	54.9	21.3	33.3	37.8	40.4	39.3
- design	33.8	23.4	48.9	31.1	38.2	35.0
- other	36.6	36.2	26.7	27.0	39.3	33.7
- phys. qual.	29.6	29.8	33.3	20.3	39.3	30.7
Alternatives considered						
- none	70.6	50.0	57.8	51.4	69.0	60.9
- renting	17.6	35.4	6.7	25.7	14.9	19.9
- buying	8.8	8.3	33.3	17.6	13.8	15.5
- co-op	14.7	4.2	4.4	12.1	5.7	8.7
- other	4.4	4.2	4.4	2.7	5.7	4.3
Waiting List (yes)	** 60.6	32.7	8.9	** 21.3	52.2	38.2
Criteria for Hsg Choice +						
- location	44.1	46.8	51.2	49.3	44.6	46.8
- cost	51.5	38.3	46.3	56.2	37.3	46.2
- size	35.3	27.7	12.2	30.1	24.1	26.9
- neighbors	19.1	21.3	22.0	17.8	22.9	20.5
- comfort	20.6	17.0	19.5	20.5	18.1	19.2
- constructn quality	11.8	21.3	17.1	16.4	15.7	16.0
- accessibilty	13.2	14.9	14.6	11.0	16.9	14.1
- design	11.8	8.5	22.0	9.6	16.9	13.5
- safety	16.2	18.5	12.2	11.0	14.5	12.8
- quiet	8.8	12.8	17.1	11.0	13.3	12.2
- other	11.8	6.4	14.6	2.7	18.1	10.9
Meets Criteria (very well)	** 87.3	54.2	83.3	** 64.9	86.2	76.4

Choice of Home Factors	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Comfort/Cost Balance	**					
-comfortable/ reasonable	94.3	65.3	95.2	79.5	90.9	85.7
-comfortable/ high	4.3	22.4	4.8	15.1	5.7	9.9
Plans to Move (no)	** 91.4	70.2	90.9	81.1	88.5	85.1

Note 1: Percentages denote the proportion among those who responded.

Note 2: Multiple-response questions are indicated by "+". Responses with a prevalence of 15% or more in any cell are reported. For these responses no chi-square values can be calculated and percents will not add to 100.

* Tenure Type

Inconvenient location appears to have prompted about a third of renters' moves from their previous residence, but for both co-op members and renters the large "other" category is most frequently cited. The reasons mentioned are diverse, ranging from a retirement move from another province or from smaller towns and work camps in B.C., through eviction or dissolving a sharing arrangement, to moving out of a nursing home. Strata owners, on the other hand, noted the effort of home maintenance more often than any other reason. Not surprisingly, given that far fewer co-op members and renters

had previously lived in single family dwellings, this response is less prevalent in those categories.

The most often cited reasons for choosing the present home were generally the same in the three tenure groups, but occurred in different order. Cost appears to be primary for co-op members and renters. A strong second for renters is convenient location, while co-op members give location and safety equal billing for second place. About half of renters mentioned safety and closeness to family and friends, but only a fifth of them referred to congenial neighbors. By contrast, 55% of co-op members mentioned their neighbors as a factor in their housing choice, giving it equal importance with quality of maintenance, size and closeness to family and friends.

The priorities of strata owners were slightly different from those of the other two groups. Location was mentioned most often followed by size and quality of maintenance, which were more or less equally important. Cost, design and safety formed a third place cluster. Like renters, strata residents appeared to give little importance to congeniality of neighbors in making their housing decision. Very few of all groups paid attention to physical qualities such as heat and soundproofing.

Most co-op members had considered no other alternative than the home they eventually moved into, and 60% of them had been on a waiting list for their unit. Fewer in the other groups, but still a substantial proportion, had considered no other options except another location in the same tenure type. A third of renters had been on waiting lists for their present accommodation.

In the open-ended question about the individual's personal criteria for choosing a home for himself or herself, cost and location are the attributes most often mentioned by all groups, with renters and strata owners citing location first, and co-op members more often referring to cost.

The proportions who said their present homes met their criteria very well were significantly different by tenure type, with barely half of renters checking that response while about 85% of co-op members and strata residents did so. Similarly, while 70% of renters had no plans to move, more than 90% of respondents in co-ops and strata title developments were content to remain where they were. Assessments of the balance of cost and comfort in their housing shed further light on this difference: about 95% of co-op and strata residents found that their homes were comfortable and the cost was reasonable. Only 65% of renters made this response. These data for renters are comparable to

the finding of Rosow (1967) cited in Chapter I, that 30-35% of the tenants in his sample were dissatisfied enough to be considering moving.

*** Age Mix**

Reasons for moving from previous home differed little by age mix. The varied "other" category was most frequently checked, with the feeling that their former homes required too much work coming second. As to reasons for choosing the present home, cost is by far the most-cited factor for age-integrated residents, with location coming second, but location, cost, quality of maintenance and safety form a cluster for respondents from age-segregated buildings. This suggests that the age-integrated residents may have felt more financial constraint in making their housing choice than respondents living in age-segregated buildings.

A considerably higher portion of segregated than integrated residents said they had considered no other alternative than the one they moved into. More than half of respondents from age-segregated buildings had been on a waiting list before moving in, but only a fifth of those from the integrated buildings. This difference is statistically significant. As well as possibly indicating a preference for age-segregated housing, which will be discussed in the next section, this difference may also reflect the larger proportion of

subsidized units (which are in high demand) in the segregated buildings.⁴⁰

Speaking more generally about criteria for housing choice, cost is the most important aspect of housing selection for age-integrated respondents, with location coming second. People from age-segregated buildings had the reverse priority. The degree to which one's criteria are met in the present dwelling is significantly different by age mix, with respondents from age-integrated developments considerably less satisfied than those living in age-segregated settings. However, there is little difference between the two groups in expressed plans to move. Although respondents from age-segregated developments were somewhat more inclined than their counterparts to state that comfort and cost were reasonably balanced in their present home, the disparity is not statistically significant.

ii) Opinions and Feelings about Tenure Type and Age Mix

Respondents' opinions and feelings about the tenure type and age mix of their homes are presented in Table 13:

⁴⁰ Of the age-integrated complexes, only the co-operatives contained subsidized units.

Table 13: Respondents' Opinions and Feelings About the Tenure Type and Age Mix of Their Homes (%)

Opinions and Feelings	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Like Tenure Type	**			*		
- very much	78.3	36.4	84.1	59.2	75.6	68.2
- moderately	15.9	38.6	9.1	28.2	14.0	20.4
- indifferent	1.4	15.9	6.8	4.2	9.3	7.0
Advantages of Tenure Type +						
- affordable	41.0	20.0	12.5	27.5	26.4	27.0
- no responsibility	14.8	75.0	2.5	27.5	29.9	28.4
- have a say	23.0	0.0	10.0	13.0	12.5	12.8
- security	4.9	0.0	30.0	8.7	12.5	10.6
- control costs	1.6	0.0	27.5	5.8	11.1	8.5
- ownership	4.9	0.0	15.0	7.2	5.6	6.4
- can make changes	0.0	0.0	27.5	4.3	11.1	7.8
- easy to move	1.6	22.5	0.0	8.7	5.6	7.1
- know ngbrs	31.1	0.0	0.0	21.7	5.6	13.5
- safety (ngbrs)	11.5	15.0	2.5	18.8	1.4	9.9
- privacy	3.3	0.0	17.5	4.3	8.3	6.4
Disadvantages Tenure Type +						
- none	42.1	12.1	33.3	25.5	34.8	29.7
- gossip etc.	18.4	15.2	3.3	18.2	6.5	12.9
- costs high	0.0	12.1	26.7	10.9	13.0	11.9
- rsponsblty	0.0	0.0	33.3	5.5	15.2	9.9
- no control	7.9	15.2	6.7	10.9	8.7	9.9
- never own	5.3	15.2	0.0	7.3	6.5	6.9
Preferred Tenure Type	**					
- co-op	59.4	10.4	7.1	26.8	34.1	30.8
- renting	15.9	56.3	4.8	18.3	30.7	25.2
- strata	8.7	4.2	73.8	25.4	23.9	24.5

Opinions and Feelings	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	n=165
Like Age Mix	**			*		
- very much	66.2	43.8	52.3	41.3	68.2	55.8
- moderately	23.9	16.7	25.0	32.0	13.6	22.1
- indifferent	4.2	20.8	4.5	10.7	8.0	9.2
- dislike	5.6	18.8	18.1	16.0	10.2	12.9
Advantages of Age Mix +						
- quiet	20.3	18.8	28.6	3.4	38.8	22.2
- communicatn	27.1	18.8	11.4	0.0	38.8	20.6
- enjoy ngbrs	15.3	12.5	11.4	16.9	10.4	13.5
- like a mix	6.8	9.4	11.4	16.9	1.5	8.7
- like kids	10.2	18.8	8.6	25.4	0.0	11.9
- world view	22.0	12.5	11.4	35.6	0.0	35.6
Disadvantages Age Mix +						
- none	41.9	41.2	17.9	30.6	41.9	35.2
- noisy	23.3	32.4	32.1	41.9	9.3	28.6
Preferred Age Mix						
- all seniors	81.6	72.0	76.9	20.0	77.5	51.2
- middle-aged + older	7.9	4.0	15.4	20.0	9.0	14.0
- adults only	0.0	0.0	7.7	2.7	2.2	2.4
- all ages in same area	0.0	4.0	0.0	21.3	1.1	10.4
- all ages separated	5.3	12.0	0.0	20.0	5.6	12.2
- doesn't matter	5.3	8.0	0.0	16.0	4.5	9.8

Note 1: Percentages denote the proportion of those who responded. Responses with a prevalence of 15% or more in any cell are reported.

Note 2: Multiple-response questions are indicated by "+". For these responses no chi-square values can be calculated and percents will not add to 100.

* Tenure Type

Significant differences occur in the proportion of respondents from each tenure type who stated they liked their tenure arrangement very much.⁴¹ The percentages for co-op and strata residents were much higher than for renters. Examination of the data by age mix, however, shows a striking pattern, as presented in Table 14:

Table 14: Percentage of Respondents who like their Tenure Type "Very Much" by Tenure Type and Age Mix

Age Mix	Tenure Type			Total
	Co-op	Rental	Strata	
Integrated	62.5	25.0	89.5	*59.2
Segregated	91.9	45.8	80.0	75.6
Total	81.0	35.2	84.4	68.2

* $p < .01$

While much higher percentages of co-op and strata respondents than renters said they liked their tenure arrangements very much, both the co-op and renter groups show a marked disparity between residents of integrated and segregated settings, with the former apparently much less satisfied than the latter.

⁴¹ The scale used for this question had five points, ranging from "like very much" to "dislike very much". The major difference was between the two highest values, accounting for 88.6% of the responses. Only 4% (3 co-op residents and 4 renters) said they disliked their housing tenure type somewhat or very much.

Although strata owners are much more consistent by age mix, their pattern is in fact the reverse of the others, with residents of the integrated complexes more likely to express a preference for strata ownership.

As to advantages of tenure type, co-op members cited affordability, knowing your neighbors and "having a say"; renters overwhelmingly noted the minimal degree of responsibility and, a distant second, the ease with which they could move; and strata owners cited the general security of ownership, control of costs, and freedom to make changes within their unit.

Much larger proportions of co-op and strata residents than renters saw no disadvantages to their own tenure arrangement. It is interesting to note that the only group to mention high costs in any notable proportion (27%) were the strata owners, who in fact as a group have the lowest housing costs. A closer look as the data reveals that although about 15% of owners reported costs over \$350 per month, almost half (49%) of renters had monthly expenses in the same range. This difference in the perception of high costs probably reflects a difference in expectations.⁴²

⁴² It will be remembered that the response rate for this question, being both open-ended and negative, was relatively low. Of the 30 strata owners who answered it, 8 mentioned high costs.

Two other differences in the perception of disadvantages appear by age mix. First, while only 23% of respondents living in integrated co-ops saw no disadvantages in their tenure type, 69% of those from segregated co-ops made the same response. Conversely, almost twice the proportion of residents in age-integrated strata developments as age-segregated ones (46% vs 24%) saw no disadvantages in being strata title owners. Second, the need to be responsible for maintenance and repairs was seen as a problem by 23% of those who owned integrated strata units, but for 41% of the age-segregated owners. This difference may reflect the disparity in mean age between the two strata groups: even if owners do not do the work themselves, they must take the responsibility for arranging it, a task which may be more onerous for older people.

When asked (all else being equal) which tenure type they would prefer, the majority of each group stated a preference for their present one, although strata owners expressed this in greater proportions. Most of those who did not make this response indicated that it didn't matter to them.

Data on opinions about tenure type considered by age mix have been included in Table 13 for completeness, but in most cases are probably too contaminated by the differences in the size of the tenure type samples to be meaningful. It is

interesting, however, to notice that the only disparities by age mix in the advantages of respondents' tenure types have to do with neighbors: knowing neighbors and feeling safe having neighbors around, which is much more commonly mentioned by residents of age-integrated than age-segregated developments. Closer examination of this unexpected finding shows that the majority of the respondents who mentioned these particular advantages were residents of age-integrated co-operatives.⁴³ Since co-op members have higher scores on the NEIGHBORS and PARTICIPATION indices than other respondents living in age-integrated settings, it appears that they know their neighbors better than their counterparts in other tenure groups do and associate their safety with that fact (perhaps by contrast with previous experience in other settings). Age-segregated respondents, on the other hand, clearly associate their sense of safety with other factors than simply knowing their neighbors.

*** Age Mix**

Only 41% of respondents living in age-integrated housing complexes stated that they liked this age mix "very much", as opposed to 68% of those in age-segregated buildings. Although in Table 13 the responses to this question are also presented

⁴³ Combining responses for the two questions, the distribution is: 21 from age-integrated co-operatives, 6 from integrated renters, 1 from integrated stratas; for segregated developments, only such 5 responses were found, all from co-operatives.

by tenure type for completeness, a more accurate picture of the opinions about age mix held by residents in different tenure settings can be gained from Table 15 below:

Table 15: Percentage of Respondents who like the Age Mix of their Complex "Very Much" by Tenure Type and Age Mix

Age Mix	Tenure Type			Total
	Co-op	Rental	Strata	
Integrated	51.5	30.4	36.8	41.3
Segregated	78.9	56.0	64.0	68.2
Total	66.2	43.8	52.3	55.8

The table shows that while respondents from age-segregated developments of all three tenure types were considerably more likely to prefer the age mix they presently had, co-op members from both integrated and segregated settings expressed this opinion proportionately more often than other respondents. Unlike the parallel question for tenure type, however, the distribution by age mix is not statistically significant.

The advantages of each age-mix setting reported by the residents are fairly specific. The quiet, easy communication and understanding companionship of neighbors are the chief benefits of age-segregated housing. The variety, the presence of children, and the stimulation of a broader world view gained by contact with people of diverse ages are the

attractions of age-integrated settings. About 40% of the latter did mention, when asked the disadvantages, that mixed complexes tended to be noisy, while most of the former found no disadvantages in their present situation. These responses recall similar findings of Lawton, Moss and Moles (1984).

With regard to the ideal age mix situation, residents of segregated housing overwhelmingly endorsed what they had, while residents of integrated developments mentioned almost all the presented options in about equal proportions. However, virtually none of the respondents approved of a situation which allowed adults of all ages but excluded children.

iii) Affective Aspects

The last set of independent variables examined was responses to the most subjective questions about respondents' housing, those with a strong and fairly personal affective content: what they liked best and least about their present residence, how supportive they found it, how fair they felt their housing situation was, to what degree they felt a sense of control and belonging. Responses to these questions are presented in Table 16 below.

Table 16: Subjective Aspects of Housing by Tenure Type and Age Mix (%)

Housing Aspects	Tenure Type			Age Mix		Total
	Co-op	Rent	Strata	Int	Seg	Total
	n=71	n=49	n=45	n=75	n=90	n=165
Fairness re Housing	**			**		
- very fairly	81.4	53.2	86.4	64.4	83.0	74.5
- moderately	15.7	25.5	9.1	20.5	13.6	16.8
- unfairly	2.9	21.3	4.5	15.1	3.4	8.7
Fairness Reasons +						
- unspecified positive	40.0	20.6	36.4	28.1	38.2	33.0
- affordable	40.0	17.6	21.2	31.6	23.6	27.7
- philosophy	6.7	8.8	15.2	5.3	14.5	9.8
- own choice	2.2	2.9	15.2	7.0	5.5	6.3
- high cost (negative)	4.4	20.6	6.1	17.5	1.8	9.8
CONTEFF (mean) (max = 10)	** 6.6	4.17	7.7	5.9	5.6	6.3
Control Satisfn - as much as I want	** 89.6	55.6	88.6	* 71.6	86.5	79.5
BELONG (mean) (max = 10)	** 8.5	4.5.	7.7	** 6.5	7.9	7.2
Liked Best +						
- location	10.3	33.3	22.7	21.1	19.2	20.4
- size	10.3	2.2	22.7	14.1	9.3	11.5
- view	4.4	20.0	4.5	8.4	9.3	8.9
- safe	17.6	11.1	20.4	14.1	18.6	16.6
- affordable	11.7	15.6	0.0	11.3	8.1	9.6
- quiet	14.7	24.4	29.5	19.7	23.2	21.7
- no outdoor work	2.9	4.4	20.4	11.2	5.8	8.3
- neighbors	44.1	28.9	44.1	35.2	43.0	39.5
Liked Least +						
- nothing	34.6	19.0	17.9	14.9	34.8	24.8
- noisy	3.8	9.5	17.9	14.9	4.5	9.8

Housing Aspects	Tenure Type			Age Mix		Total
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	Total n=165
Supportive Now	**			**		
- very	59.4	32.6	45.2	27.1	64.4	47.8
- moderately	40.6	56.5	54.8	70.0	32.2	49.0
- unsuptve	0.0	10.9	0.0	2.9	3.4	3.2
Supportive in Future	**			**		
- very	47.7	31.8	35.7	21.4	55.6	39.7
- moderately	52.3	45.5	54.8	64.3	39.5	51.0
- unsuptve	0.0	22.7	9.6	14.3	5.0	9.3
Supportiveness Reasons +						
- people care	24.4	20.6	24.2	25.9	20.4	23.2
- past experience	20.0	23.5	12.1	8.6	24.1	16.1
- can't predict	24.5	38.2	33.4	32.7	29.7	31.3

Note 1: Percentages denote the proportion among those who responded. Since only responses with a prevalence of 15% or more in any cell are reported, percents may not add to 100.

Note 2: Multiple-response questions are indicated by "+". For these responses no chi-square values can be calculated and percents will not add to 100.

Note 3: * = $p < .05$; ** = $p < .01$. Statistics reported for indices are F-tests (Anovas). All others are chi-squares.

* Tenure Type

Hypothesis 6a: Levels of the sense of fairness, control and belonging will be higher among co-op and strata residents than among renters.

This hypothesis was generally upheld. When asked how fairly they thought life was treating them as far as housing is

concerned, respondents gave answers which differed significantly by tenure type. Well over 80% of co-op and strata residents checked "very fairly" but only 53% of renters did so. While a very small fraction of the other groups checked "unfairly," this response was made by more than 20% of renters. One difference which occurred within the subgroups is that while only 36% of renters in age-integrated buildings felt life was treating them very fairly, 68% of renters in age-segregated buildings made the same response.

The most common reason given for these responses, especially in the co-ops, was a simple affirmation that they liked where they lived. Co-op members were also likely to mention affordability. Renters, on the other hand, were apt to mention high cost to support a negative evaluation. Strata owners were the only group to make more general statements of personal philosophy (e.g., "I am a Christian," or "I believe you should be happy with what you can afford") or to state that they had chosen this particular home and if they didn't like it they could move.

CONTEFF is an index of the respondents' sense of effective control in their housing situation. It combines questions on such issues as whether their maintenance requests are responded to appropriately, whether their opinions and actions can have an effect on social, regulatory or management issues.

As Table 16 shows, this sense of effective control differed significantly by tenure type, with co-op and strata residents much higher than renters. When asked if they were satisfied with the degree of control they had, the same pattern showed: high percentages of co-op and strata residents were satisfied, but a much lower proportion of renters were similarly content.

The last of the indices, BELONG, shows respondents living in co-op and strata developments to be significantly higher in the sense of belonging than renters. In this case co-op members also scored considerably higher than owners of strata title units.⁴⁴

With regard to other subjective aspects of their housing, 44% of both co-op and strata respondents referred to their neighbors when asked to state what they liked best in their present home, but only 29% of renters responded the same way. While no other factor was mentioned very frequently by co-op members, renters referred in greater numbers to the locational convenience, the quiet in their buildings and the view. Strata owners singled out quiet and locational convenience as

⁴⁴ In order to test the possibility that the BELONG index was simply measuring length of tenure, an analysis of variance was performed. Although means of the index did increase slightly from 6.8 among those who had lived in their homes four years or less to 7.8 for those 15 years or more, the difference was non-significant ($p < .493$). The correlation between these two variables was .122.

well, but also cited the safety and the freedom from outdoor maintenance work.

Twice the proportion of co-op members as in the other two groups stated that there was nothing they "liked least" about their housing development. The only other response made by more than 15% of any group was that about 18% of strata owners found their settings noisy.

The interpretation of the supportiveness questions appears to have been somewhat inconsistent, since some respondents stated that they felt it was not up to others to support them. The responses have been included in the table, however, because the pattern is clear and similar to that of other questions. Almost twice the proportion of co-op members as of renters considered their housing complex a "very supportive" place to live, and all of the former found their housing either "very" or "moderately" supportive. Although the strata respondents were more inclined to say "moderate", like co-op members they all rated their complexes in the top two categories. Renters, on the other hand, had a relatively small proportion of the most positive responses and they were the only group in which some found their buildings "unsupportive".

As to how supportive their homes would be in the future, co-op members still had the most positive response, but rental and

strata developments evidenced less optimism. Roughly a third of each expected their developments would be a very supportive place to live in future, but 23% of renters and 10% of strata owners actually felt their complexes would become unsupportive in time. When asked to expand on their response to this question, most respondents stated generally that their neighbors seemed to care what happened to each other, and that they had had experiences in the past which confirmed that belief. Others, especially in the rental and strata developments, felt that they had no basis on which to make a prediction.

* **Age Mix**

Hypothesis 6b: Levels of the sense of fairness, control and belonging will be higher in segregated than in integrated buildings.

This hypothesis is upheld for fairness and belonging, but not for the sense of effective control. The mean scores on the CONTEFF index were virtually the same, although *satisfaction* with control was significantly less in the integrated settings.

There are significant differences, however, in the sense of fairness and the sense of belonging. Residents in age-segregated complexes were far more likely to feel fairly done by than those in integrated developments, and to give an

unspecified positive when asked to expand on their answer. Respondents from age-integrated complexes, however, if they did feel their situation was fair, would more often explain their response by referring to the affordability of their unit. The sense of belonging also differed significantly by age mix, with the respondents from age-segregated buildings showing a considerably higher mean than the others.

Examination of the two subjective housing indices cross-tabulated by tenure type and age mix is instructive, for the patterns in the data are similar to those found for NEIGHBORS, PARTICIPATION and SUBJINT. These cross-tabs are shown in Tables 17 and 18 below:

Table 17: Mean Scores on CONTEFF Index by Tenure Type and Age Mix (maximum = 10 points)

Age Mix	Tenure Type			
	Co-op	Rental	Strata	Total
Integrated	6.1	3.9	8.5	5.9
Segregated	7.1	4.5	7.3	6.6
Total	6.6	4.2	7.7	6.3
Main Effect for Tenure Type			p<.000	
Main Effect for Age Mix			p<.426	
Two-way Interaction			p<.087	

Table 18: Mean Scores on BELONG Index by Tenure Type and Age Mix (maximum = 10 points)

Age Mix	Tenure Type			
	Co-op	Rental	Strata	Total
Integrated	7.7	3.6	7.6	6.5
Segregated	9.1	5.4	7.8	7.9
Total	8.5	4.5	7.7	7.2
Main Effect for Tenure Type			p<.000	
Main Effect for Age Mix			p<.005	
Two-way Interaction			p<.335	

As found with the other indices, the general pattern for CONTEFF is that co-ops and stratas score higher than renters, and residents of age-segregated developments higher than those from age-integrated ones. Mean scores for segregated co-ops and stratas are again similar, and those for integrated co-ops, though lower, still well above the means for all renters. The statistic which does not fit the previous pattern in this case is for the integrated stratas, for on the other indices these levels were lower than those for the segregated stratas and co-ops.⁴⁵ The pattern of segregated

⁴⁵ Closer examination of the sociodemographic data shows that this particular variation may be a product of differences between subsamples from integrated and segregated strata developments. Disparities by age mix appear to be more extreme for strata dwellers than for the other tenure groups: mean age in the sample from age-integrated stratas is 7.3 years younger than from age-segregated, these respondents are more likely to be male (42% vs 27%) and married (90% vs 23%), and they report higher incomes (84% at \$20,000 and over vs 27%).

being higher than integrated is repeated for BELONG but in this case the scores from both stratas and the integrated co-ops are very similar--higher as usual than those for renters--and the segregated co-ops show much higher levels.

With regard to other factors, there was very little variation in responses to the like best/like least questions except that considerably more residents in age-segregated housing than age-integrated buildings could mention nothing that they disliked about their developments. A significantly lower proportion of respondents from the age-integrated settings saw their housing complexes as very supportive either at present or in the future.

3. Construct Validity of Subjective Housing Variables

At this point it is useful to discuss the construct validity of the subjective housing variables. For all three of these variables the concept involved is not defined in the questionnaire, and it is difficult to know whether the terms are being interpreted and answered in any consistent way by the respondents. One point in their favor is that the two indices are statistically reliable, as mentioned above. A second is that data for all three follow the subsample patterns shown by the other variables: renters and age-integrated residents are low, co-op members, strata owners

and age-segregated respondents are high, with the exception noted for CONTEFF among the strata owners.

Examination of the correlation matrix (Appendix 2) shows relationships which are easily interpreted. For instance, income is significantly associated with effective control and marginally with the sense of fairness, but the sense of belonging is not; marital status is related to both CONTEFF and BELONG, but fairness is not.

Particular validation of these measures is found when their relationship to health and income is examined, as shown in Tables 19 and 20:

Table 19: Mean Scores on CONTEFF and BELONG, and Percentage Considering Their Housing Situation "Very Fair" by Self-Reported Health Status for Total Sample

Health Status	Mean Scores		
	Fair (%)	CONTEFF	BELONG
Excellent	15.8	6.9	8.1
Good	45.0	6.6	7.5
Fair	34.2	6.0	7.2
Poor/Very Poor	*5.0	*3.6	**3.6

* $p < .01$; ** $p < .001$

The very clear break or threshold for all three variables between the scores for the top three health categories and the

fourth shows a consistency which argues for the validity of those constructs.

Table 20: Mean Scores on CONTEFF and BELONG and Percentage Considering their Housing Situation "Very Fair" by Income for Total Sample

Income	Mean Scores		
	Fair (%)	CONTEFF	BELONG
<\$9,000	.1	5.4	6.4
\$ 9,000-11,999	13.0	5.4	6.5
\$12,000-14,999	25.2	7.1	8.0
\$15,000-19,999	20.0	6.6	7.6
>\$20,000	40.1	*6.8	7.1

* $p < .05$

The pattern here of a shift at the \$12,000 threshold similar to that found for SUBJINT further supports the construct validity of these variables. It also recalls Larson's (1978) finding with regard to the relationship of income to wellbeing, that there appears to be "... a level of sufficient income, above which additions to income are less and less influential to contentment (p. 113)."

It should be noted, however, that fairness, CONTEFF and BELONG are highly correlated to each other. Factor analysis indicates that they are all in fact measuring aspects of the same construct. Examination of the correlation matrices shows that the relationship between CONTEFF and BELONG is

significant for the sample as a whole and for all subgroups (by tenure type and by age mix) except the strata owners. Fairness/BELONG is significant for all but the co-op respondents, and fairness/CONTEFF for all but the co-op and strata residents. Further analysis reported below sheds more light on the meaning of this set of variables, but since they are being examined on an exploratory basis only, more thorough investigation must be left to future research.

B. Dependent Variables by Tenure Type and Age Mix

This section examines the relationship between the tenure type and age mix settings in this research and the dependent variables. In particular, analysis of variance has been used to probe for significant differences in mean scores on the housing satisfaction index and the positive and negative affect scales achieved by respondents in the various settings.

Unlike most of the tables in the previous section, those used here show scores for each of the six tenure type by age mix subsamples.

1. Housing Satisfaction

Hypothesis 7: The highest levels of housing satisfaction will be found among co-op members, strata title owners, and residents of age-segregated buildings.

Tables 21 and 22 show the mean scores and Anova results for housing satisfaction by tenure type and age mix.

Table 21: Mean Housing Satisfaction Index Scores by Tenure Type and Age Mix

Age Mix	Tenure Type			Total n = 165
	Co-op n = 71	Rental n = 49	Strata n = 45	
Integrated n = 75	46.6	37.3	48.7	44.3
Segregated n = 90	51.5	44.4	46.9	48.1
Total n = 165	49.1	41.1	47.7	46.4

Note: Maximum score = 54 points

Table 22: Analysis of Variance of Housing Satisfaction Index Scores by Tenure Type and Age Mix

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	2603.2	3	867.7	8.7	.000
Tenure Type	1997.7	2	998.9	10.0	.000
Age Mix	582.0	1	582.0	5.8	.017
2-Way Interactions	498.8	2	249.4	2.5	.086

The hypothesis is upheld. These data follow the pattern evidenced in most of the indices reviewed above in that the renters have considerably lower levels of housing satisfaction than co-op and strata residents, and scores for respondents from age-integrated settings are generally lower than for age-segregated ones. This apparent pattern is confirmed by the Anova results which show a main effect for tenure type and another for age mix. The non-significant interaction

statistic indicates that the effect of tenure type is independent of the age mix effect.

The co-op and renter groups show a greater disparity in housing satisfaction by age mix than do strata residents, and in the opposite direction. Age-segregated residents in both cases are considerably higher than the age-integrated ones, while the reverse is true for strata owners. The highest levels of housing satisfaction are found in the age-segregated co-operatives, but even the lower mean scores of the age-integrated co-op members are still well above those for both types of renters. By far the least satisfied with their housing are respondents who live in age-mixed rental developments.

2. Positive Affect

Hypothesis 8: The highest levels of positive affect will be found among co-op members, strata title owners, and residents of age-integrated buildings.

Mean scores and Anova results for positive affect by tenure type and age mix are set out in Tables 23 and 24:

Table 23: Mean Scores for Positive Affect by Tenure Type and Age Mix

Age Mix	Tenure Type			Total n = 165
	Co-op n = 71	Rental n = 49	Strata n = 45	
Integrated n = 75	7.6	7.3	8.3	7.7
Segregated n = 90	8.9	7.2	8.8	8.4
Total n = 165	8.3	7.3	8.6	8.1

Note: Maximum score = 11

Table 24: Analysis of Variance of Positive Affect Index Scores by Tenure Type and Age Mix

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	57.7.	3	19.2	4.3	.006
Tenure Type	36.5	2	18.2	4.1	.019
Age Mix	18.7	1	18.7	4.2	.043
2-Way Interactions	13.1	2	6.5	1.5	.234

In this table the same pattern can be seen once again and the hypothesis is upheld. All renters are lower than respondents from other tenure groups, and in most cases residents of integrated settings are lower than those from segregated complexes. Again the stronger main effect is the one for tenure type, although that for age mix is still statistically significant. The interaction is non-significant once more.

The strongest contrast in this table is the relatively large discrepancy in positive affect between respondents who live in age-segregated co-ops and age-integrated ones. It should be noted also that the levels of positive affect among respondents in age-segregated co-ops are very similar to those of strata owners in age-segregated developments.

3. Negative Affect

Hypothesis 9: The lowest levels of negative affect will be found among co-op members, strata title owners, and residents of segregated developments.

Mean scores for negative affect by tenure type and age mix are presented, along with Anova results, in Tables 25 and 26 below:

Table 25: Mean Negative Affect Scores by Tenure Type and Age Mix

Age Mix	Tenure Type			Total n = 165
	Co-op n = 71	Rental n = 49	Strata n = 45	
Integrated n = 75	.56	1.23	.21	.67
Segregated n = 90	.57	.79	.46	.60
Total n = 165	.57	1.00	.35	.63

Note: Maximum score = 5 points

Table 26: Analysis of Variance of Negative Affect Scores by Tenure Type and Age Mix

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	10.1	3	3.4	2.6	.055
Tenure Type	9.9	2	5.0	3.8	.024
Age Mix	.1	1	.1	.1	.750
2-Way Interactions	2.7	2	1.3	1.0	.357

In this case the hypothesis is only partially upheld. The tables show that the general pattern evidenced above still holds with regard to negative affect insofar as there is a main effect for tenure type to the disadvantage of the renters. There is no effect at all, however, for age mix: while levels for both types of co-op are virtually the same, the situation for renters (age-integrated respondents showing considerably higher levels of negative affect than their age-segregated counterparts) is the reverse of that for strata owners (where the mean score for respondents in integrated complexes is less than half that for those in segregated ones).

The strength of the discrepancies by tenure type in this table is notable. While for other indices co-op and strata scores tended to be relatively close, in this case the levels of negative affect for strata owners are considerably lower than the scores for co-op residents, which in turn are a great deal lower than those of renters.

The conclusions to be drawn from these data are clear. For this sample, tenure type is a significant predictor of all three dependent variables. On this basis, co-op members and strata owners could be predicted to have higher levels of housing satisfaction and positive affect, and lower levels of negative affect, than renters. Age mix also has a significant impact on housing satisfaction and positive affect, though it appears to be less strong than the effect of tenure type. For both these dependent variables the expected levels are higher for residents of age-segregated than age-integrated developments.

On the other hand, the age mix of their housing setting appears not to be a major factor in levels of negative affect among these respondents. Interestingly, however, although there is no difference for co-operative residents, age-segregated housing is associated with lower negative affect among renters but *higher* negative affect for strata owners. It is probable, given the strong pattern in the rest of the data, that the higher scores for the integrated strata residents are attributable to their sociodemographic strength, as discussed for CONTEFF.

The effects of tenure type and age mix, where they occur, are statistically independent of each other. This implies that relative scores cannot be predicted by age mix within a

particular tenure grouping. However, examination of the subsample data reveals that there is a trend for mean scores on particular measures to differ markedly by age mix in some groups: positive affect for co-op members, and negative affect for the other two tenure groups.

C. Patterns of Relationship between Independent and Dependent Variables by Tenure Type and Age Mix.

Having established that residents of different tenure type and age mix groups differ with regard to many of the independent variables of interest in this research and with regard to the three dependent variables, the final step in this investigation is to examine the pattern of relationship between the independent and dependent variables in each setting.

The tool for this final analysis was a hierarchical multiple regression. This procedure makes it possible both to examine the contribution of variable sets to variance in the dependent measures and, by entering the sets cumulatively, to examine the effect on that variance of controlling previous factors.

1. Selection of Variables for Further Analysis

It was first necessary to select the salient variables from the entire group of independent variables discussed in Section A above. This was done within the basic framework of personal

and housing variables which is described above in Chapter I and will be discussed here in the same order.

Two criteria were applied to each variable: how important is it in the theoretical literature and in previous research, and how salient is it for this sample? In addition, a limit of 4 variables per set was established to maintain a minimum 1 to 10 ratio of variables to sample size in order to maintain statistical power.

a. Personal Variables

i) Sociodemographic Variables

A review of Table 4 (page 109) shows that significant differences occurred among the tenure type and/or age mix groups in the distribution of age, marital status, ethnic background, undertaking of volunteer work, living arrangement, and income. *Marital status* and *income* were immediately selected because of their importance in the sample and in the literature (e.g. Larson, 1978).

Ethnic background was discarded because, although differences did occur, the sample is overwhelmingly English Canadian, and the sample size of other ethnic groups was too small for meaningful analysis. Doing volunteer work, as mentioned above, was related to the availability of Board and committee work in the different tenure settings and was not considered

further. Living arrangement, being highly correlated with marital status ($r = .645$) and income ($r = -.555$), was omitted in order to reduce multicollinearity.

Another variable which was omitted was age. Although the distribution for age differed significantly between age-integrated and age-segregated developments, mean age was not significantly different, and age was not salient with regard to the dependent variables: a preliminary examination showed non-significant relationships between age and all three dependent measures.⁴⁶ This outcome is consistent with Larson's (1978) finding from a review of 35 years of literature on the wellbeing of older Americans that other sociodemographic factors appear to be better predictors of wellbeing than age:

...when controls are introduced for factors such as the decreased health, decreased financial resources, widowhood, loss of friends, and decreased activity, which often accompany aging, the association between age and well-being disappears (p. 114)

Finally, the decision not to use age in further analysis was related to the need to minimize the number of variables.

⁴⁶ Another reason for leaving out age was specific to this sample: although age is often found to predict housing satisfaction, this effect is usually related to length of tenure (Campbell et al., 1976), but 57% of the present sample have been in their homes four years or less, and this factor will be minimally applicable for these respondents. The non-significant relationship of age and housing satisfaction for this sample argues that age in the absence of long tenure is not an influential factor.

Because of its non-significant association with the dependent variables in this sample, and because of indications both in the literature and in the present data that other sociodemographic variables would be better predictors of variance, there appeared to be no compelling reason to add age to the number of variables involved.

Two other independent variables which did not show significant differences by tenure type and age mix in this sample were selected on other grounds. These were sex and health. An indication in the data that sex should be examined more closely was the significant correlation between female sex and negative affect in this sample ($r=.164$)⁴⁷. On more theoretical grounds, while it is difficult in practice to disentangle the effects of sex and other variables such as marital status and income, the predominance of women in the elderly population and the many differences between the socioeconomic situation of women and men in old age makes it advisable to control for sex in any analysis.

Initial review showed that *health* was strongly correlated with all three dependent variables (housing satisfaction $r = .312$; positive affect $r = .394$; and negative affect $r = .268$). For

⁴⁷ This is contrary to the finding of Larson's (1978) review that "there appear to be no consistent sex differences in well-being for older persons on any type of measure (p. 114)."

this reason, because of its interesting relationships with SUBJINT and the subjective housing variables, and because of its preeminent importance in the literature (Larson, 1978), it was felt that health could not be omitted from the investigation.

The set of sociodemographic variables used for regression analysis of the data, then, consisted of income (Q. 85), marital status (Q.75), sex (Q. 74) and reported health (Q.82).

ii) Objective Integration Variables

Any analysis of the social integration of older people includes by definition the frequency with which they see family and friends, and each of these variables was included in the set for objective integration. For the purposes of this study it was important to distinguish between friends outside the housing complex and NEIGHBORS within it. The historical importance of activity theory requires consideration of levels of social activity, but in this case the focus has been primarily on activity within the housing complex, i.e. PARTICIPATION. The four variables in this set were:

- * frequency of seeing family (Q. 41)
- * frequency of seeing outside friends (Q. 43)
- * NEIGHBORS, and
- * PARTICIPATION.

iii) Subjective Integration

For this category the single variable used was the index SUBJINT.

b. Housing Variables

i) Objective Housing Variables

Tenure type and *age mix* were objective housing variables dictated by the design and objectives of the study. They were included in the regression analysis in order to assess their importance within the larger picture of overall influences on housing satisfaction and wellbeing in the different settings. What was the salience of tenure type and age mix after taking personal variables into account? Having controlled for personal variables, tenure type and age mix, how much did perceived and subjective variables contribute?

Numbers of bedrooms and bathrooms in respondents' units differed significantly by tenure type and age mix and the latter does appear in the literature as a predictor of housing satisfaction (Lawton, 1980a). However, the distribution of these amenities in this sample is constrained in part by the regulations of Canada Mortgage and Housing for subsidized units, and this variable was omitted from further consideration. To the extent that number of bedrooms is of value as an indicator of size it is treated in the next category.

The only other objective housing variable included in the regression analysis was *housing cost*, a variable which virtually cannot be left out of any investigation of the relationship between housing and the wellbeing of elderly people. Because it has such a strong impact on residual income (i.e the portion of one's income actually available after housing costs have been paid), it has an importance related to that of income as such.

In summary, the set of objective housing variables used for further investigation was tenure type, age mix and housing cost (Q. 86).

ii) Perceived Housing Variables

The perceived housing variables pursued further were adequacy of *size*, quality of *maintenance*, and *safety* in the housing unit. Respondents' assessments of all three differed by tenure type and/or age mix, and the latter two are important in the literature (Lawton, 1980a; Lawton and Yaffe, 1980). Furthermore, the three are conceptually distinct aspects of housing quality and are components, with affordability, of Canada Mortgage and Housing's indicator of "core housing need." It should be mentioned, however, that safety and maintenance are highly correlated in this sample ($r = .468$). Both were retained because it was felt they were required to give proper conceptual coverage to the topic. An additional

reason for including adequacy of size, despite the fact that the proportion who found their units inadequate was relatively low (10.6%), was that it could serve the same function as number of bedrooms in indexing higher quality housing.

Adequacy of heat, on the other hand, was excluded because the fraction of respondents who found the heat in their units inadequate (6.7%) was too small for meaningful analysis. Convenience of location, so often mentioned by respondents in the open-ended questions, was relatively unimportant statistically and in addition it appeared from marginal notes that the ability to drive and access to a car was confounding the expressed judgements of some respondents.

iii) Subjective Housing Variables

Although a number of the more subjective housing variables showed interesting relationships with tenure type and age mix, only three were selected for further analysis. These were the sense of *fairness* (Q.24), and the indices for effective control (*CONTEFF*) and the sense of belonging (*BELONG*). Several others which might have been interesting had to be discarded because the questions were open to misinterpretation by respondents (i.e. Q. 54: supportiveness, Q. 23: suitability and Q. 26: general control). The information gained from the "importance of home" question (Q.69), on the other hand, was

not used at this time because of the need to restrict the number of variables in each set.

Since the purpose of this section was primarily exploratory, it was decided to highlight these three aspects of the person/home relationship because they were conceptually distinct and because (along with SUBJINT) they represented the most strongly affective dimensions in the questionnaire. Because control, equity and the sense of community are important in the housing literature, especially the co-operative literature and that on retirement communities, it was felt that these three were most consonant with the purpose and design of the study.

The framework of variables used in the regression is summarized below:

A. Independent Variables

1. Personal Variables

a. Sociodemographic

- sex
- income
- marital status
- health

b. Objective Integration

- frequency of seeing family
- frequency of seeing outside friends
- NEIGHBORS
- PARTICIPATION

c. Subjective Integration

- SUBJINT

2. Housing Variables

a. Objective Housing Variables

- housing cost
- tenure type
- age mix⁴⁸

b. Perceived Housing Variables

- adequacy of size
- quality of maintenance
- safety in unit

c. Subjective Housing Variables

- fairness
- CONTEFF
- BELONG

B. Dependent Variables

- housing satisfaction
- positive affect
- negative affect

Complete data from the regression analysis, including R^2 values and significance statistics are presented in Appendix 3. These tables also contain the semipartial correlation for each variable, a statistic which examines the influence of the variable with the effects of other variables removed. The square of the semipartial correlation indicates the percent of variance uniquely attributable to that factor within its

⁴⁸ Tenure type is omitted from this set when the analysis is by tenure type, and likewise for age mix. Both variables are included in the regression for the total sample.

set.⁴⁹ Summary data abstracted from the appendix tables are presented in the tables which follow.

Each cell in these tables presents the **change** in the cumulative R^2 value added by the set of variables in question⁵⁰. Reading down each column, the reader can add the numbers to get the percent of variance contributed collectively by the variable sets to that point. A category total is provided at the end of the personal variables and again at the end of the housing variables, but it must be kept in mind that the housing category total does not include the effects of personal variables. That is, the category totals represent the contributions of personal variables and then housing variables *taken on their own*.

Data for each dependent variable within each tenure type and age mix subsample are presented in separate tables. Data for the entire sample, needed to address the study hypotheses, are found in the final column of the age mix table. It should be noted again that the sample sizes, especially for the renter and strata groups, are relatively small. A small sample size

⁴⁹ It should be noted that these semipartial correlations are for the set of variables analyzed on its own, rather than as part of a cumulative regression, and therefore do not take other variables into account.

⁵⁰ The summary includes data for sets only. Saliency of individual variables can be seen in the appendix and will be discussed in the text where relevant.

generally works to raise R^2 value and to lower significance levels. For this reason, the absolute value of R^2 and of significance levels in these tables cannot be relied upon as such, but the relative values, that is, in comparisons between tenure and age-mix groups, can be considered with more confidence.

At this juncture it is important to raise the fundamental caution that correlation does not imply causation. Although relationships between variables can be identified, these findings do not establish *why* the relationships exist, nor why they may differ for residents of different settings. Particularly with reference to the dependent variables, it is not possible to know to what extent different people have been drawn to different settings or whether features of the housing environment have influenced the housing satisfaction and wellbeing of those who live there. Phrased more scientifically, it is entirely possible that the influence of some unidentified variables are operating independently of the housing variables. In controlling for personal variables (e.g. health and income) before entering housing variables into the regression, this study has simply chosen the most likely mediating influences.

2. Regression Findings

This section will first discuss the overall patterns found in the data and then will deal with the hypotheses about the more specific effect of tenure type and age mix.

a. Housing Satisfaction

i) Tenure Type

Regression data for housing satisfaction by tenure type is set out in Table 27:

Table 27: Changes in R² Values of Independent Variables for Housing Satisfaction by Tenure Type

Independent Variables	Tenure Type		
	Co-op n = 71	Rental n = 49	Strata n = 45
Personal Variables			
Sociodemog	.03	.20	.21
Objective Int	.08	.21	*.26
Subjective Int	.05	.03	.01
All Personal Vbls	.16	.44	*.48
Housing Variables			
Objective	*.14	.09	.02
Perceived	** .19	** .25	.03
Subjective	.08	** .10	.05
All Housing Vbls	** .55	** .79	.08
Grand Total	** .56	** .88	.57

Note 1: * = p<.05; ** = p<.01

Note 2: Numbers may not total as expected because of rounding.

Note 3: Subtotal for housing variables does not include effects of personal variables

Examination of these data reveals interesting patterns by tenure type. In the first place, the set of variables used here explains variance in housing satisfaction among co-op members and renters to a far greater degree than for strata owners. Secondly, for these two groups, housing variables as such have much more influence than personal ones.

Co-op residents and renters are affected by housing variables in different ways. Although perceived housing variables make the largest contribution for both, examination of the semipartial correlations (Table R5) shows that satisfaction with maintenance was the best predictor for co-op members ($sr = .411$) while adequacy of size was the best predictor for renters ($sr = .452$). For co-op members the objective variables, specifically age mix ($sr = .362$), make a difference, while subjective aspects of their housing contribute little when other variables have been controlled. For renters, on the other hand, the three subjective housing variables explain a further ten percent of variance in housing satisfaction scores when prior factors have been accounted for.

The satisfaction of strata residents, on the other hand, appears to be affected less by the characteristics of their housing than by personal factors. For them, the reported level of objective social integration appears to be the strongest predictor of housing satisfaction. A look at the semipartial correlations, shown in Table R7, indicates that income ($sr = .381$) and frequency of seeing family (.395) are the salient factors for strata owners.

ii) Age Mix

Regression data for housing satisfaction by age mix is shown in Table 28:

Table 28: Change in R^2 Values of Independent Variables for Housing Satisfaction by Age Mix and for Total Sample

Independent Variables	Age Mix		
	Integ n = 75	Segreg n = 90	Total n = 165
Personal Variables			
Sociodemog	** .20	.08	** .12
Objective Int	** .20	.07	** .10
Subjective Int	** .17	.01	* .03
All Personal Vbls	** .57	.16	** .25
Housing Variables			
Objective	.01	.02	.03
Perceived	** .11	** .26	** .21
Subjective	.03	.03	** .06

Independent Variables	Age Mix		
	Integ n = 75	Segreg n = 90	Total n = 165
All Housing Vbls	** .63	** .37	.** .50
Grand Total	** .72	** .47	** .56

Note 1: * = $p < .05$; ** = $p < .01$

Note 2: Numbers may not total as expected because of rounding.

Note 3: Subtotal for housing variables does not include effects of personal variables

In overall terms the variables used in this regression explain a much greater proportion of variance for residents in age-integrated housing developments than for those in age-segregated ones. In particular, while all three sets of personal variables are statistically significant in the former, and make a total contribution of 57% to variance in housing satisfaction scores, their impact in age-segregated settings is minimal. The perceived variables appear to be by far the most important housing characteristics for both groups, however, and more so in the segregated buildings. Of these, the semipartial correlations show that safety is critical for the integrated residents, size for the others.

iii) Hypotheses for Housing Satisfaction

The information in Tables 27 and 28, supplemented by data in the corresponding appendix tables, enables us to address the hypotheses regarding housing satisfaction.

Hypothesis 10: Age mix does not predict housing satisfaction when sociodemographic and social integration variables are controlled.

Looking first at the data for the whole sample in Table 28, it can be seen that the contribution to housing satisfaction of all three objective housing variables together (i.e., housing cost, tenure type and age mix), after personal characteristics have been accounted for, is a minimal 3%. Information on the salience of individual variables, drawn from Tables R5 to R19 in Appendix 3, is presented in Tables 29, 30 and 31 below.⁵¹ Squares of the semipartials have been included, showing the percent of variance uniquely attributable to the age mix factor within the set of objective housing variables. It should be noted again that these abstracted data are for the set of variables analyzed on its own. Consequently, R^2 values will not match those shown in the cumulative tables.

⁵¹ Although the squared semipartials are minimal here, they are included for completeness, since this statistic will be used in following tables.

Table 29: Semipartial and Squared Semipartial Correlations between Objective Housing Variables and Housing Satisfaction for Total Sample

Objective Housing Variables	Housing Satisfaction	
	sr	sr ²
Housing Cost	-.04	.00
Age Mix	.03	.00
Tenure Type	-.10	.01
Set (R ²)		** .09

** p<.001

Clearly, even within a set which makes a relatively small contribution to variance, and even without controlling for previous variables, age mix is the housing characteristic least important to housing satisfaction for this sample. Therefore the hypothesis is upheld.⁵²

A closer examination of the data does, however, confirm the salience of age mix among co-op members noted above. Semipartial and squared semipartial correlations for age mix by tenure type (again without accounting for other variables) are shown in Table 30 below:

⁵² The negligible contribution of housing cost to housing satisfaction supports the conclusion of Campbell et al. (1976) that housing cost is weakly related to housing satisfaction.

Table 30: Semipartial and Squared Semipartial Correlations between Age Mix and Housing Satisfaction by Tenure Type

Tenure Type	Age Mix/Satisfaction	
	sr	sr ²
Co-operative	** .36	.13
Rental	-.08	.01
Strata Title	.08	.01
Total Sample (R ²)		** .09

** p<.001.

The table reveals that although objective housing variables as such are of minimal influence for rental and strata title residents, age mix does explain a significant portion of variance in housing satisfaction among co-op respondents. Therefore, while the hypothesis is not upheld for the sample as a whole, it can be concluded that age mix does predict housing satisfaction for respondents living in co-operatives.

Hypothesis 11: Tenure type makes a greater contribution than age mix to variance in housing satisfaction.

Technically speaking, the comparison of semipartial correlations for variables in the objective housing set, shown above in Table 29, gives support for this hypothesis: the correlation for tenure type, though negative, is stronger than that for age mix. The small size of the correlation (-.10 vs .03), however, makes the comparison essentially trivial. But a look at the semipartial correlations of housing satisfaction

with tenure type in the two age mix groups does once again a more complex picture, as shown in Table 31:

Table 31: Semipartial and Squared Semipartial Correlations between Tenure Type and Housing Satisfaction by Age Mix

Age Mix	Tenure Type /Satisfaction	
	sr	sr ²
Integrated	** .39	.15
Segregated	.08	.01
Total Sample (R ²)		** .09

** p<.001.

While tenure type is of little importance in the overall scheme of things, it does contribute significantly to variance in age-integrated but not at all in age-segregated settings.

Hypothesis 12: Subjective housing variables as a group make the greatest contribution to variance in housing satisfaction.

With regard to housing satisfaction, this hypothesis is not supported by the data. Tables 27 and 28 above show that by far the largest contributor to variance among the housing variables is the set of perceived housing variables. The subjective variables, although they are not the strongest influence, do contribute a significant 6% to housing satisfaction for the sample as a whole after all other

variables have been accounted for. They are particularly salient for the renter subsample, adding a final 10%.

Hypothesis 13: Of the subjective housing variables, the sense of control and sense of belonging make the greatest contribution to variance in housing satisfaction.

This hypothesis can most easily be addressed by examining the semipartial correlations for housing satisfaction of all three subjective housing variables, which are presented in Table 32⁵³:

Table 32: Semipartial Correlations Between Subjective Housing Variables and Housing Satisfaction by Tenure Type and Age Mix

Subjective Housing Variables	Tenure Type			Age Mix		Total n=165
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	
Fairness	.35	.23	.17	.22	.21	.23
CONTEFF	.11	.28	.09	.10	.28	.19
BELONG	.32	.34	-.13	.17	.27	.23

For the sample as a whole, fairness and BELONG have equal salience, with CONTEFF contributing slightly less. Therefore for housing satisfaction the hypothesis is upheld with regard to the sense of belonging but not for control. It must be

⁵³ Squared semipartials have been omitted in this case to simplify the table.

said, however, that the difference in question is relatively small.

This pattern is not repeated for the subsamples, however. In fact, for the subsamples there is little pattern at all. It can be noted that two groups, renters and those living in age-segregated settings, have values for these three variables within a fairly narrow range. In each case CONTEFF and BELONG are similar, with fairness somewhat below. Since these are sociodemographically the most vulnerable groups, these data suggest that CONTEFF may increase in salience as secondary competence declines.

For co-op and strata residents, and respondents from age-integrated developments, CONTEFF is a much weaker predictor than fairness and BELONG. The strata owners differ in having a negative correlation between housing satisfaction and the sense of belonging. Only for renters is the sense of belonging the strongest influence on housing satisfaction.

The conclusion which can be drawn from considering Hypotheses 12 and 13 is that while subjective housing variables as a set have considerable explanatory power with relationship to housing satisfaction, the nature of the relationship remains ambiguous. No clear pattern emerges either with regard to which of the variables is primary, nor in which settings those

variables have greater effect, except that CONTEFF appears to have more effect on variance in subsamples with less sociodemographic strength.

b. Positive Affect

i) By Tenure Type

Regression data for positive affect are set out according to tenure type in Table 33:

Table 33: Changes in R² Values of Independent Variables for Positive Affect by Tenure Type

Independent Variables	Tenure Type		
	Co-op n = 71	Rental n = 49	Strata n = 45
Personal Variables			
Sociodemog	** .25	* .35	.21
Objective Int	.10	.10	.14
Subjective Int	.02	** .15	.04
All Personal Vbls	** .37	** .56	.39
Housing Variables			
Objective	** .19	.00	.16
Perceived	.02	.04	.04
Subjective	** .14	.09	.09
All Housing Vbls	** .46	** .49	.26
Grand Total	** .71	+.69	.64

Note 1: * = p<.05; ** = p<.01

Note 2: Numbers may not total as expected because of rounding.

Note 3: Subtotal for housing variables does not include effects of personal variables

Note 4: + $p = .051$

The pattern here is similar to the one for housing satisfaction: the influence of the variables examined in this study appears to be insignificant for respondents living in strata title settings. However, the balance of housing and personal variables, which was similar for co-op members and renters as regards housing satisfaction, is considerably different for positive affect: only in the co-operatives are housing variables predictive of positive affect after other factors have been accounted for; for renters the personal factors are most important and the contribution of housing variables is minimal.

As to patterns within those categories, while for satisfaction the salient variables had been the perceived, for positive affect the objective (i.e. age mix with $sr = .34$) and subjective housing values (BELONG with $sr = .51$) are highly influential. In addition, the sociodemographic variables make some contribution to variance in co-operatives and rentals, but the specifics are different. Marital status ($sr = .30$) is primary in co-ops, but the influential variables for renters are health ($sr = .53$) and income ($sr = .28$).

ii) By Age Mix

Data on positive affect by age mix are set out in Table 34 below:

Table 34: Changes in R² Values of Independent Variables for Positive Affect by Age Mix and for Total Sample

Independent Variables	Age Mix		
	Integ n = 75	Segreg n = 90	Total n = 165
Personal Variables			
Sociodemog	** .20	** .22	** .17
Objective Int	** .17	.11	** .09
Subjective Int	** .12	** .08	** .08
All Personal Vbls	** .49	** .41	** .35
Housing Variables			
Objective	.01	.01	.01
Perceived	.02	.02	.01
Subjective	.01	* .13	* .06
All Housing Vbls	** .34	** .38	** .35
Grand Total	** .54	** .54	** .43

Note 1: * = p<.05; ** = p<.01

Note 2: Numbers may not total as expected because of rounding.

Note 3: Subtotal for housing variables does not include effects of personal variables

When the data on positive affect are considered by age mix the personal variables are preeminent: all three sets in age-integrated settings, and the sociodemographic ones with

SUBJINT in segregated ones. In both groups the most influential sociodemographic variable is health (sr = .40 in integrated, .35 in segregated). For respondents in age-integrated, but not age-segregated, settings, contact with family (sr = .41) was a significant predictor of positive affect. The reduced salience of family contact in the segregated settings suggests that the presence of age peers provides a type of support which lessens dependence on family contact for positive affect.

The general conclusion to be drawn from the regression data thus far is that while housing variables not unnaturally influence housing satisfaction, the main contributors to positive affect are the characteristics of the person. Housing variables have less impact, except in co-operatives.

iii) Hypotheses for Positive Affect

The following section will consider Hypotheses 14, 15, and 16.

Hypothesis 14: Tenure type makes a greater contribution to variance in positive affect than age mix.

The data to address this hypothesis are presented in Table 35 in a format parallel to that for housing satisfaction above.

Table 35: Semipartial and Squared Semipartial Correlations between Objective Housing Variables and Positive Affect for Total Sample

Objective Housing Variables	Positive Affect	
	sr	sr ²
Housing Cost	.00	.00
Age Mix	.16	.02
Tenure Type	.20	.04
Set (R ²)		*.08

* p<.01

Clearly the hypothesis is upheld, since tenure type contributes twice the variance to positive affect that age mix does (.04 compared to .02). Given the small explanatory power of these variables as a set, however, this result is of negligible overall salience.

It is interesting, however, to continue the process of investigating the diversity by tenure type and age mix. The effect of age mix on positive affect does differ by tenure type, and vice versa, as shown in Tables 36 and 37 which follow.

Table 36: Semipartial and Squared Semipartial Correlations between Age Mix and Positive Affect by Tenure Type

Tenure Type	Age Mix/Positive Affect	
	sr	sr ²
Co-operative	.34	.12
Rental	-.07	.00
Strata Title	.15	.02
Total (R ²)		*.08

** p<.001.

Table 36 confirms the information previously gained about the strong influence of age mix in co-operatives, extending the finding from housing satisfaction to positive affect as well.

Table 37: Semipartial and Squared Semipartial Correlations Between Tenure Type and Positive Affect by Age Mix

Age Mix	Tenure Type/Positive Affect	
	sr	sr ²
Integrated	.09	.01
Segregated	.27	.08
Total (R ²)		*.08

While the pattern of association for age mix remained the same for positive affect as it had been for housing satisfaction, tenure type shows a reversal. Tenure type was relatively much more important to housing satisfaction in integrated settings, but it contributes to positive affect only in segregated ones.

Hypothesis 15: Subjective housing variables as a group contribute to variance in positive affect.

Examination of Tables 32 and 33 above shows that the subjective housing variables contribute significantly to wellbeing for the entire sample and in particular for the co-op and age-segregated subsamples even after all previous factors have been controlled. They have minimal explanatory power for the other subgroups.

Hypothesis 16: Of the subjective housing variables, the sense of control and the sense of belonging make the greatest contribution to variance in positive affect.

Data to address this hypothesis are set out in Table 38 below.

Table 38: Semipartial Correlations Between Subjective Housing Variables and Positive Affect by Tenure Type and Age Mix

Subjective Housing Variables	Tenure Type			Age Mix		Total n=165
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	
Fairness	.18	.21	-.06	.12	.14	.14
CONTEFF	-.03	.03	.11	.07	.04	.06
BELONG	.51	.43	.40	.31	.45	.39

The pattern of the subjective housing variables for positive affect is much more clear than for housing satisfaction. The

sense of belonging is much the strongest predictor of positive affect among all subgroups and for the sample as a whole. Examination of Tables R8 - R10 and R16 - R17 confirms that the corresponding R^2 value is statistically significant at $p < .001$ in all cases. CONTEFF, on the other hand, is a very weak predictor for all groups. The hypothesis is therefore upheld for BELONG and not for CONTEFF.

c. Negative Affect

The pattern of association between the study variables and negative affect is presented in Tables 39 and 40:

Table 39: Changes in R^2 Values of Independent Variables for Negative Affect by Tenure Type

Independent Variables	Tenure Type		
	Co-op n = 71	Rental n = 49	Strata n = 45
Personal Variables			
Sociodemog	.12	.14	.07
Objective Int	.14	.03	.23
Subjective Int	** .23	** .27	.02
All Personal Vbls	** .50	* .44	.31

Independent Variables	Tenure Type		
	Co-op n = 71	Rental n = 49	Strata n = 45
Housing Variables			
Objective	.02	.01	.05
Perceived	.03	.05	.03
Subjective	.02	.07	.07
All Housing Vbls	** .32	.17	.25
Grand Total	** .56	.55	.51

Note 1: * = p<.05; ** = p<.01

Note 2: Numbers may not total as expected because of rounding.

Note 3: Subtotal for housing variables does not include effects of personal variables

Table 40: Changes in R² Values of Independent Variables for Negative Affect by Age Mix and for Total Sample

Independent Variables	Age Mix		
	Integ n = 75	Segreg n = 90	Total n = 165
Personal Variables			
Sociodemog	*.16	.09	** .12
Objective Int	.05	.10	.04
Subjective Int	** .24	** .22	** .25
All Personal Vbls	** .45	** .41	** .41
Housing Variables			
Objective	.00	*.07	.02
Perceived	.01	*.08	.01
Subjective	.02	.01	.01
All Housing Vbls	** .30	.15	** .15
Grand Total	** .48	** .58	** .45

Note 1: * = $p < .05$; ** = $p < .01$

Note 2: Numbers may not total as expected because of rounding.

Note 3: Subtotal for housing variables does not include effects of personal variables

The impact of the study variables on negative affect is easily summarized. Whether considered by tenure type or age mix the major predictor is SUBJINT, with the sole exception of the strata title respondents, who as usual show no significant influences at all. The only other variable set which makes a major contribution is the sociodemographic. It contributes about 16% to variance for residents of age-integrated housing, and when the sample is taken as a whole, with the salient influence in each case being reported health. Small significant effects are found for objective and perceived housing variables (housing cost and quality of maintenance) in the age-segregated sample.

With regard to the hypotheses, the data will be reported in the same way as above.

Hypothesis 17: Tenure type makes a greater contribution to variance in negative affect than age mix.

Data for this hypothesis is presented in Table 41:

Table 41: Semipartial and Squared Semipartial Correlations between Objective Housing Variables and Negative Affect for Total Sample

Objective Housing Variables	Negative Affect	
	sr	sr ²
Housing Cost	.00	.00
Age Mix	-.02	.00
Tenure Type	-.20	.04
Set (R ²)		.05

Hypothesis 17 is upheld for negative affect as well as for positive: tenure type is still a more powerful predictor of negative affect than age mix.⁵⁴ Considering the subgroups, however, there is little difference. The importance of age mix varies somewhat by tenure type, as shown in Table 42:

Table 42: Semipartial Correlations and Squared Semipartial Correlations between Age Mix and Negative Affect by Tenure Type

Tenure Type	Age Mix/Negative Affect	
	sr	sr ²
Co-operative	-.07	.00
Rental	-.14	.02
Strata Title	.18	.03
Total (R ²)		.03

⁵⁴ The negative sr value for tenure type indicates that negative affect is inversely correlated with the continuum of homeownership, conceived as non-ownership (rental), shared ownership (co-operative) and individual ownership (strata title).

Clearly there is a stronger relationship between negative affect and age mix among respondents in rental and strata developments than in co-ops. The relationship for strata residents is also in a different direction. While in stratas negative affect is directly related to age segregated settings (i.e, higher in them), in co-op and strata developments it is inversely related, (i.e. lower) as can be confirmed from Table 25 (page 165).

It should be kept in mind that these semipartial correlations are for sets only. They do not take into account the influence of personal variables such as income and health which are known to be related to wellbeing and to mediate the effects of age segregation. On the basis of previous research (e.g. Rosow, 1967; Teaff et al., 1978) it could be predicted that people of lower socioeconomic status such as the residents of these rental and co-op buildings would have lower negative affect in age-segregated settings. The contrary finding for strata owners probably results from strong sociodemographic differences between the two strata subsamples. There may be a self-selection factor, such as moving to an age-segregated setting *after* widowhood or retirement, or because of reduced income, which is associated with negative affect for strata owners in segregated complexes.

Table 43: Semipartial and Squared Semipartial Correlations between Tenure Type and Negative Affect by Age Mix

Age Mix	Tenure Type/ Negative Affect	
	sr	sr ²
Integrated	-.35	.12
Segregated	-.08	.01
Total (R ²)		.05

The table shows that tenure type is more influential with regard to negative affect in age-integrated settings than in age-segregated ones. In both cases the correlation is negative, i.e., inversely related to homeownership, but clearly the relationship is moderated in the age-segregated settings.

Hypothesis 18: Subjective housing variables as a group contribute to variance in negative affect.

Tables 39 and 40 show that subjective housing variables have very little influence on negative affect, and the hypothesis must be rejected.

Hypothesis 19: Of the subjective housing variables, the sense of control and sense of belonging make the greatest contribution to variance in negative affect.

This hypothesis is addressed by the data in Table 44 below:

Table 44: Semipartial Correlations Between Subjective Housing Variables and Negative Affect by Tenure Type and Age Mix

Subjective Housing Variables	Tenure Type			Age Mix		Total n=165
	Co-op n=71	Rent n=49	Strata n=45	Int n=75	Seg n=90	
Fairness	.00	-.11	.27	-.17	.20	-.01
CONTEFF	-.01	-.14	.31	-.07	-.06	-.05
BELONG	-.44	-.17	-.29	-.30	-.21	-.28

As with positive affect the pattern in this table is clear: belonging is the strongest predictor of negative affect both for the sample as a whole and for almost all subsets. CONTEFF, on the other hand, is again a relatively weak predictor.

The exception to both these statements is the data for strata respondents. The three variables for that group have about the same absolute values, but while the direction of the relationship for BELONG is the same as in all the other subgroups (i.e., inverse), the correlations for fairness and CONTEFF are positive. This implies that for strata residents the explanatory power of the sense of fairness and the sense of effective control rises as levels of negative affect rise. It is possible that while the sense of belonging works to mitigate negative affect, fairness and CONTEFF increase in salience for the strata dweller who is battling with negative

affect, but do not help to moderate the feelings involved. A return to Tables 39 and 40 shows that the contribution of these variables to variance in negative affect becomes negligible for all subgroups when personal variables are accounted for.

d. Summary of Regression Findings

To summarize the findings of the regression analysis, it can generally be said that while the impact of both tenure type and age mix with regard to the dependent measures is minor when other variables are accounted for, yet considerable differences do exist in the influence of variables among the tenure type and age mix samples. Particularly notable is the minimal influence of the variables examined in this study for the strata respondents.

With regard to the dependent measures, the perceived housing variables (adequacy of size, quality of maintenance and sense of safety) have the greatest influence on housing satisfaction, although all three sets of personal characteristics are strong mediators of this effect for the age-integrated sample. In addition, the three subjective housing variables are influential for renters.

Personal characteristics are more predictive with respect to wellbeing. All three sets are significantly related to

positive affect in the sample as a whole. For positive affect the sociodemographic characteristics are salient in most subsamples (once again excepting the strata respondents). For negative affect variance in levels of subjective integration is by far the strongest predictive variable. Where social integration affects wellbeing the stronger factor appears to be subjective rather than objective. Only in the age-integrated sample does quantity of social contact have a bearing on wellbeing, and then only for positive affect, (although with the larger size of the complete sample it reaches statistical significance as well). For the stratas there is a notable but non-significant relationship between this variable and negative affect.

The co-operative respondents are exceptions to the overall pattern: housing variables and in particular age mix add appreciably to variance in positive affect in these settings.

The set of subjective housing variables which was investigated in this study on an exploratory basis proved influential in several settings: they explained 10% of variance in housing satisfaction among renters after all other variables were accounted for, and they had a significant effect on positive affect in co-operatives and in age-segregated settings. For the sample as a whole subjective housing variables added a significant 6% to variance after all other variables were

accounted for. The variable within this set which appears to be salient is the sense of belonging.

IV. DISCUSSION

In this study, data were gathered by self-administered questionnaire from a non-random sample of 165 older Canadians living independently in multiunit buildings. The study examined the influence of tenure type and age mix on the housing satisfaction and wellbeing of older people. It also explored the possibility that subjective housing variables predictive of housing satisfaction and wellbeing could be identified. The final chapter of this report will first review the findings with reference to the study's objectives and to the literature. Then their implications for practice, policy and future research will be discussed.

Before proceeding, however, it is necessary to discuss the limitations of this study. Firstly, the cross-sectional design carries its usual disadvantage of producing a snapshot which can give no information on causality. The research design highlights differences in levels of housing satisfaction and wellbeing among subsamples, but it is not possible to assess the nature of those differences by disentangling environmental effects from selection factors. For instance, it is impossible to tell from these data whether the high levels of housing satisfaction and positive affect found among co-op respondents can be attributed entirely or partially to the so-called "co-operative lifestyle", or

whether the individuals who choose to live in co-ops are somehow more predisposed than others to experience these aspects of wellbeing.

A second limitation is the non-random character of the sample. Although the buildings and respondents were systematically chosen to the extent possible, only for the co-op sample do the results approach generalizability. This limitation is mitigated somewhat by two factors: the relatively large number of buildings represented in the sample (28), which reduces the danger of idiosyncratic results, and the effect of sampling within the tenure type and age mix group, which by increasing the homogeneity of the subsamples raises the level of confidence with which the regression can be viewed.

Another limitation of the sample is its small size relative to the number of variables examined. It should be noted however that the rule of thumb for regression analysis, of one variable per ten subjects, is met for the sample as a whole, but amounts of variance contributed are artificially raised and significance levels lowered for the smaller samples. It is possible to check the consistency of results to some extent by referring to the data for smaller groups of variables (Appendix 3), but without being able to control for previous variables. Therefore, the regression results for the subsamples should be treated cautiously.

On the other hand, the results of the study are fairly robust and consistent with regard to comparison of tenure type and age mix groups. Clear patterns emerge both for independent and for dependent variables which permit more confidence in discussing differences between the groups.

Finally, although there is a good range of sociodemographic and social characteristics among the respondents, it should be noted again that the respondents are by and large a relatively young and healthy group living independently in the community. Findings for them cannot be generalized to a very old or frail population.

A. Summary of Findings

1. Reference to Study Objectives

a. Tenure Type and Age Mix

In the data there are strong disparities between respondents according to the **tenure type** of the housing complex in which they live. These differences are found both for independent variables (personal characteristics of the respondents and qualities of their housing) and for dependent variables (housing satisfaction and wellbeing). In general, renters show the lowest or least advantaged levels, strata owners the highest, and co-op members intermediate levels not far below those of strata respondents.

Although co-op respondents in the study are like the renters in socioeconomic terms their other demographic characteristics and their levels of social integration are similar to those of strata owners. Likewise, their mean scores on the dependent variables are very close to those of strata owners, and on some measures (e.g. housing satisfaction and the sense of belonging) higher.

For renters and co-op members, housing variables tend to be predictive of housing satisfaction. For co-op members they are also predictive of positive affect. Personal variables predict wellbeing for these two groups as well. Strata owners, however, are not affected to a significant degree by either the personal variables or the housing variables examined in this study.

Variations do exist by *age mix*, i.e., between residents of age-integrated and age-segregated buildings, but these are neither so strong nor so consistent as the contrast between tenure type groups. In general, residents of age-integrated complexes have higher socioeconomic levels than their counterparts in age-segregated housing, but their levels of social integration and scores on the dependent measures are lower, though for negative affect this difference is not significant. This pattern holds for renters and co-op members, but in some instances is reversed among the strata

respondents. For instance, scores of strata owners living in age-integrated settings were higher than for those in age-segregated developments for housing satisfaction and for the sense of effective control.

All three dependent variables are predicted by personal characteristics in age-integrated settings. In age-segregated complexes, personal characteristics predict wellbeing but do not contribute notably to housing satisfaction. Wellbeing is also predicted by housing variables for respondents living in age-segregated housing developments.

There is a significant main effect for tenure type for all three dependent measures (housing satisfaction, positive affect and negative affect). There is a significant main effect for age mix for housing satisfaction and positive affect, but not for negative affect. Two-way interactions are in all cases non-significant. Multiple regression analysis shows that neither tenure type nor age mix is predictive of housing satisfaction or wellbeing when personal variables are controlled.

b. Subjective Housing Variables

Three subjective housing variables were found to make significant contributions to housing satisfaction and wellbeing with personal and housing variables controlled.

These variables, the sense of fairness, the perception of effective control and the feeling of belonging, add 6% to variance in both housing satisfaction and positive affect for the entire sample after accounting for personal characteristics and other housing variables. They have little influence on negative affect, whose main predictor is the subjective sense of social integration. Among the subgroups, these subjective housing variables add significantly to housing satisfaction for renters and to positive affect for co-op members and residents of age-segregated buildings.

Although in most cases the sense of belonging is the variable which has the heaviest weighting, the three are highly related and appear to form part of a single factor. The components of the indices taken together include a feeling of equity, the sense of community and of being in one's real home as well as the belief that one's opinions and actions will have an effect in the immediate environment. The factor could be generally described as a community factor, addressing issues of companionship and control in the local setting.

2. Reference to Literature Review

There are two questions to be asked when considering the findings of this study in the light of the literature reviewed in Chapter One. First, to what extent do the data support, amplify or contradict previous findings? Second, what do they

add to the literature; what new elements are brought into focus? These questions will be approached in order.

a. Support of Previous Findings

In a number of ways, the findings of this study are those which would be predicted from the literature. For example:

* *Personal variables* (sociodemographic characteristics and social integration) are the primary predictors of wellbeing, but *housing variables* make a modest additional contribution. Larson (1978) found that in general, housing variables add from 1% to 4% to variance in wellbeing. Present data support this estimate. For the housing variables examined here, about 4% is added to the variance in negative affect for the sample as a whole. The figure would be about 2% for positive affect, except that the inclusion of subjective housing variables raises the variance explained to 8%.

* The relative influence of sets of variables on housing satisfaction corresponds roughly to the findings of the studies on which this research was based (keeping in mind that the particular variables examined are not necessarily the same), as shown in Table 45:

Table 45: Proportion of Variance in Housing Satisfaction Explained by Personal, Objective and Subjective Housing Variables in Various Studies⁵⁵

Variables	Variance Explained (%)					
	Lawton	Campbell	O'Bryant		This Study	
			own	rent	own ⁵⁶	rent
Personal (sociodemog)	15	10	10	9	20	21
					12	
Objective Housing	19 (22)	12	14	25	5	34
					24	
Subjective Housing			24	14	5	10
					6	
Combined			38		56	

The only major discrepancy in this table is the relatively greater importance of subjective housing variables to owners in O'Bryant and Wolf's (1983) study than in the present one. This contrast is probably explained by the fact that while those authors were investigating the salience of attachment to a long-time home, this study examined quite different

⁵⁵ Studies cited for sociodemographic variables are Lawton, 1980b; O'Bryant and Wolf, 1983; Campbell et al., 1976. The citations are the same for objective characteristics, but the second Lawton reference is to Lawton, 1978.

⁵⁶ Data are given separately for renters and strata title owners, followed by the statistic for the entire sample.

The disparity between the levels for these two subsamples and the whole sample is explained by the addition of the co-op respondents, who show a much lower contribution of personal variables to housing satisfaction.

variables among respondents of whom 60% had resided in their present strata unit 4 years or less.

As the table shows, the results of the present study, combined with those of O'Bryant and Wolf (1983), support the opinion of Lawton (1980a) and Campbell et al. (1976) that "idiosyncratic subjective factors transform the apparent 'reality' of the physical environment into terms that have greater psychological reality (Lawton, 1980a, p. 318)." Inclusion of subjective aspects can considerably raise the predictive power of any set of housing variables with regard to housing satisfaction.

* Previous research on *social integration* was generally supported in this research. For the sample as a whole, indices of participation and neighborhood social activity showed significant correlations with positive affect in the range (up to $r = .3$) suggested by Larson (1978). Association with negative affect, on the other hand, was non-significant.

Respondents' degree of social activity varies both by tenure type and age mix. Levels on measures of objective social integration (as shown in Tables 5 to 7) are on most counts much higher among respondents from co-operatives of both age mixes than for renters and in many instances higher than in

the strata title developments as well.⁵⁷ The levels of social activity are lower in co-ops only for frequency of seeing family and outside friends, suggesting that contact with fellow co-op members and participation in co-op activities are substituting in quantity at least for other social contact. The coexistence of high levels of social activity with relatively high levels of housing satisfaction and positive affect among co-op respondents appears to support those who argue that voluntary social networks have importance for older people independent of family relationships (Ward, 1979; Chappell, 1983; Gee and Kimball, 1987).

The considerably higher mean scores for subjective integration found in stratas despite lower scores than in co-ops on the objective indices (NEIGHBORS and PARTICIPATION) shows once again that although degree of social activity is associated with subjective integration, it does not tell the whole story.⁵⁸ The association between the objective and

⁵⁷ Interestingly, however, while levels on the NEIGHBORS and PARTICIPATION indices are virtually identical in segregated co-ops and segregated stratas, with integrated co-ops only slightly lower, residents of age-integrated stratas have very low levels resembling those of renters in age-integrated buildings.

⁵⁸ Examination of the correlation matrices shows significant association of NEIGHBORS and PARTICIPATION with SUBJINT for the sample as a whole ($p < .01$). Of the subgroup correlations, those between NEIGHBORS and SUBJINT for renters and age-segregated residents are statistically significant at $p < .01$, and that between PARTICIPATION and SUBJINT is significant at $p < .05$ for age-segregated residents.

subjective integration indices is significant only for more sociodemographically vulnerable subgroups (renters and age-segregated residents), as would be predicted by the environmental docility hypothesis (Lawton and Simon, 1968).

The relationships between wellbeing and subjective integration were much higher than those between wellbeing and the objective indices, upholding the conclusions of Liang et al. (1980) and Ward et al. (1984). These authors found contributions of subjective integration to variance in wellbeing ranging from 26% to 49%. The contribution found here is about 20% for positive affect and 36% for negative affect with other factors not controlled.⁵⁹

* As regards objective housing characteristics, inadequacy of heat appears not to be a major problem for these respondents as would be predicted from previous American research (e.g. Lawton, 1980a). Although the proportion of respondents living in age-integrated developments who found

⁵⁹ Zero-order correlations between the social integration indices and wellbeing for the entire sample are as follows:

	Positive Affect	Negative Affect
PARTICIPATE	.262	-.241
NEIGHBORS	.293	-.061
SUBJINT	.450	-.597

their heating adequate was significantly lower than in age-segregated ones, those who were in fact satisfied constituted a full 87% of the subsample. Similarly, the distribution of satisfaction with unit size was significant, but of the least satisfied group, i.e., renters, 80% stated that unit size was adequate. The primary source of dissatisfaction on this score appears to be subsidized bachelor units built under government size limitations.

* Previous findings on *age mix* in housing for older people are generally supported here. Higher levels of satisfaction are found among residents of age-segregated units compared to their counterparts living in age-integrated settings (41% vs 68%, $p < .05$). As mentioned above, there is a main effect for age mix for housing satisfaction and positive affect but not for negative affect. However, the effect is small and disappears when personal characteristics are accounted for, as would be predicted by most previous research (e.g. Rosow, 1967; Messer, 1969; Gubrium, 1970; Teaff et al., 1978; and others).⁶⁰

With regard to which age mix is preferred, about a third of respondents in age-segregated complexes gave that particular type of age mix a rating lower than "like very much". This

⁶⁰ The influence of the sense of safety will be reported below.

result corresponds to those reported by Lawton (1982, 1984).

Further, the main advantages of each age-mix setting are comparable to those noted by Lawton, Moss and Moles (1984): quiet surroundings and easy communication in age-segregated housing, social variety with the corresponding disadvantage of noisiness in age-integrated complexes.

On some points, however, the results of this study with regard to preference are somewhat more extreme than other findings. Half of respondents, rather than a third as in previous studies (Lawton et al., 1984) stated a preference (all else being equal) for living with seniors only. Judging from the distribution by tenure type, however, it cannot be said of this sample that "it is primarily socioeconomic status that dictates the preference to live with many people of one's own age (Lawton et al., 1984, p.100)." Both the proportion who stated a preference for living with seniors only and the fraction who liked their own age mix (whatever it was) very much are about the same for the two sociodemographic extremes in this sample, renters and strata owners, but considerably higher for co-op residents, who occupy the middle of the spectrum. Clearly some factor other than simple socioeconomic status affects the age-mix preference of these respondents.

One possible explanation for the pattern found may lie in the democratic structure of co-operatives. Given the high levels

of satisfaction among respondents from the age-segregated co-ops, it is not surprising to find that they strongly prefer age-segregated housing. On the other hand, the preference of older members of age-integrated co-ops for age-segregated housing may reflect the fact that they are participating on an equal footing with younger members in the co-op's decision-making process. This may bring them up against the inequalities inherent in an ageist society from which age-integrated renters are insulated by their lack of all participation in management, and the age-integrated strata owners by their relative sociodemographic strength. The strong age-mix differences for co-op residents in the sense of effective control tends to support this speculation.

It is possible that the differences between respondents from age-integrated and age-segregated co-operatives represent the "pure" finding on the preference for and outcomes of different age mixes in housing for older people. The differences between age-integrated and age-segregated renters are too small to make a strong impact, and the effect in strata developments is confounded by the sociodemographic strengths of the age-integrated sample. In general it must be said that for this sample the preference of most respondents and the most positive outcomes are centred on the age-segregated settings.

An interesting point to note is respondents' answers to the questions about their ideal age mix (q. 33): although 65% of age-integrated residents stated that their housing met their criteria "very well," 64% of the same group, given the practicable option, would choose some type of age segregation. This finding suggests that elderly people, even while expressing high levels of housing satisfaction, are perfectly aware of the limitations of their housing relative to ideal circumstances.

* With regard to tenure type, the differences between owners and renters widely reported in the literature are confirmed. The renters are of lower socioeconomic status, less socially integrated, and lower in housing satisfaction and wellbeing than respondents who enjoy either co-operative or strata title ownership.

The data from this study suggest that the relative advantage frequently found among elderly owners still living in their long held single family homes transfers to those who exchange those homes for strata title units: levels of housing satisfaction and positive affect are considerably higher, and levels of negative affect are lower among strata title respondents than among renters.

High levels of participation and satisfaction reported in other studies of co-operative housing are reiterated here. However, the finding noted above with regard to ideal age mix is repeated for tenure type. Although respectively 87% and 83% of co-op and strata residents said their housing met their criteria very well, and about 95% of each group said comfort was balanced with reasonable cost, when it came to stating their ideal, the percentages opting for the tenure type they already had were lower (59% and 74%). No one tenure type emerged as a preferred alternative, however. Renting, stratas and "doesn't matter" were cited in about equal proportions. Renters were more consistent, with 54% stating their housing met their criteria very well, 65% finding the cost/comfort balance reasonable, and 56% preferring rental tenure, but no one alternative was preferred by renters either.

* Previous literature on *subjective housing variables*, though limited, finds support in this study. This research confirms that subjective housing variables can add significantly to the prediction of housing satisfaction and wellbeing, especially for some tenure type and age mix groups. Carp and Carp's (1982) finding on the explanatory power of equity or fairness is also confirmed.

As shown in Table 45 above, O'Bryant and Wolf's (1983) data on the relative importance of housing variables for owners and

renters were confirmed for the objective factors only. The disparity in results for subjective variables presumably stems from the use of different subjective variables. O'Bryant and Wolf identified variables specific to people living in a long-owned single-family dwelling, while those in the present study were appropriate to residents of multiunit housing, most of whom had lived in their present dwelling for four years or less.

However, the authors' suggestion that the difference in satisfaction between owners and renters may derive from differences in perceived control is given strong support by similar differences in this sample on the CONTEFF index and a main effect for tenure type with regard to CONTEFF significant at $p < .000$. The issue of control, judging by these data, is not as salient with regard to age mix as for tenure type. Absolute differences on the CONTEFF index by age mix were small and there was no main effect.⁶¹

* Finally, the pattern of the data strongly supports the *theoretical* orientation on which the study was based. The Ecological Model (Lawton and Nahemow, 1973) would predict that those of least "secondary" competence (Lawton, 1980) would be

⁶¹ It may be, however, that this issue would repay further study, given strong difference on the CONTEFF index by age mix among the co-op respondents, as discussed above (page 193).

most dependent on environmental supports such as age segregation for wellbeing.

In this sample the least advantaged or "competent" respondents are the renters, who appear to be the "baseline". In Lawton's terms, they show the least "competence" since they are in general older, poorer, more likely to be non-married and to be living alone than residents of other settings. They have fewer family, friendship and neighborly supports than respondents in other categories and they show relatively low levels of subjective social integration, housing satisfaction and wellbeing.

Age-segregated respondents in all three tenure groups have sociodemographic characteristics similar to those of renters. They also are older, poorer, more likely to be non-married and living alone than their counterparts in age-integrated developments. However, scores on the dependent variables are usually higher in age-segregated than in age-segregated settings of the same tenure type. Similarly, renters and co-op members living in age-segregated settings have higher mean levels of objective social integration (NEIGHBORS and PARTICIPATION) and subjective integration than those in age-integrated complexes. Clearly, as the Ecological Model would predict, the supportive environment of age-segregated housing

generally works to moderate the deleterious effects of lower socioeconomic status for the respondents in this sample.

The pattern is ambiguous in the stratas, however, where levels of housing satisfaction are higher and negative affect somewhat lower in the age-integrated settings, probably because those respondents are more sociodemographically "competent" (i.e. they are relatively young, have high incomes and are more likely to be married).

Co-op members are like renters in economic characteristics, but levels on measures of objective and subjective social integration are much higher than for renters and on some indices (e.g. BELONG and housing satisfaction) higher than in the strata title developments. High levels of local contact hold for both age-segregated and age-integrated co-operatives. Like age-segregation, co-operative tenure appears to add an element of support in the environment which functions in the manner predicted by the Ecological Model to enhance competence and wellbeing.

When the two moderating environmental variables, age-segregation and co-operative tenure, are combined, a very strong effect results: respondents from the age-segregated co-ops have the highest mean scores of all for BELONG, housing satisfaction and positive affect.

The sample of residents from age-integrated developments have few of the sociodemographic disadvantages of those from age-segregated settings. They are significantly younger and have significantly higher incomes than their counterparts. They are more likely to be married and correspondingly less likely to be living alone. They do, on the other hand, have a tendency to report lower levels of health than respondents in age-segregated settings.⁶² Their relative advantage tends to affect outcome scores, however, only when combined with the advantage of ownership: to a small degree for common ownership as found in co-ops, and to a large degree for individual ownership in strata developments.

The other extreme from renters are the strata owners. True to the Lawton model, these advantaged respondents show almost no vulnerability to the effects of the variables examined in this study. The cumulative regression analysis revealed that the entire set of sixteen variables made non-significant contributions to variance for all three dependent measures among the strata respondents. When the two elements of competence, i.e., the socioeconomic strength implicit in strata tenure and the demographic strengths of the age-integrated group, are combined in the age-integrated strata sample, the highest levels of CONTEFF and the lowest

⁶² This may be related to the finding of Ferraro (1980) that self-reports of health tend to be more positive among older elderly people.

levels of negative affect of all the subsamples are produced.

Strata title occupants are not easily categorized, since age mix is a strong discriminant of objective but not subjective social integration in these developments. Age-segregated strata developments appear to be like co-operatives in having high levels of social activity accompanied by high levels of subjective social integration. Age-integrated stratas, on the other hand, have low levels of activity accompanied by high levels of satisfaction with their social lives. It appears that these respondents avoid the isolation evidenced in rental situations because their sociodemographic strengths render them more independent of local social support, a finding which, again, is fully consonant with Lawton's environmental docility/proactivity hypothesis.

Speaking in terms of "The Good Life", it is clear from the data in this study that the characteristics (behavioral competence) of the individual interact with the characteristics of their housing (objective environment) to affect housing satisfaction (perceived quality of life) and wellbeing, and that these relationships operate in different ways in different tenure type and age mix settings. Equally clearly, however, the objective qualities of the environment, insofar as both housing and social activity are concerned, are considerably less influential than their subjective

counterparts. These findings would suggest a much higher degree of overlap of the four sectors than appears in Lawton's diagram. The perceived and subjective qualities of housing, and the subjective assessment of social integration, apparently account for a much higher degree of the variance in subjective wellbeing than the corresponding objective variables, at least for people of lower socioeconomic status.

b) Additions to Previous Research

* The data from this study extend the literature on *tenure type* by providing descriptions of the older residents of *strata title* and *co-operative* housing developments.

As discussed above, strata residents as a group appear to retain the characteristics and the benefits of the homeownership population from which they are largely drawn⁶³. The lack of salience of the housing variables for this subsample once personal variables are accounted for indicates that these respondents may simply not vary enough with regard to these factors for them to have any explanatory value. This suggests a fairly narrow range for these variables i.e, that they are uniformly satisfactory.

⁶³ It should be acknowledged once again that the strata respondents in this study constitute a convenience sample drawn by using social networks.

Co-operative members, on the other hand, present a more varied picture. Their scores on measures of housing satisfaction and wellbeing are near and sometimes above those of strata owners, although socioeconomically they are more like renters.

The interesting question which arises with regard to the co-op sample is how to disentangle self-selection factors from the positive effects of the co-op tenure form. Is the co-op philosophy of democratic control in a supportive community particularly successful, as claimed by its proponents, or do co-operative developments draw a subgroup from among those of lower socioeconomic status who have a greater capacity to age with high housing satisfaction and wellbeing? It is difficult to answer this question from the findings of this study because of the fundamental principle that correlation is not causation, and arguments may be made for both viewpoints.

On the one hand, co-op respondents are distinctly better off than renters in social terms, being more typically married, with adequate financial resources and in good health. Given these strengths, such people would probably be comfortable even if they remained in rental settings. On the other hand, it is possible that among people with inherent strengths the co-operative lifestyle may add a component of stability and support which compensates for the relative lack of financial resources experienced by co-op members and brings them near or

above the more fortunate strata owners in housing satisfaction and positive affect. Such an argument is consistent with the proactive view of Lawton (1982) that people with more competence can utilize environmental resources more effectively to maintain wellbeing.

This view may be supported by the strong contrast between the active community life evidenced in the co-operatives and the self-sufficient society of the strata developments: a supportive component is added in co-ops which is not found in strata developments. However, it appears not to be needed to sustain high levels of housing satisfaction, subjective social integration and wellbeing among owners of strata units.

Another small piece of evidence in favor of view that co-operative lifestyle as such is supportive is that while the levels of housing satisfaction and positive affect are similar for co-op members and strata owners, levels of negative affect for co-op members are about midway between those of the other two tenure types. Since negative affect is more highly correlated with anxiety and worry, these levels may be more reflective of the true socioeconomic position of the co-op members than the more socially-oriented positive scale⁶⁴. If this is so, then strong showings on the other two indices

⁶⁴ This pattern is repeated for SUBJINT but not for BELONG.

(housing satisfaction and positive affect) can perhaps be attributed to the social strengths of the co-operative lifestyle.

Conversely, the already weak position of renters may be intensified by their continuing rental tenure, as suggested by Lawton (1980):

...we would anticipate that factors that initially only affect housing satisfaction would ultimately penetrate to deeper personal levels and affect morale as well. It has been suggested that poor environmental conditions first produce anger, then resignation, and finally a feeling that one is unable to cope. Thus the external environmental forces become internalized as a function of time spent in poor circumstances (p. 223).

* The contribution to the literature on *age mix* from this study lies in its data on the factor of safety, which appears to be more complex than previous research would suggest. The data give only partial support to previous findings that age mix as such is a determinant of the sense of safety. The sense of safety appears to be mediated by tenure type (even accounting for sociodemographic characteristics). Although safety is of concern mostly in age-integrated buildings, it appears to be a significant issue only for renters and then primarily with regard to safety in the building, not in the unit as such.

However, in regard to neighborhood safety, residents of age-integrated buildings of all tenure types had significantly

more concerns than those in age-segregated ones. Since there are few differences visible in the neighborhoods themselves, it may be that for residents of age-integrated developments an underlying concern is mitigated within the building to the extent that they know their fellow residents. It is also possible that there is a different pattern of neighborhood travel by residents of age-segregated complexes, such as going out by car, or not going alone.

The data show a high correlation ($r = .435$) between safety and the sense that the development is well maintained which suggests that these may both be components of a single factor. This association holds for all subgroups except co-operatives⁶⁵ and is particularly strong for renters. This may represent a management factor, with the low salience for co-operatives resulting from confidence within well-known communities than relying on physical security for safety.

Examination of the full-sample correlation matrix for these two variables shows that the patterns of association with most of the other variables are very similar. High and virtually identical relationships are found for housing satisfaction and positive affect, though surprisingly not with negative affect.

⁶⁵ Correlations between maintenance and sense of safety are:
co-ops: .193; rentals: .679; stratas: .337; integrated: .479;
segregated: .383.

Very high correlations are also in evidence for the three subjective housing variables and SUBJINT. This pattern holds for both variables in all subgroups with two exceptions: the co-operative respondents with regard to safety and the strata respondents with regard to maintenance. According to the findings from this study, satisfaction with one's social life, the sense of control, the perception of fairness and the feeling of belonging are all interwoven with the belief that one is safe in one's dwelling and/or the judgement that the housing development one lives in is adequately maintained. This cluster of variables will be discussed further below.

* The value of control and belonging in the housing environment has often been discussed with regard to co-operatives and retirement communities, but these variables have not been previously researched. The significance in these findings of CONTEFF and its relationship to BELONG suggest that gerontological studies of control in caregiving settings can be extended to the much larger population of independent older people. The findings also sustain the contention of the co-operative sector that democratic control in the housing setting produces a sense of community.

Although in most cases BELONG is the variable which shows the highest weighting, the three subjective housing variables are highly related and appear to form a single factor. The sense

of safety and satisfaction with maintenance can probably be added to this factor. It is also possible, given high correlations with these variables, that SUBJINT can be considered a component as well. Taken together, these variables could be generally described as a community factor, addressing issues of companionship, control and security in the local setting.

* The influence of the individual's own definition of the situation on affect, which is demonstrated by the salience of the subjective housing variables in this study, adds much-needed confirmation for more recent formulations of the Ecological Model which employ a symbolic interactionist perspective.

Furthermore, although Anova results show no statistical interactions between tenure type and age mix, a finer analysis focusing on relationships between tenure type and/or age mix and the dependent variables, using semipartial correlations, indicates that these two environmental factors do indeed interact with regard to wellbeing, and the interactive effect is stronger than their independent effects. It is possible that, if the sample had been larger, more statistically significant interactions would have been observed. This too is an interesting contribution to a literature which until now has focused almost exclusively on a functionalist approach,

seeking environmental variables which have simple main effects and can be employed to make life better for the older person.

3. Summary of Tenure Type and Age Mix Characteristics

By way of a final summary of the results of this study, it is useful to provide a brief general description of the residents of the five housing settings where this research was done.

People living in *rental* accommodation could be characterized as more likely to be *isolated* than other respondents. They have fewer family, friendship and neighborly supports than respondents in other categories and they show relatively low levels of satisfaction with their social situation (subjective social integration).

By contrast, members of *co-operatives* report high levels of social support based on an active neighborhood *community* and considerably higher levels of subjective integration than renters. These qualities are especially notable in the age-segregated co-ops, but even the age-integrated ones show higher levels of social integration, housing satisfaction and wellbeing than all renters.

In the regression analysis it was found that among strata owners, the only influential variables were the objective integration variables (especially frequency of seeing family)

and, to some extent, sociodemographic variables, notably income. There is less social contact within the strata developments than in co-ops, but the objective social integration variables appear to have little subjective importance for these respondents. For strata residents seeing family and outside friends are the social activities of most importance. This finding, combined with the difficulty of accessing strata residents described in chapter 2, tempts the researcher to describe these developments as characterized by an emphasis on *privacy*.

It is apparent throughout the results that age mix is a less salient variable than tenure type in this sample. On the one hand, differences which do occur by age mix are more often confined to one tenure group, and on the other, age-integrated residents of different tenure groups sometimes contrast strongly with one another. *Age-integrated* housing residents may, however, be generally described as *self-reliant* since levels of the social integration variables are relatively low. Where this self-reliance, chosen or otherwise, is complemented by sociodemographic strength, as in the stratas, high levels of subjective integration, effective control, belonging, housing satisfaction and wellbeing are found. Where that strength is lacking, as in rental developments, isolation and lowered wellbeing results.

Age-segregated residents may be characterized as *comfortable*. In their case the supports of less challenging surroundings mitigate the sociodemographic weaknesses which make them comparable to renters, producing higher levels of social integration, satisfaction and wellbeing. The results of this study strongly support other research which reports that the major advantage of age-segregated housing for older people is the satisfaction of quiet and easy communication with people like oneself.

B. Implications

This final section will focus on implications of these findings for policy and practice. Topics for further research will also be identified.

1. Tenure Type

a. Strata Title Owners

Clearly, the strata title housing form provides a successful alternative for older people who can afford to buy such units. If intervention were required to improve levels of housing satisfaction or wellbeing for these respondents, it would presumably have to center on the fundamental factors of income and family contact.

However, the residents' emphasis on privacy in these developments raises the question of what happens when

residents age in place. The lack of community supports in the housing setting may require individuals to fall back on family members and publicly-provided services for assistance, if health fails, in much the same way as residents of single-family dwellings.

b. Co-operative Members

Based on the high levels of satisfaction and wellbeing shown in the co-operatives in this study, it can be said that expansion of the co-operative program would have great benefit for elderly Canadians. The age-segregated co-operatives appear to be highly successful, and even though respondents in age-integrated co-ops were lower in mean scores on most outcome measures than their counterparts in age-segregated ones, they appear to be distinctly better off than renters in both age-integrated and age-segregated complexes.

The co-operative sector, on the other hand, should take note of the age mix discrepancy and begin to educate members and managers about the requirements of senior members of their communities. In co-ops the subjective housing variables add 14% to variance in positive affect when all other factors have been accounted for. The observation that levels for both CONTEFF and BELONG are much lower in the age-integrated co-ops leads to the suggestion that attention to these relatively intangible aspects of co-op life would raise levels of

positive affect for older co-op members. Since the major explanation of negative affect lies in the sense of subjective integration, it is possible that improving these factors would in the end also lessen negative affect.

Given the degree to which quiet surroundings and easy communication with other older people is enjoyed in age-segregated settings, it is probable that ensuring a fairly large proportion of seniors in an age-integrated co-op, and locating seniors' units in a relatively quiet location in the complex would improve levels of housing satisfaction. In addition, findings for the perceived housing variables indicate that work on minimizing the perceived danger of theft and improving the quality of maintenance could raise the housing satisfaction of residents in age-integrated co-ops.

c. Renters

Renters are strongly affected by perceived housing variables, safety and quality of maintenance. The very high correlation between these two factors for renters ($r = .679$) suggests that the most useful intervention to improve housing satisfaction in rental buildings (both age-integrated and age-segregated) housing elderly people is to improve the perceived quality of management. It appears that, whatever the reality, safety and good maintenance are linked in the minds of at least these

older people and are critical to their housing satisfaction.

For renters the subjective housing variables add a further 10% to variance in housing satisfaction after controlling for all the other study variables. It follows, then, that intervention in these aspects could also raise housing satisfaction. Given the high correlations for renters among CONTEFF, fairness and BELONG, it is probable that improvement on the one index would have an effect on the others. The one most easily improved is probably CONTEFF, since management could be trained to give older tenants greater opportunity for input which has a real impact on matters in their immediate environment.

The housing variables examined here have minimal explanatory value with regard to *wellbeing* for renters. Much more influential are the classic sociodemographic mediators: health and income. However, the other key to both positive affect and negative affect for renters is subjective integration. Its salience as a predictor of positive affect among renters argues that attention to issues of subjective integration among renters would improve levels of positive affect. Since subjective integration for this sample is significantly related (among other things) to NEIGHBORS and BELONG, it appears that attempts to build a sense of community

in rental developments might have some effect in improving wellbeing. This raises again the issue of management.

These findings suggest that efforts to assist independent elderly people (to the extent that they need assistance) by providing support services and recreational activities *without taking the sense of fairness, belonging and effective control into account* may be misplaced. Rather the focus should be on developing a community within which recreational and supportive activities occur frequently, as they do in the age-segregated co-operatives. Planning of these activities should take place within a context which promotes the sense of safety, improves the quality of maintenance, and supports the perception of fairness, effective control and belonging. That is, the data from this study strongly support tenant participation approaches to management of buildings occupied by many older renters in age-integrated developments⁶⁶.

2. Age Mix

Since personal variables are the major factor in both housing satisfaction and wellbeing for residents of *age-integrated* settings, housing interventions are useful

⁶⁶ A caveat should be added here. The experience reported by some members of integrated co-ops is that where seniors are the minority in a democratic setting, the danger of being constantly outvoted can lead to the sense that their interests are being overlooked. The lower level of scores for CONTEFF in the age-integrated co-ops support this perception.

only insofar as they affect those variables. The only exception to this statement is that even after personal characteristics are controlled, the perceived variables, primarily the sense of safety, contribute 11% to variance in housing satisfaction. This argues that attention to safety and its related variable, maintenance, could go some way to improving housing satisfaction in age-integrated settings.

Since CONTEFF and BELONG have high correlations with subjective integration and some of the objective integration variables they, too, appear to be a good starting point for intervention intending to raise levels of wellbeing among older residents of age-integrated buildings.

For *age-segregated* residents the primary contributor to housing satisfaction, after personal variables have been accounted for, is unit size. Presumably this result is affected by the predominance of bachelor units among the older subsidized rental units. The data for renters support the present provincial government policy of eliminating bachelor units in subsidized housing.

The *age-segregated* group is another for whom intervention directed towards the subjective housing variables might bring improvements in wellbeing, since these add 13% to variance in positive affect after controlling for all other

factors. For this group, too, objective and perceived housing variables (housing cost and quality of maintenance) contribute independently to variance in negative affect and could be the focus of intervention. But for the age-segregated respondents as for all other subgroups except the strata owners, the main issue in negative affect is subjective integration, and any intervention strategy will have to address that either directly or indirectly (e.g. through the subjective housing variables).

Most of the implications enumerated above concern either management matters such as safety and adequacy of maintenance, issues related to the subjective housing variables, and/or subjective integration. As mentioned above, all of these are highly interrelated and may well constitute one larger factor for which the term "community" has been suggested. It has been noted that co-operative and age-segregated developments appear to have qualities which support more demographically vulnerable groups. These qualities are the qualities of community: safety, the security and pride of a well-maintained setting, the effective control of knowing your opinions will be heard, the sense that your situation is fair, the feeling of belonging, and general satisfaction with one's social situation. According to these data, interventions to improve housing satisfaction and wellbeing for vulnerable

groups should focus on various aspects of the sense of community.

C. Further Research

Clearly the research begun here into the comparative strengths and weaknesses of various types of multiunit housing for seniors could be continued. It would be useful to replicate the study after remedying some of the deficiencies of the questionnaire, notably the lack of a good measure for the sense of supportiveness. If the data from this research in a non-stressed housing market can be considered a baseline, data from more urban locations might show how a problematic housing market influences housing satisfaction and wellbeing for older people. Further, parallel data from respondents living in other variations of the tenure type and age mix forms, such as equity co-operatives, age-integrated developments with seniors-only sections, or rental buildings with strong tenant-participation policies, would illuminate some of the conclusions drawn here.

A second area for further research is the management of developments, particularly rental developments, where older people live. The results of this study indicate that management policies should be aimed at providing physical security and high-quality maintenance, at developing opportunities for effective (as opposed to cosmetic) self-

management and at enhancing the sense of belonging. With these possibilities in mind, it would be very useful to carry out a similar study in buildings which vary with regard to management practices such as the degree of self-determination offered to residents, and both the quantity and quality of community-building efforts.

Thirdly, research should continue the exploration of subjective housing variables begun here. A broader factor, termed the sense of community, could be defined and examined, incorporating the perceived and subjective housing variables investigated here, as well as subjective integration and other aspects such as supportiveness. Included in the research should be considerations of selection, i.e., to what extent the results found here are simply reflective of the degree of choice people have in coming to a particular housing setting, and in particular whether people who choose to live in co-ops differ in any substantial way from people who remain renters.

Fourthly, since renters clearly have lower levels of housing satisfaction and wellbeing than residents in the other two tenure types, this population should be the subject of more intensive research on the issues raised here. It would also be interesting to investigate different housing markets and different jurisdictions. In the Lower Mainland, rental

tenure appears to be the housing of last resort, the home of those who have few other options. Are the negative characteristics found in this sample inherent in the tenure type? In areas of high vacancy where landlords must compete for tenants do renters have a greater sense of control, greater housing satisfaction and wellbeing? If renters were accorded the protection and personal sovereignty found in other jurisdictions (Brink, 1988) would the data indicate such low levels of wellbeing for them?

Finally, these findings open an avenue of research within the literature on health promotion. The association of the subjective housing variables with health and income was found to have a threshold structure, with the means for fairness, CONTEFF and BELONG showing markedly higher levels for respondents above the lowest levels of health and income. This phenomenon may indicate limitations to a community-building approach with more vulnerable people.

It is interesting, however, to speculate that, at least with regard to health, the converse may be true. That is, perhaps living in housing which provides for fairness, control and belonging is a contributor to, rather than an outcome of, higher levels of reported health. New definitions of health stress the relationship between health and social environment: "health is...envisaged as a

resource which gives people the ability to manage and even to change their surroundings (Epp, 1986, p. 3)." Some studies with institutionalized elderly people suggest that being in a situation which strengthens the perception of control serves to improve or maintain health (Rodin, 1986). At the very least, fairness, CONTEFF and BELONG could be investigated as possible indicators of a healthy environment, but they should also be examined as possible mechanisms for new approaches promoting health, as suggested in Canada's *Framework for Health Promotion*:

...the creation of healthy environments....means altering or adapting our social, economic or physical surroundings in ways that will help not only to preserve but also to enhance our health (Epp, 1986, p. 9).

The research reported in this dissertation set out to examine some aspects of multiunit housing as a dwelling place for older people. Tenure type, age mix, and the subjective housing variables of fairness, control and belonging were investigated for their salience with regard to the housing satisfaction and wellbeing of older residents. It was found that these housing variables interact with the personal characteristics of individuals quite differently in different settings. While people who own strata title units are typically quite well sustained by their higher socioeconomic resources, residents of rental and co-operative developments proved more vulnerable to, and

able to be supported by, characteristics of their housing environment. In particular, co-operative tenure and the restriction of housing to older people only appear to have beneficial effects for people in middle and lower socioeconomic groups.

Finally, it appears that a cluster of perceived and subjective housing variables (perception of safety, quality of maintenance, perception of fairness, sense of effective control and feeling of belonging), which may be described as a community factor, can operate in concert to improve housing satisfaction and wellbeing for older residents of multiunit housing.

Appendix One:

Form letter and Questionnaire

ERONTOLOGY DIPLOMA PROGRAM (604) 291-3593
ERONTOLOGY RESEARCH CENTRE (604) 291-3555



BURNABY, BRITISH COLUMBIA
CANADA V5A 1S6

Dear Residents of Lynnhaven:

I would like to introduce myself and ask for your help.

My name is VERONICA DOYLE. I am just finishing a PhD degree at Simon Fraser University, on a scholarship from Canada Mortgage and Housing. The main focus of my study program is to examine what housing options are available to older people and how satisfactory those options are.

To do this, I need your help. The best people to ask about housing for older people are older people themselves--older people of many different backgrounds and opinions, older people both satisfied and dissatisfied with the housing they have.

I am looking for people in Lynnhaven who would agree to fill out a completely confidential questionnaire. I will bring the questionnaire to each person's unit, and pick it up when it is finished. Filling out the questionnaire takes about an hour.

No one's name will be on the questionnaire, nor will any individuals be identified when I report the results. The information in it will be turned into statistics about the whole group. For instance, the report will say "_____ per cent of the people asked were satisfied with the size of their apartments."

The results of my study will be reported to Canada Mortgage and Housing, and I hope will help to make a difference in the types of housing which are available for seniors in the future.

Vern Cape, the Board president, has given me permission to approach some of you for your co-operation. Tomorrow, Wednesday March 22, I may come to your door with a copy of the questionnaire. If you agree to fill it out, I can pick it up from your unit the next day, or you can leave it on the doormat if you wish. If you prefer, however, you could contact me by phone or mail (numbers below) and I will send you the questionnaire with a stamped return envelope.

I hope you will agree to share your experience and opinions about housing for older people. For further information, please call me at 255-8565 or write to:

2754 Wall Street
Vancouver, B.C. V5K 1A9

Number _____

FORM ST

Date _____

C O N F I D E N T I A L

Housing Satisfaction Questionnaire

[PLEASE ANSWER ALL QUESTIONS. DISREGARD THE NUMBERS IN BRACKETS WHICH APPEAR THROUGHOUT THE QUESTIONNAIRE]

I. INFORMATION ABOUT YOUR HOME1. How long have you lived in your present home? _____ years2. How long did you live in your previous home? _____ years

3. Was your previous dwelling

- _____ (1) a rented dwelling
 _____ (2) a unit in a co-operative
 _____ (3) a condominium (i.e. owned by strata title)
 _____ (4) a dwelling you owned freehold
 _____ (5) other (e.g. owned by family) _____
-

4. Was your previous home

- _____ (1) a single family detached house
 _____ (2) a duplex or townhouse
 _____ (3) an apartment
 _____ (4) a mobile home
 _____ (5) other _____
 (please specify)

5. Why did you decide to move from your previous home?
 [PLEASE CHECK ALL IMPORTANT REASONS.]

- (1) it was too expensive
- (2) it was too big or too small
- (3) too much work (housework, maintenance, yardwork)
- (4) poorly maintained (e.g. leaks, appliances not working, not fumigated)
- (5) not physically adequate (e.g. poor heating, too noisy)
- (6) not suitable in design (e.g. too many stairs, bathroom too far from bedroom)
- (7) too far from family and friends
- (8) too far from places you need to go
- (9) unsafe building or neighborhood
- (10) discomfort with neighbors
- (11) emotional reasons (e.g. not wanting to remain after death of spouse, fear of eviction)
- (12) other (e.g. evicted, house sold, housemates moved)

(please specify)

6. What were the main reasons for choosing your present home?
 [PLEASE CHECK ALL IMPORTANT REASONS.]

- (1) its cost
- (2) its size
- (3) physical qualities (e.g. heat, soundproofing)
- (4) suitable design
- (5) well maintained
- (6) good access to places I need to go
- (7) family and friends nearby
- (8) safe
- (9) congenial neighbors
- (10) other (e.g. recreation activities, view)

(please specify)

7. What other alternatives did you consider at the time?

- (1) considered no other alternatives
- (2) considered renting another place
- (3) considered buying somewhere else
- (4) considered joining another co-operative
- (5) considered living with my children
- (6) considered living with a friend or relative
- (7) other (specify) _____

8. Were you on a waiting list for your present home before you moved in?
- ___ (1) yes
___ (2) no
9. How many bedrooms are there in your home? [COUNT DEN AS A BEDROOM]
- ___ (1) none (bachelor suite)
___ (2) one
___ (3) two
___ (4) three or more
10. How many bathrooms are there in your home? [COUNT POWDER ROOM AS HALF A BATHROOM]
- ___ (1) one
___ (2) one and a half
___ (3) two
___ (4) two and a half
___ (5) three or more
11. Do you find your apartment adequate with regard to:
- heat? ___ (1) yes
 ___ (2) no
- size? ___ (1) yes
 ___ (2) no
- state of repair? ___ (1) yes
 ___ (2) no
12. What problems, if any, do you have with the design of your unit or building (e.g. amount of storage, size of rooms, location of meeting rooms)?
-
-
13. How convenient is this building to places you want to go (e.g. stores, church, library, entertainment, services such as hairdressing, doctors)?
- ___ (1) most are easy to get to
___ (2) some are easy to get to
___ (3) few are easy to get to

Which ones are difficult to get to? _____

14. How do you usually get to places you want to go?

- (1) walk
 (2) drive
 (3) public transportation
 (4) rides from others
 (5) other (please specify) _____

15. How safe do you feel inside your unit?

- (1) very safe
 (2) somewhat safe
 (3) unsafe

16. How safe do you feel within the building or complex?

- (1) very safe
 (2) somewhat safe
 (3) unsafe

17. How safe do you feel walking in the neighborhood?

- (1) very safe
 (2) somewhat safe
 (3) unsafe

18. What, if anything, do you feel may threaten your safety where you live?

19. Would you say your building is maintained

- (1) very well,
 (2) somewhat well, or
 (3) not very well?

20. Do you feel your particular maintenance requests are responded to

- (1) very well,
 (2) somewhat well, or
 (3) not very well?

Why do you say that? _____

II. OPINIONS AND FEELINGS ABOUT YOUR HOME

21. What are the things you like best about living in your building or complex?

22. What are the things you like least about living there?

23. In terms of the people who live around you, how suitable is your housing for a person like yourself? Would you say it is

- ___ (1) very suitable,
___ (2) moderately suitable,
___ (3) somewhat unsuitable, or
___ (4) not suitable at all

Why do you say that? _____

24. How fairly do you feel life is treating you as far as housing is concerned?

- ___ (1) very fairly
- ___ (2) moderately fairly
- ___ (3) somewhat unfairly
- ___ (4) very unfairly

Why do you say that? _____

25. Considering only your own unit or apartment, how do you think cost and comfort are balanced in your present home?

- ___ (1) I am comfortable, but the price is high.
- ___ (2) I am comfortable, and the price is reasonable.
- ___ (3) I am not comfortable, and the price is high.
- ___ (4) I am not comfortable, but the price is reasonable.

26. About how much do you feel in control of matters affecting your personal housing (e.g. cost, repair, whether or not to move)? Would you say you are

- ___ (1) completely in control,
- ___ (2) mostly in control,
- ___ (3) somewhat in control, or
- ___ (4) not in control at all?

Why do you say that? _____

27. If you express your opinion about how your housing complex should be run, do you think it will be listened to

- ___ (1) a lot of the time,
- ___ (2) sometimes, or
- ___ (3) rarely?

28. a) Do you think your opinions and actions can have an effect on social/recreational matters in your housing complex

- (1) a lot of the time,
 (2) sometimes, or
 (3) rarely?

b) Do you think your opinions and actions can have an effect in setting rules and regulations in your housing complex

- (1) a lot of the time,
 (2) sometimes, or
 (3) rarely?

c) Do you think your opinions and actions can have an effect on management matters such as deciding on improvements or raising monthly charges

- (1) a lot of the time,
 (2) sometimes, or
 (3) rarely?

29. Do you feel that you have about as much of a say in how your housing complex is run as you wish?

- (1) about as much as I wish.
 (2) not enough
 (3) too much

Why do you say that? _____

30. a) What do you think are the most important things to look for when choosing housing for yourself?

b) How well does your present housing meet these standards?

- (1) very well,
 (2) somewhat well, or
 (3) not very well?

Some older people prefer to live in buildings or complexes where there are only other seniors. Others wish to live with people of different ages. We are interested in what you think of your present arrangement.

31. How well do you like living in a building or complex with this particular age mix?

- _____ (1) I like it very much.
- _____ (2) I like it moderately well.
- _____ (3) I'm indifferent about it.
- _____ (4) I dislike it somewhat.
- _____ (5) I dislike it very much.

Why do you say that? _____

32. What do you think are the main advantages and disadvantages of the type of age mix you now live in?

Advantages:

- 1. _____
- 2. _____
- 3. _____

Disadvantages:

- 1. _____
- 2. _____
- 3. _____

33. If the costs were the same and you could live in whatever location you liked, which of the following age mixes would you choose? **[PLEASE CHECK ONLY ONE ANSWER]**

- (1) seniors only (aged 55 and over)
- (2) middle-aged people and older only (35 and over)
- (3) adults only (19 and over)
- (4) people of all ages including families with children, living throughout the complex
- (5) people of all ages including families with children, living in separate sections of the complex **[OR]**
- (6) It really doesn't matter to me

Some people, either by choice or necessity, rent their accommodation. Others own it and still others belong to co-operatives. We are interested in what you think about your present arrangement.

34. How well do you like being a homeowner?

- (1) I like it very much.
- (2) I like it moderately well.
- (3) I'm indifferent about it.
- (4) I dislike it somewhat.
- (5) I dislike it very much.

35. What do you think are the main advantages and disadvantages of owning your home?

Advantages:

- 1. _____
- 2. _____
- 3. _____

Disadvantages:

- 1. _____
- 2. _____
- 3. _____

36. All else being equal (for example, if the location, features and monthly costs were about the same), which of the following would you choose? [PLEASE CHECK ONLY ONE ANSWER]

- (1) renting
- (2) owning a strata-title unit (condominium)
- (3) co-operative ownership
- (4) other (specify) _____
- (5) doesn't matter to me

37. Do you presently have any plans to move?

- (1) yes
- (2) no

Why or why not? _____

38. Under what circumstances could you see yourself moving in the future?

III. SOCIAL ASPECTS OF YOUR HOUSING COMPLEX

39. Who lives in your household?

- (1) live alone
- (2) with spouse
- (3) with spouse and relative (specify) _____
- (4) with spouse and non-relative
- (5) with relative (specify) _____
- (6) with non-relative

40. Do you have family members living nearby (i.e within half an hour's travel)? If so, about how many?

- (1) none
- (2) one or two
- (3) more than two

41. About how often do you see one or more family members?

- (1) does not apply--have no family
- (2) I see some family member every day
- (3) several times a week
- (4) several times a month
- (5) monthly
- (6) several times a year
- (7) yearly
- (8) less often than once a year
- (9) never

42. Do you see your family

- (1) about as often as you wish,
- (2) not often enough, or
- (3) too often?
- (4) does not apply--have no family

43. About how often do you see friends who live outside this housing complex?

- (1) does not apply--no outside friends
- (2) daily
- (3) several times a week
- (4) several times a month
- (5) monthly
- (6) several times a year
- (7) yearly
- (8) less often than once a year
- (9) never

44. Do you see outside friends

- (1) about as often as you wish,
- (2) not often enough, or
- (3) too often?
- (4) does not apply--no outside friends

45. About how many neighbors living in this building or complex do you know well enough to visit in each other's homes?
[COUNT HOUSEHOLDS]

- (1) none
- (2) 1 - 4
- (3) 5 - 9
- (4) 10 or more

46. About how often do you get together with neighbors who live in this complex?
- (1) daily
 (2) several times a week
 (3) once a week
 (4) several times a month
 (5) monthly
 (6) less often than once a month
 (7) never
47. Do you get together with your neighbors most often in each other's homes or in common spaces in your building or complex?
- (1) mostly in our homes
 (2) mostly in common parts of the complex
 (3) both about equally
48. Would you say you get together with neighbors
- (1) about as often as you wish,
 (2) not often enough, or
 (3) too often?
49. About how many of your neighbors do you know well enough to borrow or lend a cup of sugar or a tool, pick up items for each other at the store, take in papers when you are away, or exchange other small services?
- (1) none
 (2) 1 - 4
 (3) 5 - 9
 (4) 10 or more
50. If you need more active assistance, such as a ride somewhere, a household repair, or help moving furniture, do you rely on neighbors
- (1) a lot of the time,
 (2) some of the time,
 (3) rarely, or
 (4) never?
51. In an emergency, do you think you could rely on your neighbors for help?
- (1) yes
 (2) not sure
 (3) no

52. With regard to assistance being available from your neighbors, would you say

- (1) you have as much as you need,
 (2) too little, or
 (3) too much?

53. Do you have formal arrangements with anyone to check that you are all right? If so, does that person live inside or outside this housing complex?

- (1) no arrangement
 (2) have arrangement with someone within this complex
 (3) have arrangement with someone outside this complex
 (4) other (e.g. have alarm system)

54. How supportive would you say your housing complex is as a place to live?

- (1) very supportive
 (2) moderately supportive
 (3) somewhat unsupportive
 (4) very unsupportive

55. Do you feel that as you grow older your housing complex will be

- (1) very supportive
 (2) moderately supportive
 (3) somewhat unsupportive
 (4) very unsupportive?

Why do you say that? _____

56. Do you usually attend annual meetings or other general meetings in your housing complex?

- (1) yes
 (2) no
 (3) there are no meetings

57. Have you served on your strata corporation's Board or on any other committees in the past year?

- (1) yes
 (2) no

If yes, which? _____

58. About how often are group social activities planned within this housing complex?

- (1) never
 (2) several times a week
 (3) several times a month
 (4) several times a year

59. By whom are these activities most often planned?

- (1) by people who live in the complex
 (2) by managers or paid staff
 (3) by people or agencies outside the complex
 (4) no activities planned

60. About how often do you attend these social activities in your housing complex?

- (1) most of the time
 (2) some of the time
 (3) occasionally
 (4) never

61. About how often do you participate in organizing and carrying out these activities?

- (1) most of the time
 (2) some of the time
 (3) occasionally
 (4) never

62. With regard to opportunities to socialize with your neighbors, would you say you have

- (1) about as many opportunities as you wish,
 (2) not enough, or
 (3) too many?

63. About how many people, both inside and outside this complex, would you say you feel really close to, that is, you can share confidences and feelings with them?

Inside this complex:

- (1) none
 (2) 1 - 4
 (3) 5 or more

Outside this complex:

- (1) none
 (2) 1 - 4
 (3) 5 or more

64. Of the people in this complex whom you feel close to, how many have you met since moving here?

_____ people

65. As far as opportunities to share confidences and feelings are concerned, would you say you have

- _____ (1) about as many as you wish,
 _____ (2) not enough, or
 _____ (3) too many?

66. Would you say that you feel lonely living here

- _____ (1) a lot of the time
 _____ (2) sometimes, or
 _____ (3) rarely?

What is it about this place that makes you feel that way?

67. Do you think it would be accurate to describe this housing development as a community?

- _____ (1) yes
 _____ (2) no

If "yes",

a) is the community one in which you feel:

- _____ (1) very much included
 _____ (2) moderately included
 _____ (3) somewhat excluded
 _____ (4) very much excluded?

b) are you included in it about as much as you wish?

- _____ (1) about as much as I wish
 _____ (2) less than you wish
 _____ (3) more than you wish?

IV. HOUSING SATISFACTION

68. On the lines below, please put a mark at the point which shows how satisfied you are with various aspects of your housing. For example, if you are very unsatisfied, mark as shown below:

very unsatisfied : x : very satisfied

1. Unit size⁶⁷

very unsatisfied : _____ : very satisfied

2. Safety

very unsatisfied : _____ : very satisfied

3. Physical condition of unit and building

very unsatisfied : _____ : very satisfied

4. Management

very unsatisfied : _____ : very satisfied

5. Social Atmosphere

very unsatisfied : _____ : very satisfied

6. Location

very unsatisfied : _____ : very satisfied

7. Design

very unsatisfied : _____ : very satisfied

8. Cost

very unsatisfied : _____ : very satisfied

⁶⁷ Lines on original questionnaire were 4.75"

9. How satisfied are you in general with your housing?

very unsatisfied : _____ : very satisfied

10. How much does this feel like your real home--a
place you
really belong--or just a place you happen to live?

just where I live: _____ : my real home

69. In the items below, please indicate how important various aspects of a home are to your satisfaction with it:

a) It is familiar.

- ____ (1) very important
 ____ (2) moderately important
 ____ (3) somewhat important
 ____ (4) not important

b) It is a refuge from the outside world.

- ____ (1) very important
 ____ (2) moderately important
 ____ (3) somewhat important
 ____ (4) not important

c) It is a place where I am in control of things.

- ____ (1) very important
 ____ (2) moderately important
 ____ (3) somewhat important
 ____ (4) not important

d) It is private.

- ____ (1) very important
 ____ (2) moderately important
 ____ (3) somewhat important
 ____ (4) not important

e) In it I am independent.

- ____ (1) very important
 ____ (2) moderately important
 ____ (3) somewhat important
 ____ (4) not important

f) It is an expression of myself.

- (1) very important
- (2) moderately important
- (3) somewhat important
- (4) not important

g) It is a place to visit with my family [IF NO FAMILY MARK # 5].

- (1) very important
- (2) moderately important
- (3) somewhat important
- (4) not important
- (5) does not apply

h) It is a showplace for the things I have collected over the years.

- (1) very important
- (2) moderately important
- (3) somewhat important
- (4) not important

i) It is a place to entertain my friends.

- (1) very important
- (2) moderately important
- (3) somewhat important
- (4) not important

j) It contains my belongings and memories.

- (1) very important
- (2) moderately important
- (3) somewhat important
- (4) not important

k) It shows who I am in the world.

- (1) very important
- (2) moderately important
- (3) somewhat important
- (4) not important

l) As an asset, it is part of my financial security.

- (1) very important
 (2) moderately important
 (3) somewhat important
 (4) not important

m) It is something to leave to my children.

- (1) very important
 (2) moderately important
 (3) somewhat important
 (4) not important

70. Please indicate how life in general seems to you these days by checking "yes" or "no" to each of the following items. **[PLEASE DO NOT SKIP ANY ITEMS.]**

In the past few weeks, did you ever feel...

a) pleased about having accomplished something?

- (1) yes
 (2) no

b) so restless you couldn't sit long in a chair?

- (1) yes
 (2) no

c) bored?

- (1) yes
 (2) no

d) that things were going your way?

- (1) yes
 (2) no

e) depressed or very unhappy?

- (1) yes
 (2) no

f) proud because someone complimented you on something you had done?

- (1) yes
 (2) no

g) particularly excited or interested in something?

- ___ (1) yes
 ___ (2) no

h) very lonely or remote from other people?

- ___ (1) yes
 ___ (2) no

i) upset because someone criticized you?

- ___ (1) yes
 ___ (2) no

j) on top of the world?

- ___ (1) yes
 ___ (2) no

71. Taken all together, how would you say things are these days-
 -would you say that you are

- ___ (1) very happy
 ___ (2) pretty happy, or
 ___ (3) not too happy?

72. In getting the things you want out of life, would you say
 that you are doing

- ___ (1) very well
 ___ (2) pretty well, or
 ___ (3) not too well?

V. DEMOGRAPHIC INFORMATION

In this last section we'd like to gather background information about the people taking part in this study. Please be assured again that your answers will be kept strictly confidential.

73. How old were you on your last birthday?

_____ years

74. Are you male or female?

- ___ (1) male
 ___ (2) female

75. Are you presently:

- (1) married
- (2) separated or divorced
- (3) widowed, or
- (4) have you never married?

76. If you are currently married, widowed, separated or divorced, how long have you been so?

_____ years.

77. What is your ethnic background (e.g. French Canadian, English Canadian, Chinese Canadian)?

78. Do you presently do any paid work? If so, is it full-time or part-time?

- (1) don't do any paid work
- (2) work full-time
- (3) work part-time

79. Do you presently do any volunteer work? If so, about how many hours per month?

- (1) don't do any volunteer work
- (2) work about _____ hours per month.

80. What was the highest level of formal education you completed?

- (1) no formal education
- (2) elementary school only
- (3) some high school
- (4) high school graduation
- (5) trades, technical or artistic training
- (6) professional training (e.g. teaching, bookkeeping)
- (7) some college or university
- (8) bachelor's degree
- (9) graduate degree

81. What kind of work have you done most of your adult life?
[CHECK ONLY ONE]
- (1) housewife (little paid work)
 (2) professional (e.g. architect, teacher, nurse, chemist)
 (3) managerial
 (4) clerical (e.g. secretary, receptionist, personnel assistant, bank teller)
 (5) sales (e.g. cashier, insurance salesperson, grain merchant, real estate agent)
 (6) service-personal (e.g. waitress, barber, domestic work, caterer)
 (7) service-protective (e.g. police, armed forces, fire-fighter, customs officer)
 (8) skilled (white collar) (e.g. map drawer, library assistant, photographer, claims adjuster, bookkeeper)
 (9) skilled (blue collar) (e.g. carpenter, electrician, mechanic)
 (10) semi or unskilled (e.g. janitor, general laborer, letter carrier, gas station attendant)
 (11) primary sector (e.g. farming, fishing, logging)
82. How would you rate your health at the present time?
- (1) excellent
 (2) good
 (3) fair
 (4) poor
 (5) very poor
83. Do you have any disability which prevents you from walking more than two or three blocks?
- (1) yes
 (2) no
84. Do you regularly receive the following services? [CIRCLE YES OR NO FOR EACH OF THEM]:
- | | | |
|--------------------------|-----|----|
| Housecleaning | Yes | No |
| Hot meals delivered | Yes | No |
| Help with bath or shower | Yes | No |
| In home nursing care | Yes | No |

85. What was your household's total income last year?

- (1) less than \$9,000
- (2) \$9,000 - \$11,999
- (3) \$12,000 - \$14,999
- (4) \$15,000 - \$19,999
- (5) \$20,000 - \$29,999
- (6) \$30,000 or more

86. About how much do you pay per month for maintenance, mortgage and taxes put together?

\$ _____

87. Do you have any difficulty meeting your housing-related costs, that is, finding enough money to pay utilities (electricity, heat and water) and maintenance/mortgage and taxes put together?

- (1) yes, have difficulty
- (2) no difficulty

88. Do you or your spouse receive income from any of the following sources? **[CHECK ALL SOURCES OF INCOME]**

Income Source	I receive	My spouse receives
1) Old Age Security Pension	_____	_____
2) Federal Guaranteed Income Supplement	_____	_____
3) Canada or Quebec Pension Plan	_____	_____
4) Other government sources (e.g. provincial supplements, Veteran's Pension, Spouse's or Widowed Allowance)	_____	_____
5) Retirement pensions, superannuation or annuities	_____	_____
6) Wages, salaries, self-employment income	_____	_____
7) Savings or investments	_____	_____
8) Other	_____	_____

89. Do you have a mortgage on your present dwelling?

- (1) yes
 (2) no

If you have a mortgage, what is the amount?

- (1) less than \$25,000
 (2) \$25,000 - \$49,999
 (3) \$50,000 - \$99,999
 (4) more than \$100,000

FINALLY, if you have any further ideas or opinions to mention about housing for older people, please write them below. If time permits, it would be helpful to know what approaches you think government and private industry should be taking to improve the housing choices available to older people in the future.

Thank you very much for your help with this questionnaire.

Appendix Two:
Correlation Matrices

Table C1: Correlation Coefficients of Variables for Total Sample

	Gender	Income	Mstat	Health	Family	Ofrnd	NGBRs
Gender	1.000						
Income	-.203	1.000					
Mstat	.338	.401	1.000				
Health	.047	.160	-.101	1.000			
Family	-.019	.018	-.218	.092	1.000		
Outfriend	-.046	-.054	-.003	.156	.106	1.000	
NEIGHBORS	.044	-.053	-.012	.102	.017	.155	1.000
PARTICIPN	-.049	-.013	-.065	.129	.077	.150	.445
SUBJINT	-.191	.371	-.300	.362	.048	.202	.255
Cost	-.019	.068	-.144	-.045	-.058	-.191	.003
Tenure	.074	.434	-.137	.156	.084	.104	.153
Age Mix	-.041	-.081	.164	.007	-.030	.001	.176
Size	-.106	.173	-.040	.180	-.075	.118	.235
Maintnce	-.043	.080	-.085	.184	.023	.113	.173
Safety	.035	.020	-.063	.129	.104	.165	.139
CONTEFF	-.172	.201	-.206	.270	.177	.186	.264
Fairness	-.061	.169	-.105	.214	.011	.008	.128
BELONG	.013	.102	-.221	.312	.119	.179	.442
Satisfactn	-.051	.174	-.129	.312	.145	.229	.268
Positive	.039	.043	-.146	.394	.183	.198	.293
Negative	.164	-.164	.189	.268	-.020	-.086	-.061

Table C1: Correlation Coefficients of Variables for Total Sample							
	PARTIC	SUBJNT	Cost	Tenure	Agemix	Size	Maint
PARTICIPN	1.000						
SUBJINT	.219	1.000					
Cost	-.160	-.008	1.000				
Tenure	.302	.384	-.372	1.000			
Age Mix	.439	.105	-.253	.035	1.000		
Size	-.096	.278	-.007	.238	-.074	1.000	
Maintnce	.125	.285	-.221	.182	.351	.216	1.000
Safety	.241	.305	-.221	.185	.129	-.001	.435
CONTEFF	.259	.406	-.119	.419	.087	.236	.367
Fairness	.174	.290	-.172	.287	.206	.067	.348
BELONG	.416	.523	-.076	.337	.166	.236	.270
Satisfactn	.231	.384	-.161	.240	.179	.380	.452
Positive	.262	.450	-.126	.222	.172	.180	.259
Negative	-.241	-.597	.087	-.213	-.031	-.083	-.146
	Safety	CONTEFF	Fair	BELONG	Satsfn	Pos	Neg
Safety	1.000						
CONTEFF	.350	1.000					
Fairness	.345	.319	1.000				
BELONG	.294	.497	.364	1.000			
Satisfactn	.471	.436	.420	.473	1.000		
Positive	.294	.341	.336	.546	.348	1.000	
Negative	-.144	-.228	-.154	-.364	-.404	-.348	1.000

Note: For this sample (n = 165) the values of the correlation coefficient are significant as follows (2-tailed test):

$$r = .153: p < .05$$

$$r = .200: p < .01$$

Table C2: Correlation Coefficients of Variables for Co-op Sample

	Gender	Income	Mstat	Health	Family	Ofrnd	NGBRS
Gender	1.000						
Income	-.324	1.000					
Mstat	.452	-.617	1.000				
Health	-.156	.252	-.211	1.000			
Family	-.131	.032	-.290	.087	1.000		
Outfriend	-.031	-.106	.007	.168	.179	1.000	
NEIGHBORS	-.144	.146	-.179	.018	.121	.313	1.000
PARTICIPN	-.306	.059	-.109	.011	.056	.065	.421
SUBJINT	-.298	.449	-.458	.445	.020	.092	.084
Cost	-.105	.498	-.323	.198	.114	-.066	.157
Age Mix	-.090	.106	-.142	-.029	-.110	.022	.099
Size	-.400	.022	-.054	.159	-.072	.047	.300
Maintnce	-.111	.235	-.107	.140	-.280	.069	.189
Safety	.011	.156	.012	-.185	-.106	-.048	.084
CONTEFF	-.366	.220	-.152	.245	.114	.183	.372
Fairness	-.024	.151	-.006	.041	-.165	-.116	-.082
BELONG	-.201	.199	-.257	.308	.020	.027	.187
Satisfactn	-.057	.123	-.105	.140	-.172	.018	.175
Positive	-.290	.288	-.460	.273	.104	.080	.301
Negative	.240	-.186	.201	-.283	.033	.104	.085

	PARTIC	SUBJNT	Cost	Tenure	Agemix	Size	Maint
PARTICIPN	1.000						
SUBJINT	.118	1.000					
Cost	.089	.235	1.000				
Age Mix	.144	.119	-.333	1.000			
Size	.033	.004	-.113	.025	1.000		
Maintnce	.086	.293	-.159	.562	.270	1.000	
Safety	.206	.234	.005	.075	-.098	.193	1.000
CONTEFF	.258	.378	.073	.176	.277	.374	.111
Fairness	-.138	.030	-.182	.248	.047	.316	.002
BELONG	.169	.673	.015	.308	.236	.459	.193
Satisfactn	.129	.301	-.175	.399	.391	.561	.280
Positive	.336	.414	-.172	.378	.240	.343	.009
Negative	-.298	-.600	-.063	.002	.021	-.202	-.106
	CONTEFF	Fair	BELONG		Satsfn	Pos	Neg
CONTEFF	1.000						
Fairness	.103	1.000					
BELONG	.516	.122	1.000				
Satsfn	.373	.381	.513		1.000		
Positive	.294	.246	.603		.518	1.000	
Negative	-.254	-.066	-.511		-.232	-.267	1.000

Note: For this sample (n = 71) the values of the correlation coefficient are significant as follows:

$$r = .232: p < .05$$

$$r = .302: p < .01$$

Table C3: Correlation Coefficients of Variables for Renter Sample

	Gender	Income	Mstat	Health	Family	Ofrnd	NGBRS
Gender	1.000						
Income	-.142	1.000					
Mstat	.159	-.035	1.000				
Health	-.012	.065	-.100	1.000			
Family	.055	-.307	-.193	.230	1.000		
Outfriend	-.149	-.249	-.072	.135	.120	1.000	
NEIGHBORS	-.072	-.074	.089	.063	-.042	.067	1.000
PARTICIPN	-.150	-.190	-.145	.003	.207	.150	.221
SUBJINT	.516	.089	-.055	.352	.118	.340	.546
Cost	-.184	.384	-.220	-.055	.014	-.149	-.035
Age Mix	.260	-.048	.150	-.066	.133	-.037	.138
Size	.487	.205	.042	.195	-.161	.159	.229
Maintnce	.592	-.254	-.003	.189	.254	.255	.189
Safety	.601	-.253	.000	.341	.277	.394	.038
CONTEFF	.525	-.185	.056	.296	.126	.335	.145
Fairness	.473	.007	-.009	.289	.134	.074	.125
BELONG	.564	-.206	-.024	.318	.267	.224	.405
Satisfactn	-.245	-.048	-.084	-.368	.147	.497	.259
Positive	.107	-.256	-.005	.510	.287	.310	.111
Negative	.157	.024	.083	-.337	-.113	-.143	-.160

Table C3: Correlation Coefficients of Variables for Renter Sample							
	PARTIC	SUBJNT	Cost	AgeMix	Size	Maint	Safe
PARTICIPN	1.000						
SUBJINT	.207	1.000					
Cost	-.417	.096	1.000				
Age Mix	.649	.127	-.443	1.000			
Size	-.387	.475	.313	-.253	1.000		
Maintnce	.178	.207	-.160	.345	.125	1.000	
Safety	.137	.205	-.337	.241	.000	.679	1.000
CONTEFF	.165	.207	-.192	.105	.102	.401	.455
Fairness	.166	.421	-.219	.306	-.033	.487	.506
BELONG	.136	.429	-.173	.190	.119	.316	.278
Satisfactn	.172	.516	-.184	.260	.487	.592	.601
Positive	.024	.507	-.052	-.017	.103	.246	.434
Negative	-.167	-.589	.070	-.156	-.118	-.099	-.205
	CONTEFF	Fair	BELONG		Satsfn	Pos	Neg
CONTEFF	1.000						
Fairness	.338	1.000					
BELONG	.365	.325	1.000				
Satsfn	.525	.473	.564		1.000		
Positive	.285	.398	.567		.417	1.000	
Negative	-.238	-.250	-.282		-.231	-.557	1.000

Note: For this sample (n = 49) the values of the correlation coefficient are significant as follows:

$$r = .273: p < .05$$

$$r = .354: p < .01$$

Table C4: Correlation Coefficients of Variables for Strata Sample

	Gender	Income	Mstat	Health	Family	Ofrnd	NGBR5
Gender	1.000						
Income	-.260	1.000					
Mstat	.416	-.307	1.000				
Health	.390	-.058	.166	1.000			
Family	.023	.317	-.152	-.175	1.000		
Outfriend	.053	.065	.149	.137	-.053	1.000	
NEIGHBORS	.377	-.525	.301	.078	-.051	.109	1.000
PARTICIPN	.151	-.325	.496	.143	-.130	.136	.494
SUBJINT	-.028	-.057	-.081	.022	-.062	-.157	-.097
Cost	-.043	.017	-.076	-.100	-.212	-.274	-.096
Age Mix	.159	-.531	.651	.140	-.145	.022	.404
Size	*						
Maintnce	.277	-.064	-.104	.184	.106	-.156	.139
Safety	.110	-.081	-.059	-.015	-.008	-.161	.128
CONTEFF	.076	-.099	-.309	.048	.306	-.144	.018
Fairness	-.043	-.067	-.151	.150	-.030	-.113	.125
BELONG	.043	-.147	-.089	.158	-.036	.218	.386
Satisfactn	.160	.341	.002	.244	.409	-.169	.095
Positive	.394	-.313	.250	.258	-.031	.095	.501
Negative	.138	-.100	.259	.078	.220	-.179	.084

Table C4: Correlation Coefficients of Variables for Strata Sample							
	PARTIC	SUBJNT	Cost	AgeMix	Size	Maint	Safe
PARTICIPN	1.000						
SUBJINT	.046	1.000					
Cost	-.080	.062	1.000				
Age Mix	.742	-.098	.000	1.000			
Size	*						
Maintnce	.025	-.009	-.182	-.017		1.000	
Safety	.095	.367	-.153	.049		.337	1.000
CONTEFF	-.241	.234	.236	-.085		.185	.231
Fairness	-.029	.070	.106	.006		.012	.297
BELONG	.195	.209	.121	.022		-.072	.038
Satisfactn	-.066	.038	.070	-.084		.163	.170
Positive	.414	.166	.019	.154		.059	.202
Negative	-.110	-.179	.076	.182		.108	.165
	CONTEFF	Fair	BELONG		Satsfn	Pos	Neg
CONTEFF	1.000						
Fairness	.157	1.000					
BELONG	.227	.363	1.000				
Satsfn	.090	.144	-.057		1.000		
Positive	.059	.114	.437		-.134	1.000	
Negative	.297	.227	-.138		.174	-.106	1.000

* Cannot be computed

Note: For this sample (n = 45) the values of the correlation coefficient are significant as follows:

$$r = .288: p < .05$$

$$r = .372: p < .01$$

**Table C5: Correlation Coefficients of Variables for
Age-Integrated Sample**

		Income	Mstat	Health	Family	Ofrnd	NGBR5
Gender	1.000						
Income	-.209	1.000					
Mstat	.352	-.556	1.000				
Health	.037	.174	-.184	1.000			
Family	-.154	-.121	-.271	.167	1.000		
Outfriend	-.171	-.001	-.062	.089	.298	1.000	
NEIGHBORS	-.164	-.059	-.014	-.014	.099	.092	1.000
PARTICIPN	-.103	.018	-.068	.135	.144	.013	.444
SUBJINT	-.219	.472	-.392	.309	.064	-.045	.176
Cost	-.059	-.164	.089	-.080	-.202	-.135	.096
Tenure	-.054	.560	-.381	.067	.194	.081	.060
Size	-.225	.209	-.188	.252	-.013	.214	.256
Maintnce	-.095	.212	-.253	.193	.067	.069	.130
Safety	.019	.075	-.126	.162	.283	.159	.191
CONTEFF	-.110	.217	-.275	.249	.278	.269	.331
Fairness	-.119	.327	-.147	.176	.165	.057	.029
BELONG	-.179	.234	-.249	.305	.307	.104	.332
Satisfactn	-.156	.258	-.297	.362	.250	.377	.252
Positive	-.113	.063	-.197	.414	.480	.251	.153
Negative	.186	-.259	.297	-.283	-.124	.076	-.070

Table C5: Correlation Coefficients of Variables for Age-Integrated Sample

	PARTIC	SUBJNT	Cost	Tenure	Size	Maint	Safe
PARTICIPN	1.000						
SUBJINT	.154	1.000					
Cost	.052	-.016	1.000				
Tenure	.298	.400	-.545	1.000			
Size	-.045	.334	.026	.117	1.000		
Maintnce	-.072	.262	-.165	.300	.247	1.000	
Safety	.361	.256	-.223	.261	-.133	.383	1.000
CONTEFF	.246	.410	-.169	.460	.323	.458	.356
Fairness	.153	.404	-.177	.388	-.019	.275	.314
BELONG	.421	.606	-.063	.423	.255	.266	.330
Satisfactn	.312	.574	-.148	.405	.346	.465	.533
Positive	.101	.451	-.157	.160	.193	.274	.328
Negative	-.218	-.637	.029	-.310	-.158	-.126	-.228
	CONTEFF	Fair	BELONG		Satsfn	Pos	Neg
CONTEFF	1.000						
Fairness	.256	1.000					
BELONG	.508	.421	1.000				
Satsfn	.558	.458	.603		1.000		
Positive	.312	.321	.485		.473	1.000	
Negative	-.322	-.364	-.495		-.344	-.467	1.000

Note: For this sample (n = 75) the values of the correlation coefficient are significant as follows (2-tailed test):

$$r = .226: p < .05$$

$$r = .294: p < .01$$

Table C6: Correlation Coefficients of Variables for Age-Segregated Sample

		Income	Mstat	Health	Family	Ofrnd	NGBRS
Gender	1.000						
Income	-.208	1.000					
Mstat	.349	-.234	1.000				
Health	.058	.145	-.030	1.000			
Family	.103	.188	-.168	.010	1.000		
Outfriend	.046	-.103	.039	.220	-.065	1.000	
NEIGHBORS	.230	-.015	-.078	.222	-.053	.209	1.000
PARTICIPN	.061	.001	-.250	.155	.041	.370	.387
SUBJINT	-.158	.265	-.248	.429	.037	.478	.328
Cost	-.028	.290	-.287	-.031	.121	-.237	-.007
Tenure	.179	.314	.042	.242	-.016	.122	.230
Size	-.030	.138	.079	.129	-.129	.060	.251
Maintnce	.042	-.026	-.051	.204	-.005	.193	.111
Safety	.064	-.020	-.046	.094	-.108	.181	.035
CONTEFF	-.224	.203	-.179	.294	.076	.120	.183
Fairness	.012	.021	-.142	.267	-.154	-.036	.170
BELONG	.191	-.005	-.262	.328	-.050	.245	.511
Satisfactn	.054	.123	-.044	.270	.058	.123	.238
Positive	.190	.049	-.151	.378	-.120	.148	.369
Negative	.143	-.054	.102	-.248	.092	-.229	-.043

Table C6: Correlation Coefficients of Variables for Age-Segregated Sample							
	PARTIC	SUBJNT	Cost	Tenure	Size	Maint	Safe
PARTICIPN	1.000						
SUBJINT	.229	1.000					
Cost	-.155	.091	1.000				
Tenure	.306	.364	-.234	1.000			
Size	-.136	.255	-.069	.328	1.000		
Maintnce	.006	.278	-.135	.045	.297	1.000	
Safety	-.027	.362	-.171	.103	.142	.479	1.000
CONTEFF	.223	.395	-.028	.380	.188	.227	.330
Fairness	.003	.068	-.080	.187	.176	.340	.348
BELONG	.347	.395	-.014	.256	.143	.182	.211
Satisfactn	-.025	.161	-.091	.095	.439	.378	.371
Positive	.340	.425	-.031	.269	.198	.145	.227
Negative	-.302	-.528	.145	-.116	-.033	-.170	-.032
	CONTEFF	Fair	BELONG		Satsfn	Pos	Neg
CONTEFF	1.000						
Fairness	.370	1.000					
BELONG	.475	.256	1.000				
Satsfn	.297	.331	.311		1.000		
Positive	.357	.305	.579		.195	1.000	
Negative	-.120	.115	-.230		-.047	-.343	1.000

Note: For this sample (n = 90) the values of the correlation coefficient are significant as follows (2-tailed test):

$$r = .205: p < .05$$

$$r = .267: p < .01$$

APPENDIX THREE:
COMPLETE REGRESSION DATA

APPENDIX 3: FULL REGRESSION DATA

Table R1: R² Values for Housing Satisfaction in Total Sample

Variable	Sets		sr	Categories cumulative		Total cumulative	
	R ²	p(F) <		R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			-.0251				
income			.0925				
mstat			-.0430				
health			.2862				
<u>set</u>	.1164	.001		.1164	.003	.1164	.003
objective integration							
family			.1136				
outfriend			.1673				
NEIGHBORS			.1688				
PARTICIPATE			.0996				
<u>set</u>	.1324	.000		.2170	.004	.2170	.004
subjective integration							
<u>SUBJINT</u>	.1477	.000	.3843	.2464	.029	.2464	.029
p(F) <					.000		
<u>Housing</u>							
objective							
age mix							
tenure							
<u>set</u>	.0880	.003		.0880	.003	.2708	.257
perceived							
size			.3237				
maint			.1890				
safety			.3375				
<u>set</u>	.4017	.000		.4120	.000	.4766	.000
subjective							
CONTEFF			.1887				
fair			.2300				
BELONG			.2285				
<u>set</u>	.3300	.000		.5011	.000	.5351	.003
p(F) <					.000		.000

Table R2: R² Values for Positive Affect in Total Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.0556				
income			-.0618				
mstat			-.1355				
health			.3795				
<u>set</u>	.1744	.000		.1744	.000	.1744	.000
objective integration							
family			.1537				
outfriend			.1257				
NEIGHBORS			.1863				
PARTICIPATE			.1227				
<u>set</u>	.1513	.000		.2684	.005	.2684	.005
subjective integration							
<u>SUBJINT</u>	.2029	.000	.4505	.3454	.000	.3454	.000
p(F) <					.000		
<u>Housing</u>							
objective							
cost			-.0044				
age mix			.1578				
tenure			.1987				
<u>set</u>	.0764	.012		.0764	.012	.3601	.440
perceived							
size			.1497				
maint			.1051				
safety			.2170				
<u>set</u>	.1302	.000		.1602	.005	.3723	.530
subjective							
CONTEFF			.0552				
fair			.1357				
BELONG			.3867				
<u>set</u>	.3231	.000		.3453	.000	.4327	.010
p(F) <					.000		.000

Table R3: R² Values for Negative Affect in Total Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.1237				
income			-.0531				
mstat			.0829				
health			-.2505				
<u>set</u>	.1177	.001		.1177	.003	.1177	.003
objective integration							
family			.0045				
outfriend			-.0555				
NEIGHBORS			.0574				
PARTICIPATE			-.2326				
<u>set</u>	.0639	.048		.1619	.164	.1619	.164
subjective integration							
<u>SUBJINT</u>	.3567	.000	-.5973	.4074	.000	.4074	.000
p(F) <					.000		
<u>Housing</u>							
objective							
cost			.0024				
age mix			-.0219				
tenure			-.1952				
<u>set</u>	.0457	.0782		.0457	.078	.4299	.191
perceived							
size			-.0628				
maint			-.0741				
safety			-.0964				
<u>set</u>	.0333	.1629		.0625	.472	.4384	.616
subjective							
CONTEFF			-.0511				
fair			-.0140				
BELONG			-.2764				
<u>set</u>	.1359	.000		.1466	.004	.4447	.727
p(F) <					.007		.000

Table R4: R² Values for Housing Satisfaction, Positive Affect and Negative Affect in Total Sample

Variable	Housing Satisfaction		Positive Affect		Negative Affect	
	R ² (sr)	p(F) < chnge	R ² (sr)	p(F) < chnge	R ² (sr)	p(F) < chnge
<u>Personal</u>						
sociodemographic						
gender	-.0251		.0556		.1237	
income	.0925		-.0618		-.0531	
mstat	-.0430		-.1355		.0829	
health	.2862		.3795		-.2505	
<u>set</u>	.1164	.003	.1744	.000	.1177	.003
objective integration						
family	.1136		.1537		.0045	
outfriend	.1673		.1257		-.0555	
NEIGHBORS	.1688		.1863		.0574	
PARTICIPATE	.0996		.1227		-.2326	
<u>set</u>	.2170	.004	.2684	.005	.1619	.164
subjective integration						
<u>SUBJINT</u>	.2464	.029	.3454	.000	.4074	.000
<u>Housing</u>						
objective						
cost	-.0381		-.0044		.0024	
age mix	.1558		.1578		-.0219	
tenure	.2043		.1987		-.1952	
<u>set</u>	.2708	.257	.3601	.440	.4299	.191
perceived						
size	.3237		.1497		-.0628	
maint	.1890		.1051		-.0741	
safety	.3375		.2170		-.0964	
<u>set</u>	.4766	.000	.3723	.530	.4384	.616
subjective						
conteff	.1887		.0552		-.0511	
fair	.2300		.1357		-.0140	
belong	.2285		.3867		-.2764	
<u>set</u>	.5351	.003	.4327	.010	.4447	.727
p(F) <		.000		.000		.000

Table R5: R² Values for Housing Satisfaction in Co-op Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.0000				
income			.0557				
mstat			-.0268				
health			.1104				
<u>set</u>	.0287	.766		.0287	.808	.0287	.808
objective integration							
family			-.1926				
outfriend			-.0045				
NEIGHBORS			.1476				
PARTICIPATE			.0620				
<u>set</u>	.0727	.305		.1082	.360	.1082	.360
subjective integration							
<u>SUBJINT</u>	.0904	.017	.3006	.1590	.092	.1590	.092
p(F) <					.431		
<u>Housing</u>							
objective							
cost			-.0443				
age mix	.1593	.001	.3616				
<u>set</u>	.1613	.004		.1613	.004	.2953	.016
perceived							
size	+.0621	.012	.2804				
maint	.3148	.000	.4108				
safety	+.0471	.023	.2169				
<u>set</u>	.4240	.000		.4495	.000	.4801	.004
subjective							
CONTEFF			.1118				
fair	+.1031	.002	.3475				
BELONG	.2634	.000	.3154				
<u>set</u>	.3790	.000		.5514	.008	.5639	.063
p(F) <					.000		.000

Table R6: R² Values for Housing Satisfaction in Rental Sampl

N = 49		Sets		Categories		Total	
Variable	R ²	p(F) <	sr	cumulative R ²	p(F) < change	cumulative R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			-.2484				
income			-.1078				
mstat			-.0100				
health	.1354	.012	.3684				
<u>set</u>	.2048	.047		.2048	.109	.2048	.109
objective integration							
family			.0945				
outfriend	.2466	.001	.4576				
NEIGHBORS			.2174				
PARTICIPATE			.0310				
<u>set</u>	.3085	.005		.4151	.064	.4151	.064
subjective integration							
<u>SUBJINT</u>	.2664	.000	.5161	.4407	.276	.4407	.276
p(F) <					.041		
<u>Housing</u>							
objective							
cost			.1986				
age mix			-.0771				
<u>set</u>	.0734	.173		.0734	.202	.5314	.109
perceived							
size	+.2377	.000	.4516				
maint			.1701				
safety	.3611	.000	.3217				
<u>set</u>	.6277	.000		.6798	.000	.7853	.001
subjective							
CONTEFF	+.1179	.004	.2757				
fair	+.0519	.043	.2279				
BELONG	.3177	.000	.3362				
<u>set</u>	.4875	.000		.7945	.001	.8830	.008
p(F) <					.000		.000

Table R7: R² Values for Housing Satisfaction in Strata Sampl

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.1527				
income	.1165	.029	.3810				
mstat			.0165				
health			.1779				
<u>set</u>	.2148	.063		.2148	.112	.2148	.112
objective integration							
family	.1670	.009	.3954				
outfriend			-.1545				
NEIGHBORS			.1476				
PARTICIPATE			-.0661				
<u>set</u>	.2107	.075		.4707	.031	.4707	.031
subjective integration							
<u>SUBJINT</u>	.0014	.818	.0375	.4799	.513	.4799	.513
p(F) <					.030		
<u>Housing</u>							
objective							
cost			.0701				
age mix			.0844				
<u>set</u>	.0120	.809		.0120	.809	.5035	.586
perceived							
size			---				
maint			.1122				
safety			.1224				
<u>set</u>	.0415	.419		.0613	.430	.5289	.576
subjective							
CONTEFF			.0910				
fair			.1688				
BELONG			-.1317				
<u>set</u>	.0428	.621		.0811	.885	.5735	.607
p(F) <					.910		.198

Table R8: R² Values for Positive Affect in Co-op Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			-.0814				
income			-.0278				
mstat	.2116	.000	-.2975				
health			.1760				
<u>set</u>	.2511	.002		.2511	.003	.2511	.003
objective integration							
family			.0672				
outfriend			.0068				
NEIGHBORS			.1615				
PARTICIPATE	.1132	.006	.2298				
<u>set</u>	.1485	.044		.3463	.140	.3463	.140
subjective integration							
<u>SUBJINT</u>	.1711	.001	.4136	.3697	.183	.3697	.183
p(F) <					.004		
<u>Housing</u>							
objective							
cost			-.0490				
age mix	.1430	.002	.3403				
<u>set</u>	.1453	.009		.1454	.009	.5559	.000
perceived							
size			.1457				
maint	.1180	.005	.2896				
safety			-.0346				
<u>set</u>	.1426	.022		.2058	.239	.5726	.637
subjective							
CONTEFF			-.0286				
fair			.1752				
BELONG	.3641	.000	.5115				
<u>set</u>	.3952	.000		.4563	.000	.7087	.001
p(F) <					.000		.000

Table R9: R² Values for Positive Affect in Rental Sample

N = 49		Sets		Categories cumulative		Total cumulative	
Variable	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.0681				
income	+.0838	.036	-.2761				
mstat			.0267				
health	.2602	.001	.5282				
<u>set</u>	.3500	.004		.3500	.010	.3500	.010
objective integration							
family			.2715				
outfriend			.2789				
NEIGHBORS			.1230				
PARTICIPATE			-.0983				
<u>set</u>	.1798	.139		.4021	.690	.4021	.690
subjective integration							
<u>SUBJINT</u>	.2569	.002	.5068	.5577	.007	.5577	.007
p(F) <					.006		
<u>Housing</u>							
objective							
cost			-.0413				
age mix			-.0665				
<u>set</u>	.0047	.912		.0047	.919	.5589	.970
perceived							
size			.1163				
maint			-.0853				
safety	.1884	.006	.3748				
<u>set</u>	.2063	.042		.2148	.047	.5994	.578
subjective							
CONTEFF			.0286				
fair			.2117				
BELONG	.3210	.000	.4347				
<u>set</u>	.3728	.000		.4905	.004	.6931	.199
p(F) <					.005		.051

Table R10: R² Values for Positive Affect in Strata Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F)<	sr	R ²	p(F)< change	R ²	p(F)< change
<u>Personal</u>							
sociodemographic							
gender	.1400	.019	.1966				
income			-.2120				
mstat			.0596				
health			.1320				
<u>set</u>	.2105	.082		.2105	.120	.2105	.120
objective integration							
family			-.0183				
outfriend			.0233				
NEIGHBORS	.2509	.001	.3389				
PARTICIPATE			.1894				
<u>set</u>	.2885	.021		.3531	.251	.3531	.251
subjective integration							
<u>SUBJINT</u>	.0275	.326	.1659	.3885	.240	.3885	.240
p(F)<					.126		
<u>Housing</u>							
objective							
cost			.0187				
age mix			.1540				
<u>set</u>	.0241	.661		.0241	.661	.5118	.075
perceived							
size			---				
maint			-.0097				
safety			.1937				
<u>set</u>	.0409	.452		.0641	.511	.5549	.379
subjective							
CONTEFF			.1139				
fair			-.0574				
BELONG	.1911	.004	.3965				
<u>set</u>	.2064	.034		.2633	.0701	.6436	.250
p(F)<					.213		.075

Table R11: R² Values for Negative Affect in Co-op Sample

Variable	Sets		sr	Categories cumulative		Total cumulative	
	R ²	p(F) <		R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.1476				
income			-.0323				
mstat			.0377				
health	.0802	.022	.2273				
<u>set</u>	.1247	.087		.1246	.120	.1246	.120
objective integration							
family			.0176				
outfriend			.0499				
NEIGHBORS			.2017				
PARTICIPATE	.0889	.014	-.3630				
<u>set</u>	.1457	.042		.2636	.066	.2636	.066
subjective integration							
<u>SUBJINT</u>	.3594	.000	.5995	.4978	.000	.4978	.000
p(F) <					.000		
<u>Housing</u>							
objective							
cost			-.0197				
age mix			-.0655				
<u>set</u>	.0043	.875		.0043	.875	.5155	.431
perceived							
size			.0679				
maint			-.0566				
safety			-.1965				
<u>set</u>	.0499	.347		.0745	.226	.5424	.467
subjective							
CONTEFF			-.0117				
fair			-.0038				
BELONG	.2607	.000	-.4416				
<u>set</u>	.2609	.000		.3236	.000	.5649	.554
p(F) <					.003		.001

Table R12: R²Values for Negative Affect in Rental Sample

Variable	Sets		sr	Categories cumulative		Total cumulative	
	R ²	p(F) <		R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.1547				
income			.0685				
mstat			.0257				
health	.1136	.027	-.3346				
<u>set</u>	.1421	.201		.1422	.282	.1422	.282
objective integration							
family			-.0813				
outfriend			-.1063				
NEIGHBORS			.1292				
PARTICIPATE			-.0982				
<u>set</u>	.0635	.634		.1722	.905	.1722	.905
subjective integration							
<u>SUBJINT</u>	.3414	.000	.5894	.4372	.001	.4372	.001
p(F) <					.043		
<u>Housing</u>							
objective							
cost			.0009				
age mix			-.1391				
<u>set</u>	.0242	.590		.0242	.613	.4466	.810
perceived							
size			-.1289				
maint			.0756				
safety			-.2015				
<u>set</u>	.0618	.472		.0942	.425	.4829	.667
subjective							
CONTEFF			-.1066				
fair			-.1352				
BELONG			-.1729				
<u>set</u>	.1188	.163		.1715	.380	.5493	.444
p(F) <					.543		.256

Table R13: R² Values for Negative Affect in Strata Sample

Variable	Sets		sr	Categories cumulative		Total cumulative	
	R ²	p(F) <		R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.0148				
income			-.0177				
mstat			.2120				
health			.0261				
<u>set</u>	.0692	.630		.0692	.695	.0692	.695
objective integration							
family			.1991				
outfriend			-.1662				
NEIGHBORS			.1643				
PARTICIPATE			-.1333				
<u>set</u>	.1074	.410		.2945	.410	.2945	.410
subjective integration							
<u>SUBJINT</u>	.0320	.275	-.1790	.3135	.413	.3135	.413
p(F) <					.301		
<u>Housing</u>							
objective							
cost			.0764				
age mix			.1815				
<u>set</u>	.0388	.500		.0388	.501	.3455	.578
perceived							
size			---				
maint			.0560				
safety			.1363				
<u>set</u>	.0303	.541		.0752	.528	.4320	.226
subjective							
CONTEFF			.3136				
fair			.2704				
BELONG			-.2900				
<u>set</u>	.2056	.028		.2533	.089	.5071	.453
p(F) <					.221		.379

Table R14: R² Values for Housing Satisfaction in Age-Integrated Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			-.0871				
income			.0819				
mstat	+.0551	.001	-.1186				
health	.1310	.002	.3118				
<u>set</u>	.2008	.004		.2008	.008	.2008	.008
objective integration							
family			.0958				
outfriend	.1425	.001	.3240				
NEIGHBORS			.0854				
PARTICIPATE	+.1003	.004	.2295				
<u>set</u>	.2594	.000		.3996	.003	.3996	.003
subjective integration							
<u>SUBJINT</u>	.3300	.000	.5745	.5705	.000	.5705	.000
p(F) <					.000		
<u>Housing</u>							
objective							
cost			.0864				
tenure	.1638	.000	.3865				
<u>set</u>	.1713	.001		.1713	.002	.5846	.413
perceived							
size	+.1768	.000	.3475				
maint			.1538				
safety	.2844	.000	.4604				
<u>set</u>	.4849	.000		.5285	.000	.6973	.001
subjective							
CONTEFF	+.0854	.001	.2805				
fair	+.0440	.015	.2097				
BELONG	.3638	.000	.2745				
<u>set</u>	.4932	.000		.6307	.001	.7243	.218
p(F) <					.000		.000

Table R15: R² Values for Housing Satisfaction in
Age-Segregated Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.0672				
income			.0878				
mstat			-.0366				
health	.0728	.015	.2473				
<u>set</u>	.0847	.146		.0847	.233	.0847	.233
objective integration							
family			.0894				
outfriend			.1294				
NEIGHBORS	.0567	.031	.2642				
PARTICIPATE			-.1674				
<u>set</u>	.0959	.097		.1521	.342	.1521	.342
subjective integration							
<u>SUBJINT</u>	.0260	.170	.1613	.1573	.553	.1573	.553
p(F) <					.324		
<u>Housing</u>							
objective							
cost			-.0704				
tenure			.0760				
<u>set</u>	.0140	.577		.0140	.585	.1791	.486
perceived							
size	.1925	.000	.3421				
maint			.1299				
safety	+.0975	.001	.2168				
<u>set</u>	.3069	.000		.3105	.000	.4363	.000
subjective							
CONTEFF			.0982				
fair	.1099	.022	.2204				
BELONG	+.0549	.022	.1706				
<u>set</u>	.1744	.001		.3723	.085	.4653	.477
p(F) <					.000		.006

Table R16: R² Values for Positive Affect in Age-Integrated Sample

Variable	Sets		sr	Categories cumulative		Total cumulative	
	p(F)<			R ²	p(F)< change	R ²	p(F)< change
<u>Personal</u>							
sociodemographic							
gender			-.0921				
income			-.0921				
mstat			-.1172				
health	.1710	.000	.3982				
<u>set</u>	.2027	.006		.2027	.009	.2027	.009
objective integration							
family	.2308	.000	.4130				
outfriend			.1060				
NEIGHBORS			.0904				
PARTICIPATE			-.0047				
<u>set</u>	.2534	.001		.3745	.009	.3745	.009
subjective integration							
SUBJINT	.2033	.000	.4509	.4947	.001	.4947	.001
p(F)<					.000		
<u>Housing</u>							
objective							
cost			.0830				
tenure			.0866				
<u>set</u>	.0324	.343		.0324	.343	.5052	.580
perceived							
size	+.0568	.038	.1967				
maint			.0881				
safety	.0942	.006	.2832				
<u>set</u>	.1721	.006		.1784	.017	.5233	.604
subjective							
CONTEFF			.0693				
fair			.1246				
BELONG	.2352	.000	.3116				
<u>set</u>	.2565	.000		.3360	.005	.5427	.587
p(F)<					.001		.001

Table R17: R² Values for Positive Affect in
Age-Segregated Sample

Variable	Sets		sr	Categories cumulative		Total cumulative	
	p(F) <			R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.2292				
income			-.0039				
mstat			-.2095				
health	.1432	.001	.3524				
<u>set</u>	.2166	.002		.2166	.004	.2166	.004
objective integration							
family			-.1198				
outfriend			.1476				
NEIGHBORS	.1363	.001	.3692				
PARTICIPATE	+.0456	.049	.3397				
<u>set</u>	.1951	.004		.3249	.067	.3249	.067
subjective integration							
<u>SUBJINT</u>	.1809	.000	.4254	.4065	.000	.4065	.000
p(F) <					.000		
<u>Housing</u>							
objective							
cost			.0326				
tenure	.0726	.020	.2696				
<u>set</u>	.0737	.066		.0737	.066	.4153	.662
perceived							
size			.1624				
maint			-.0033				
safety	.0516	.046	.1798				
<u>set</u>	.0796	.103		.1258	.265	.4352	.612
subjective							
CONTEFF			.0482				
fair			.1414				
BELONG	.3350	.000	.4489				
<u>set</u>	.3629	.000		.3826	.000	.5365	.021
p(F) <					.000		.000

Table R18: R² Values for Negative Affect in
Age-Integrated Developments

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.1108				
income			-.0900				
mstat	.0883	.012	.1185				
health	+.0542	.042	.2347				
<u>set</u>	.1634	.018		.1634	.028	.1634	.028
objective integration							
family			-.1218				
outfriend			.1035				
NEIGHBORS			.0224				
PARTICIPATE			-.1853				
<u>set</u>	.0681	.332		.2091	.525	.2091	.525
subjective integration							
<u>SUBJINT</u>	.4053	.000	-.6366	.4513	.000	.4513	.000
p(F) <					.000		
<u>Housing</u>							
objective							
cost			-.1671				
tenure	.0961	.009	-.3510				
<u>set</u>	.1240	.011		.1240	.011	.4559	.799
perceived							
size			-.1862				
maint			.0208				
safety			-.2357				
<u>set</u>	.0886	.096		.1753	.267	.4621	.902
subjective							
CONTEFF			-.0721				
fair			-.1668				
BELONG	.2453	.000	-.3028				
<u>set</u>	.2797	.000		.3015	.016	.4836	.586
p(F) <					.003		.005

Table R19: R² Values for Negative Affect in
Age-Segregated Sample

Variable	Sets			Categories cumulative		Total cumulative	
	R ²	p(F) <	sr	R ²	p(F) < change	R ²	p(F) < change
<u>Personal</u>							
sociodemographic							
gender			.1348				
income			.0244				
mstat			.0456				
health	.0616	.030	-.2550				
<u>set</u>	<u>.0888</u>	<u>.148</u>		<u>.0888</u>	<u>.210</u>	<u>.0888</u>	<u>.210</u>
objective integration							
family			.1005				
outfriend			-.1242				
NEIGHBORS			.0971				
PARTICIPATE	.0914	.006	-.2590				
<u>set</u>	<u>.1256</u>	<u>.037</u>		<u>.1873</u>	<u>.150</u>	<u>.1873</u>	<u>.150</u>
subjective integration							
<u>SUBJINT</u>	<u>.2788</u>	<u>.000</u>	<u>-.5280</u>	<u>.4121</u>	<u>.000</u>	<u>.4121</u>	<u>.000</u>
p(F) <					.000		
<u>Housing</u>							
objective							
cost			.1210				
tenure			-.0850				
<u>set</u>	<u>.0282</u>	<u>.342</u>		<u>.0282</u>	<u>.342</u>	<u>.4811</u>	<u>.032</u>
perceived							
size			.0179				
maint			-.1744				
safety			.0565				
<u>set</u>	<u>.0323</u>	<u>.456</u>		<u>.0598</u>	<u>.494</u>	<u>.5639</u>	<u>.028</u>
subjective							
CONTEFF			-.0681				
fair			.1970				
BELONG	.0530	.037	-.2144				
<u>set</u>	<u>.0899</u>	<u>.060</u>		<u>.1534</u>	<u>.063</u>	<u>.5763</u>	<u>.699</u>
p(F) <					.152		.000

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