

The Urban Environment and
Life Satisfaction Among the Elderly in Winnipeg

Paula S. Lewis

A thesis presented to the University of Manitoba
in partial fulfillment of the requirements
for a degree of

Master of Science
in
Department of Family Studies

Winnipeg, Manitoba.

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ISBN 0-315-48128-5

THE URBAN ENVIRONMENT AND LIFE SATISFACTION
AMONG THE ELDERLY IN WINNIPEG

BY

PAULA S. LEWIS

A thesis submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
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MASTER OF SCIENCE

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Acknowledgements

I would like to take this opportunity to express my appreciation to all those people who made the completion of this research project a reality.

I owe much appreciation to my thesis advisor, Dr. John Bond, who spent many hours collaborating with me over statistical analysis and the text of this document. I also thank my thesis committee, Professor Dana Mallin and Dr. Geoff Barge for their hard work on this project.

I extend a special thank you to The Centre on Aging, especially, Dr. Neena L. Chappell and Dr. John Horne, for making the data used in this project available. Also, I extend a thank you for The Centre's help in understanding the code book!

Barbara Westcott deserves a pat on the back and a thank you for her special effort and patience in the formatting and printing of this document.

Finally, I must thank my family. My husband, Elliott Goszer, for all the patience, encouragement and support which helped me in completing this project. My parents, Sid and Joyce Lewis, for inspiring my interest in academic work and social gerontology.

Thank you.

Abstract

The Urban Environment and Life Satisfaction Among the Elderly of Winnipeg.

Theories of the environment and the elderly are explored resulting in the development of the Interactive Ecological Theory of the Environment and the Elderly. The basic premise of this theory is that the elderly person is a focal system trying to maintain him/herself in a stratified environment. As the focal system becomes increasingly old, personal resources dwindle and it is forced to rely more heavily on the environment for fulfillment of its needs.

Secondary analysis of data is used to test this theory and model. Life satisfaction is the dependent variable. Personal resources and characteristics of the focal system, and environmental services are the independent variables.

The results indicate that health and income are the most important personal resources to the elderly. The most important environmental features are those which aid in fulfilling needs associated with health and income such as community health clinics, dentists and lawyers.

Further tests on the importance of the environment to the focal system showed that when individuals moved residential location in hopes of finding an improved neighbourhood, those who found it had higher life satisfaction than those who found no change or worse.

The findings of this research support the Interactive Ecological Theory of the Environment and the Elderly. Further, the findings indicate the importance of health and income in old age, as well as the importance of a supportive neighbourhood/community environment for the elderly.

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Chapter 1

INTRODUCTION

In 1984, the estimated number of Canadians 65 years and older was 2.6 million, approximately 10.2% of the population. It has been projected that in the year 2006 the number of Canadians 65 years and older will have reached 4.1 million, approximately 14.7% of the population (Priest, 1985). It is therefore conceivable that Canada will need 50% more housing for senior citizens in the year 2006 than at present. While it is unlikely that all seniors will want to live in special housing facilities for seniors, a large number will, projecting from the desires of the present elderly cohort. This being the case, the next twenty years will see an increase in the construction of housing developments and in other home support programs for seniors. Before governments or private developers invest large amounts of money, it makes economic and social sense to determine the implications of housing development for seniors. This investigation explores the person-environment relationship, with particular focus on elderly persons and their location within an urban environment. Understanding how the urban environment can help or hinder the elderly person will be of benefit in both the future construction of housing and the development of programs and services for elderly in the community.

This study has four objectives in relation to the elderly and their environments.

- 1) To review the relevant literature to:
 - a) support the theory to be developed
 - b) help establish what hypotheses are to be tested
 - c) compare results of this study with trends found in existing literature.
- 2) To develop a theoretical basis for this study and research in the area through extensive review of past theories.
- 3) To test the reliability or predictive power of the theory to be developed.
- 4) To develop and test hypotheses which will address the following:
 - a) life satisfaction in relation to personal characteristics and resources;
 - b) life satisfaction in relation to the usage of environmental features and services;
 - c) life satisfaction in relation to the proximity of environmental features and services;
 - d) life satisfaction in relation to the proximity of relatives and friend.

Chapter 2

THEORETICAL FRAMEWORK

To understand humans in their environment it is necessary to understand the contributions made to this relationship by both the natural and built environment, the linkages between them and the linkages with humans and their requirements for life (Nattress & Morrison, 1975). In recent years many theories and models have been developed which attempt to define the relationship between the individual and the environment. Theories such as the Ecological Approach (Nattress & Morrison, 1975) are broad theories encompassing all humans regardless of age, race, sex, and all environments. Other theories are more specific: defining only one small segment of an environment and certain types of individuals. The importance of these theories, regardless of their scope, is their utility in organizing the area of study, acting as models for research, and as a means of explaining relationships and the mechanisms underlying the relationships.

Past research in the area of housing for the elderly has not had adequate theoretical foundation, making it difficult to interpret research findings. Several theories have been proposed regarding the elderly and their environments. Among these theories are Kahana's Congruence Theory, Lawton's Adaption Theory and Eckert's and Ittman-Murray's Ecological Housing Model.

Review of Theories

Kahana's Congruence Theory states that the optimal environment is one which offers a maximal congruence between an individual's needs and the environmental press. Lack of congruence between the individual and his/her environment can be due to a change in either the individual's needs or the environment (Kahana, 1975). Negative incongruence occurs when the environment does not fulfill the individual's needs. Positive incongruence exists when an environment offers more than necessary to fulfill the individual's needs. Optimal congruence occurs when the individual's needs are met exactly by the environment, with neither an oversupply or undersupply of environmental features. Kahana (1980) postulated three alternative models of congruence: non-directional, one-direction and two-directional. The non-directional model hypothesizes that positive and negative incongruence have the same effect. The one-directional model hypothesizes that positive incongruence has the same effect as no incongruence, or as optimal congruence. Finally, the two-directional model hypothesizes positive incongruence to have a different effect on the individual than negative incongruence; furthermore, both positive and negative incongruence affect the individual differently than optimal congruence.

Kahana found little support for the Congruence Theory in a study of the relationship between person-environment fit (congruence) and morale. Depending on the environmental dimensions involved, either oversupply or undersupply may have a positive effect on morale. Thus, conclusions concerning the effect of one dimension may not be generalized to other

dimensions and none of Kahana's models are adequate to be used in all situations (Kahana, 1980).

There are limitations to Kahana's Congruence Theory. The theory is one dimensional, as it lacks the ability to account for the individual's input into the environment and the individual-environment relationship. The theory does little more than describe the relationship between the environment and the individual. The theory is also limited, as it excludes all but the immediate environment; therefore it cannot account for the impact of the social, cultural and political environments on the individual. Thus, this theory is inadequate as a theoretical base for the field of housing for the elderly.

Lawton's Adaption Theory (1975, 1977) is described by the following formula:

$B = (f) P \times E$ where: (P) represents the person element
 (E) represents the environmental press
 (B) represents the behavioral outcomes
 of interest.

The person element is described as the person's competency which is a profile of the person's capacities including health, sensation-perception, motor-behavior and cognition. Environmental press is defined as challenges or demands that activate behavior in people. The theory states that those who have a higher level of competency can adapt to a wider range of environmental press and have a greater likelihood of experiencing favorable adaptive outcomes. Those of lower levels of

competency will experience a greater range of environmental press in negative terms, exhibiting a narrower range of adaptive behavior.

The limitations of Lawton's theory are in its narrowly defined elements. Person competencies exclude resources such as income and personal transportation. The definition of environmental press excludes the social, political and cultural environments as well as any environmental feature which does not challenge or demand a behavior of an individual. Although this theory accounts for some input from the individual to the environment and the relationships between the two, the theory does not acknowledge needs of the individual and how those needs relate to the environment. The confines of this theory render it inadequate as a theoretical base for the present research.

In the Ecological Housing Model postulated by Eckert and Ittman-Murray (1984), the individual and three levels of the environment interact simultaneously. The individual components include the individual's past history and behaviors, and the competencies as described by Lawton. The environments with which the individual is simultaneously interacting are defined as:

(1) The Microsystem (which has four levels):

- (a) personal environment - significant persons to the individual;
- (b) group environment - the pressures attributed to the individual's peers;

- (c) supra personal - aggregated characteristics of the individuals in physical proximity to the individual; and
- (d) physical environment - the immediate natural and man-made environment.

(2) The Ecosystem: The community or neighbourhood, including all social aspects and institutions in the community.

(3) The Macrosystem: The political processes, economic forces and all social process which operate within a society and which influence everyday life.

The limitation of this model is not in its definitions, but in the interacting relationship between the environment and the individual. The model gives no explanation or understanding of the underlying mechanisms in the simultaneous interaction. Thus no hypothesis can be drawn from this model because there are virtually no propositions or assumptions upon which a hypothesis can be based.

General Systems Theory

The following discussion is a synthesis of work by Crandall, Gross, and Knoll (1980) and Broderick and Smith (1979) on General systems theory. General systems theory, a macro level theory, is used in many areas of study. The theory divides what is being studied into environments, systems and subsystems.

An environment may be defined as the region surrounding a system. Environments are stratified so that one environment is enclosed by yet a larger environment. (Each environment should contain fewer systems than the environment below it.) The higher level environments enclose fewer

systems, but these systems are more complex in structure and perform different functions than the systems in lower level environments.

Systems all exist within environments. A system may be defined as a set of objects with their attributes, and the relationships between the objects (Broderick & Smith, 1979). Elements belonging to the system, and those belonging to the environment, are delineated by boundaries. Three types of boundaries can be identified: (a) spatial or physical boundaries; (b) functional boundaries, enclosing those elements which perform functions of the system; and, (c) analytical boundaries, determined by the investigator (Gross, Crandall, Knott, 1980).

Interaction within the boundaries of a system are of greater frequency and intensity than interactions across boundaries. If two systems share a boundary then interaction between the systems will occur across the shared boundary. A shared boundary is referred to as an interface. Interactions between systems, or between a system and the environment, are seen as inputs to, and outputs from the system. When using systems theory, the system which is being studied is called the focal system and interaction is defined according to this system. Therefore, the focal system receives input from other systems and the environment, and sends outputs to other systems and the environment. Inputs to the focal system in certain circumstances can be considered feedback from the environment or other systems. Feedback aids the focal system in its functioning. Inputs which are feedback are responses to outputs from the focal system. Inputs to the focal system can also be

unrelated to the outputs of the focal system, and may represent functioning of other systems or aspects of the environment.

Systems theory assumes a hierarchy of systems which stresses a vertical relationship. This means that one system is part of, or is, a subsystem of a larger suprasystem, which in turn, is part of an even larger suprasystem. A subsystem may be defined as a part of a system which functions separately from the rest of the system, but is necessary for the functioning of the system as a whole. The assumption of wholeness also states that the behavior of a system cannot be predicted or explained on the basis of information about its subsystems viewed separately (Gross et al., 1980).

Change is dealt with in the systems theory by the assumption of finality - that a system moves towards an end state, although it may never reach this state (Gross et al., 1980). In an open system, the final state is determined by both the initial conditions of the system and inputs from the environment, rather than a closed system in which the final state is determined solely by initial conditions of the system. Systems try to maintain themselves by adapting to disturbing input or by capitalizing on useful input. If the system always tries to return itself to its original state then the processes it uses are called morphostatic. If the system changes its structure to adapt to the environment, then the processes it uses are defined as morphogenic. Thus, if a system is morphostatic, it is less likely to take risks, adjust to change, or to explore new alternatives. If a system is morphogenic, it would readily change, and it would be creative in

exploring alternatives. A morphogenic system is more likely than a morphostatic system to achieve its goals, even though the goals themselves may have changed due to the morphogenic systems ability to generate new and adaptive ways of functioning.

Interactive Ecological Theory for the Environment and the Elderly

The theory to be developed for the purposes of this study considers the following to be true:

- (a) humans are cognitive;
- (b) human have the ability to act upon and react to their environment;
- (c) the environment can affect humans; and
- (d) humans can affect the environment.

In addition, the theory assumes the following:

- (a) an individual human can be considered a system; and
- (b) in accordance with the system theory's assumption of wholeness, the behavior of an individual cannot be predicted without knowledge of his/her subsystems.

In this theory, the elderly individual and his/her attributes is the focal system to which primary attention will be given (Figure 1, page 15). The elderly individual and accompanying attributes (1a and 1b in Figure 1) take the central inner circle with the environments radiating from the centre. The elderly individual, with his/her attributes as a system, has been divided into two subsystems (1a and 1b in Figure 2). The physiological, social, and psychological needs of the individual act as one subsystem and the personal resources and

characteristics of the individual act as the second subsystem (Table 1, page). The segmented curved line between the subsystems in Figure 1 represents the high intensity of interaction along the interface, and the interdependence of the two subsystems. The focal system is delineated from the environment by two types of boundaries. A spatial boundary encompasses the tangible resources and characteristics of the elderly individual, such as his/her body and belongings. A functional boundary encompasses intangible attributes and resources of the elderly individual, such as a mental capacities. The functional boundary encloses the components of the elderly individual that are necessary for the functioning of the system.

The environment in which the focal system exists is divided into three levels. The boundaries for the division of the environment are based on three criteria: (a) physical closeness; (b) frequency of interaction with each environment; and (c) the degree of control the elderly individual has over the environment (adapted from Eckert & Ittman, 1984; Gross et al., 1980) see Table 2, page 17 and Figure 1, page 15. The nearest environment to the elderly individual is the Personal Living Environment. This environment includes the immediate natural and built physical environment, social network, and the aggregated characteristics of neighbours. The Neighbourhood/Community environment includes safety in the neighbourhood, aesthetic beauty of the neighbourhood, and amenities and services available in the neighbourhood. Also included in this environment are rural, urban or suburban location of neighbourhood or community climate. The farthest

environment is the Socio-Political Environment which includes social processes such as government (taxation, war, pensions, welfare), economic climate, and societal attitudes and pressures.

In Figure 1 the arrows along the boundaries of the focal system, the subsystems and the environments represent the numerous interactions which occur across these boundaries. As the elderly individual is the focal system, arrows pointing away from the centre circle represent outputs from the focal system. Those arrows pointing toward the centre circle represent inputs to the focal system: simultaneously, these arrows represent outputs of the environments. For example, an elderly woman receives her pension cheque (output from Socio-Political Environment, input to focal system, specifically the resources subsystem). This elderly woman then spends half her pension cheque on rent (output from focal system--resources subsystem, input to subsystem of needs because paying rent provides shelter, input to Personal Living Environment). Inputs and outputs occur between environments. For example, the municipal government may decide to renew an older inner city neighbourhood. Often interactions between environments act as inputs to the focal system through repercussions rather than a direct input. Using the example just given, the renewal project could increase property values, which would increase rents in the neighbourhood. The increase in rent may force an elderly individual to move because his or her resources are not sufficient to pay the increased rent. In this example, the input of the Socio-Political Environment to the Neighbourhood/Community Environment has had a very detrimental indirect

input to the focal system. The renewal project could have direct inputs to the focal system, such as increased aesthetic beauty and increased safety, which would be very positive for the focal system.

The basic function of the focal system is to move toward an end state of self maintenance. As the focal system is an open system, both its initial condition and the environment will determine the final state, that is, the level of self-maintenance the focal system will result. The focal system can be either morphostatic or morphogenic or both, depending on the situation and the characteristics of the particular focal system. The two subsystems of the focal system are interdependent in that subsystem 1a, the person's needs and desires, are met by subsystem 1b, the person's characteristics and resources. Subsystem 1a is dependent on subsystem 1b for the fulfillment of the system's needs and desires; subsystem 1b is dependent on subsystem 1a to measure the need of the focal system, and to assure that the focal system will first be supplied with life sustaining elements, followed by other elements.

Environmental attributes act as inputs to the focal system which may help or hinder the functioning of the focal systems. Certain environmental attributes, if accessed and needed for the focal system's functioning, actually become part of subsystem 1b and are considered a personal resource based on the functional boundary of the system. For example, if an elderly individual can easily access a neighbourhood grocery store, and relies on it as the only place to purchase food, then the store has become an integral part of the subsystem 1b and is

necessary to supply subsystem 1a with food, one of subsystem 1a's needs. The functional boundary delineates environmental attributes from resources. If the accessed environmental attribute is needed for the functioning of the system, then it is part of the system. Environmental attributes which are not accessible cannot be part of the system, even if they are necessary. The focal system must be able to access and use the environmental attribute.

The focal system's ability to access an environmental attribute, and the accessibility of the environmental attribute determine the focal system's size and ability to function. A focal system, which because of its characteristics and resources such as income, can access many environmental attributes and a personal living environment and neighbourhood/community environment which offers a large variety of easily accessible attributes, will result in a large and well functioning focal system. A focal system with characteristics and resources which hinder the ability to access environmental attributes, and environments which offer few accessible attributes result in a focal system which has difficulty maintaining itself and may break down.

Figure 1.

Model of Interactive Theory for
The Environment and The Elderly

- 1 Elderly individual.
 - A. Physiological, social
and psychological needs.
 - B. Individual's resources and
characteristics.
- 2 Personal living environment.
- 3 Neighbourhood/Community environment.
- 4 Socio-Political environment.

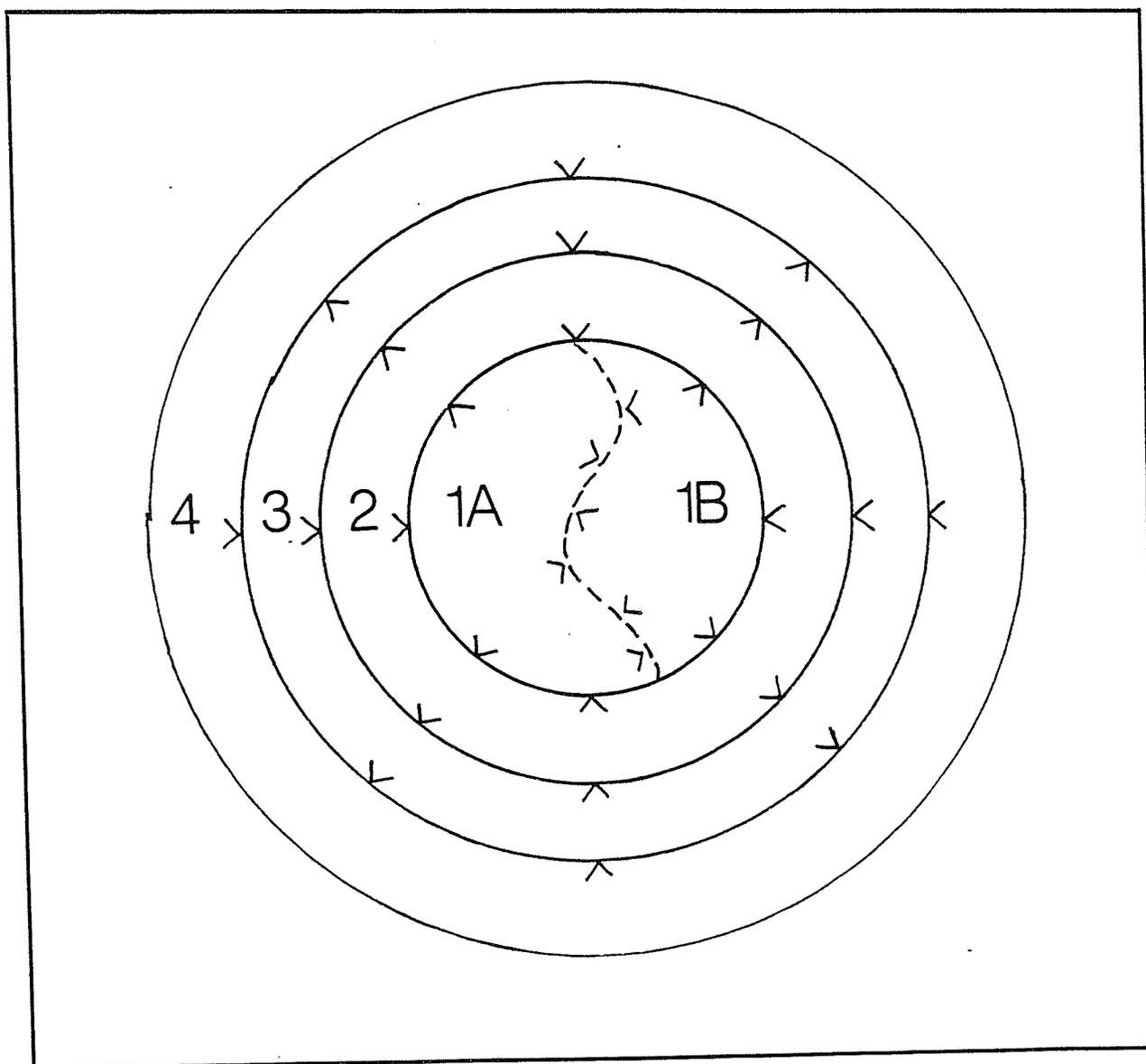


Table 1. The Focal System's Subsystems

Subsystem	Components	Examples (variables)
1a Physiological, social and psychological needs and characteristics	Physiological needs	- food, shelter, clothing
	Social needs	- social involvement, friendship, prestige
	Psychological needs	- love, beauty, security
1b Individual's resources and characteristics	Characteristics	- age, sex
	Social resources	- familial support, living spouse
	Physical resources	- mobility, health
	Economic resources	- income, transportation, homeownership
	Mental resources	- intelligence, education

Table 2. Boundaries for Environments

Environment	Physical Proximity	Frequency of Interaction	Control over Environment
Personal Living Environment	Very close	High frequency of interaction daily, constant interaction	- High degree of control, e.g. choice in where to live, control over what is bought.
Neighbourhood/Community	Close	Moderate frequency of interaction - perhaps weekly, not constant	- Moderate control, e.g., some choice in where to live, choice in services, knowledge of alternatives.
Socio-Political Environment	Concretely difficult to apply but abstractly distant	Low frequency of interaction may affect daily life but actual interaction is low.	- Little control, e.g., voting, lobbying.

Chapter 3

LITERATURE REVIEW

Dependent Variable

Research on the elderly, whether related to the environment or another facet of life, often attempts to define psychological well-being as a measure of success in aging. Psychological well-being may be termed life satisfaction (as in this study) morale, competence or happiness.

There are two opposing approaches to measuring psychological well-being (termed life satisfaction from here on) (Neugarten et al., 1962). The first view assumes that overt behaviour of the individual may be used to measure life satisfaction. This view assumes that the greater social participation and the less variation from patterns of middle age, the greater the elderly's life satisfaction (Neugarten, 1962). Examples of these indices of life satisfaction are: social involvement (Chapman & Beaudet, 1983; Lawton, 1976, Lawton, Brody & Turner-Massey, 1978; Poulin, 1984; Sherman, 1975; Teaf, Lawton, Nahemow & Carlson, 1978) activity level (Chapman & Beaudet, 1983; Larson, 1978; Lawton, 1976; Lawton, Brody & Turner-Massey, 1978; Lawton & Yaffe, 1980; Teaf, Lawton, Nahemow & Carlson, 1978) and frequency of leaving the building and the neighbourhood (McAuley, 1983).

The opposing view focuses on the individuals internal frame of reference (Neugarten, et al., 1962). This view assumes that the individual is the best judge of his/her past and present life satisfaction and happiness. This view allows life satisfaction of the elderly to be measured separately, not in comparison to, other stages of

life. Finally this measure of life satisfaction eliminates value judgements of the interviewer (Neugarten et al., 1963). Examples of researchers who use self reported assessments of life satisfaction are Carp (1976), Carp & Christensen (1986a), Carp & Christensen (1986b), Cutler (1975), Jirovec, Jirovec and Bosse (1986a), Jirovec, Jirovec and Bosse (1984b), Larson (1978), and Nelson and Winter (1975).

In this study a self-reported measure of life satisfaction is used. Life satisfaction is an appropriate dependent variable for this study for two reasons. The first is that this study is focusing on how environments can affect and improve life quality, thus life satisfaction in one appropriate measure. Second, life satisfaction fits into the model on which this study is based: Life satisfaction is an indication of how well the focal system is functioning within its environments. High life satisfaction would suggest that the social system's needs are being fulfilled.

Independent Variables

When researching housing for the elderly there are a vast number of variables to be considered, including those related to the individual, such as age and income, and the environment, such as climate and the buildings with the environment. The Interactive Ecological housing theory may be used as a means of organizing these variables so that the complex interaction between the variables and the individual may be understood. Refer to Table 1 and Table 2 (pages 16 & 17) to see how these variables are structured by the Interactive ecological housing theory. The following section will review past findings on each of the relevant variables.

The Focal System

Characteristics of the Individual

Age. Age has been related to various housing related behaviors and housing characteristics. One housing related behavior is moving. Older people tend to move less frequently than younger people, and if they do move it is within the same area (Golant, 1975). In 1973 in the United States, one third of persons 65 years and older had lived in their present residence for twenty or more years (Struyk & Soldo, 1980). Of those elderly who moved during 1973, seventy-five percent relocated in the same area of their original home (Struyk & Soldo, 1980). In Vancouver, eighty percent of seniors applying to public housing in 1978 wanted to remain in the current residential area (Golant, 1979). Being older has been shown to be a predictor of neighbourhood satisfaction (Chapman & Beaudet, 1983). This seems appropriate considering the elderly's desire to remain in the same area in which they grew old.

As persons become older, the probability increases that their activities of daily living will become increasingly centered around their housing unit (Golant, 1984). This is unfortunate as older people tend to reside in older housing, and the older residents less able to maintain their housing (Lawton, 1981). Thus older people tend to live in increasingly less adequate housing and spend an increasing amount of time in it.

There is an interaction between age and sex, with older women more likely to rent rather than own their housing. This is only true for men after the age of eighty-five (Connidis & Rempel, 1983). This

relationship is noteworthy, as renters have notably lower neighbourhood satisfaction, and lower housing satisfaction (Lawton, 1980).

Sex. A review of thirty-seven years of research on well-being of older Americans found no consistent sex differences in well-being for older persons on any type of measure (Larson, 1978). This finding is very important, as other variables must be responsible.

Sex is, however, a significant predictor of social contact, with women having more social contact than men (Chapman & Beaudet, 1983). Sex is a predictor of home ownership. Men are more likely to live in houses and own their home; women are more likely to live in apartments. This difference is partly due to the fact that older women are less able to afford a home than men, and that women do not have the skills to physically maintain a home nor the cash to hire someone to maintain the home for them (Connidis & Rempel, 1983).

Connidis and Rempel (1983) state that marital status and age seem to be related to housing for women, but not for men; this indicates that sex is the most important of the three variables. Lawton (1981) found that non-married men live in poorer conditions than their female counterparts. Lawton (1981) attributes this difference to women's higher motivation to keep their home and the tendency for women to receive more assistance from friends and relatives.

Resources of the Individual (Subsystem 1b)

Social resource - living spouse. In a review of well-being of the elderly, it was found that the studies that differentiated unmarried from married persons suggest that well-being of single/never married

persons tends to be the same as married people and that widowed, divorced and separated tend to have lower reported well-being (Larson, 1978).

Marital couples tend to live in high quality housing because couples have higher home ownership rates, and own homes of higher quality than do single persons. Marital couples tend to be younger, and younger people tend to live in younger housing which is in better repair. Also younger people can better maintain a house than can older people (Lawton, 1981).

Non-married men occupy housing of poorer quality than non-married women, and live in the worst conditions of all elderly (Lawton, 1981). Non-married women are far less likely to own homes than married women (Connidis & Rempel, 1983). Marital status appears to have different affects on men and women; such non-married men, regardless of ownership, live in poor quality housing and women, regardless of ownership, live in higher quality housing.

Social resource - family support. Family is an important resource to the elderly. However, the extent to which a person can have supportive relationships with family members depends on the availability of kin and the distance one lives from them (Rosenthal, 1987). Moss, Moss, and Moles (1985) studied elderly parents with children who live out-of-town. It was determined that distance did not threaten the parent-child relationship, and financial and emotional support were not hampered. Personal care, home repair, housework and any other assistance which require proximity were impossible. Also, the-out-of

town children found it difficult to know and understand their parents needs and to arrange help for their parents (Moss, Moss and Moles, 1985).

Hays (1984) studied obituaries to determine the availability and proximity of kin to their elderly. She found that 24.7% of the descendants 65 years and older had no surviving children or siblings residing near enough to provide regular assistance. This suggests that close to one quarter of elderly may have no potential family support and are forced to fend for themselves and seek help of agencies.

In Hamilton, Ontario, three dimensions of interaction between elderly parents and their children were studied in order to determine which dimensions of interaction were the most frequent. In order from most frequent to least frequent the dimensions were: 1) informal activities - conversation, recreation; 2) ceremonial or family rituals - birthday parties, holidays; 3) exchange of assistance - receiving help (Rosenthal, 1987).

Another study found that 70% of people 65 and older with living children reported receiving help (Shanas, 1980). This emphasizes the support families give their elderly, considering receiving help is perceived as the least frequent dimension in the elderly parent/child relationship.

Physical resources - health and mobility. In a study of two hundred and twenty-four elderly persons sixty-five and older, health was the only demographic variable which significantly predicted life satisfaction, as well as higher neighbourhood satisfaction (Chapman &

Beaudet, 1983). Carp and Christensen (1986) found that only self-reported ailments made a significant contribution to well-being. Therefore, it appears that both one's health status and how one feels about his/her health are also of importance to feelings of well-being.

Health has also been linked to activity level of an individual. In one study, 27% of the variance in activity level was predictable by the demographic variables, [all was attributed to health] (Chapman & Beaudet, 1983). Golant (1984) found that a large activity space was related to fewer hearing and health problems.

A study of one hundred and thirty-two men and women in two federally sponsored housing projects for seniors and handicapped found physical health to be significantly correlated with frequency of leaving the building and frequency of leaving the neighbourhood (McAuley, 1983).

Lack of perceived "victimization" has also been associated with better health (Kahana, Liang, Felton, Fairchild and Harel, 1977). Activity level, activity space and perception of victimization have one common thread the elderly person's mobility which links them to health. Self-reported health ratings are directly related to the elderly person's mobility (Bourg, 1975), and being mobile allows an elderly person the opportunity to get out and about easily and with less fear.

Restricted mobility of the functionally impaired elderly makes the quality of the neighbourhood environment surrounding the person's home a critical support element (Heumann, 1976; Toseland & Rasch, 1978). The ability of the functionally impaired elderly to negotiate the physical environment surrounding their homes with ease, comfort and safety can

greatly extend their independence (Heumann, 1976). Declining satisfaction with housing and neighbourhood may be products of declining independence (Nelson & Winter, 1975). Thus, health and mobility greatly affect life satisfaction and housing and neighbourhood satisfaction due to the relationship between health, mobility and independence.

Mental resource - education. Education level has been associated with self-esteem. Elderly people with some high school or less were less likely than those with higher education to view themselves as very wise, bright and alert, very open minded, good at getting things done and very active (Hess & Markson, 1980). The ability to adapt to changes in oneself and in aspects of life increases with educational level, as there are better and more varied coping mechanisms (Hess & Markson, 1980). Education level has been associated with size of activity space, with higher levels of education related to larger activity space (Golant, 1984). Housing quality has also been found to increase with increased educational level (Lawton, 1980). Finally, income and educational level are positively correlated (see Table 3).

Economic resource - income. Heumann (1976) characterized marginal-social adjustment by several factors, including marginal income. A marginal income may be described as lacking the economic resources to live independently. Working within the confines of this definition of marginal-social adjustment it may be possible to classify the average Canadian elderly person as social-marginally adjusted. The average annual income of an elderly Canadian woman is \$7,000 and a man's is \$11,500 (Statistics Canada, 1984). It is worth noting that income decreases with increasing age (Statistics Canada, 1984).

Table 3. Average Annual Income of Elderly (65+) by Highest Level
of Education and Sex

	Men's avg. income	Women's avg. income
Total	\$11,500	\$ 7,000
Less than grade 9	8,400	5,700
Grades 9-13	12,600	7,200
Some university or other non-university	14,900	9,300
University certificate or degree	25,900	14,000

source: Statistics Canada, 1984.

An interesting finding by Lawton (1980) showed that present income of an elderly person had less to do with housing quality than past economic well-being. Thus, an elderly person who lives on a marginal income at present but who had a moderate economic well-being in the past may actually live in quality housing.

Aside from not being able to live either independently or particularly well, a lack of income can have other effects. Four hundred and two elderly men and women were surveyed regarding perceived problems and feelings of victimization. It was found that perception of financial security and actual indices of financial stability distinguished those who were dissatisfied with life from those who were satisfied with life. Also, those who were unhappy with their finances were significantly more likely to complain about safety problems (Kahana et al., 1977).

Economic resource - transportation. Higher income has been related to increased activity spaces, increased mobility as measured by frequency of travel outside of one's building and neighbourhood (McAuley, 1983), and using more varied and flexible modes of transportation (Golant, 1984). Increased mobility and activity space are no doubt the result of being able to afford transportation. Many elderly find public transportation too expensive and taxi fare out of the question; thus walking is their only mode of transportation (Cutler, 1975). Increased income also facilitates shopping and other forms of entertainment; therefore elderly persons may have more places to go at greater distances, increasing their activity space and mobility.

According to Wister (1985) there is a movement towards intimacy at a distance - elderly living away from their family. The swing toward separate living has resulted in the family life of elderly to be highly influenced by physical proximity to kin. In addition physical mobility and transportation issues must be considered. Family visits are not the only aspect of life affected by transportation issues. Shopping, entertainment, medical and dental visits, and banking are examples of activities upset by transportation problems.

Many elderly people find public transport expensive, inconveniently routed and scheduled, and the vehicles poorly designed (Cutler, 1975). Elderly people often experience difficulty in getting to the bus stop, and waiting for the bus; boarding the vehicle can be nearly impossible, and the uneven rides can prove dangerous (Andreae, 1978). Taxi service has become far too expensive for most elderly. Reliance upon others for transport is common and has several advantages such as cost, help entering and leaving the vehicle, and convenience. However, reliance on others can also prove a threat to feelings of autonomy and independence (Cutler, 1975). Finally, walking is not viewed as a desirable means of transportation by those in need of alternatives to a car (Cutler, 1975).

In the core area of Winnipeg, it was found that 5.2% of the elderly studied owned a car, compared to 66.7% of the non-elderly surveyed. Fifty-eight percent of the elderly in this study occasionally accepted a ride as a passenger and 29% reported walking to be their sole mode of transportation (Smith, 1984). Carp (1975) found that a car is the most

favoured mode of transportation among the elderly, whether or not they drive. Further, Carp (1975) found that elderly residents of the inner city are far less likely to own a car than those in suburbia. The lack of car ownership in the inner city may be compensated by or partially caused by the more convenient bus service in the inner city and the fact that services and facilities of the inner city are more easily accessed by foot (Carp, 1975).

Finally, transportation can affect feelings of satisfaction with life and housing. Carp (1976) found that residents of a seniors housing project who felt satisfied with the project and felt the project had a good location mentioned the availability of public transport as the reason for this favourable judgement in every case. A study of 170 non-institutionalized elderly showed that a greater proportion of elderly without personal transportation (own and drive a car) had declining life satisfaction than those with personal transportation (Cutler, 1975). Fifty-four percent of elderly without personal transport had declining life satisfaction scores as compared to 36% of those with transportation show such decreasesments in life satisfaction.

Within the Boundaries of the Environment

Personal Living Environment

The housing unit. Marginal housing is considered substandard by one or more measures and thus detrimental to self-supported, independent living (Heumann, 1976). Environmental predictors of good housing quality are newer buildings, multi-unit structures, and low-rise structures (Lawton, 1980). Living in new outer-suburbs predicts better

quality housing than residing in inner areas of the city (Carp, 1975).

In a study of elderly women living alone in the community, satisfaction with the living unit was related to resources for avoiding harm (safety from crime, fire, accident) (Carp & Christensen, 1986a; Carp & Christensen, 1986b). Greater housing satisfaction has been associated with safety and low fear of crime by many researchers (Jirovec, Jirovec & Bosse, 1984a; Lawton & Yaffe, 1980; Nelson & Winter, 1975). Contentment in life was also associated with living in homes which are objectively safe (Carp & Christensen, 1986b).

Architectural features, such as modernness, number of bathrooms, heating and plumbing are all related to housing satisfaction (Jirovec, Jirovec & Bosse, 1984a; Lawton, 1980; Nelson & Winter, 1975). Housing type also is related to housing satisfaction. Nelson and Winter (1975) studied the consideration of moving as an indication of dissatisfaction with present housing. They found that elderly people who lived in rooms with cooking privileges, boarding housing, and mobile homes were more likely to desire a move than those living in houses or apartments. Lawton, Brody and Turner-Massey (1978) found that a smaller unit size was associated with improved well being. The authors postulated that the most favourable moves for elderly persons would be from a large unit in an unfavourable area to a smaller unit in a favourable area. Elderly living in apartments were most satisfied with their activity level (indicator of life satisfaction) when compared to other housing types (Chapman & Beaudet, 1983).

Finally, neighbourhood satisfaction is a strong predictor of housing satisfaction. Jirovec et al. (1984a) found that neighbourhood satisfaction accounted for four-fifths of the housing satisfaction's variance. These authors suggest that neighbourhood satisfaction modifies the impact of architectural characteristics on housing satisfaction. However, the same authors in a different study show that housing satisfaction accounted for 68% of the variance of neighbourhood satisfaction (Jirovec, Jirovec & Bosse, 1984b). Jirovec and Jirovec (1985) used residential satisfaction as the criterion variable and housing and neighbourhood conditions as the predictor set. A total of 56% of the variance was accounted for by four neighbourhood and one housing conditions. Thus, the possibility exists that housing conditions previously thought to be significant determinants of satisfaction with residential setting are artifacts of the influence of the neighbourhood on housing satisfaction, or vice versa. Jirovec and Jirovec suggest that to avoid this chicken and egg situation, housing and neighbourhood satisfaction could be unified and studied as residential satisfaction (Jirovec & Jirovec, 1985).

Proximity of social networks. Similarity of neighbours has been found to be of less importance to well-being than were the more physical aspects of the environment (Lawton, Brody, & Turner-Massey, 1978). Chapman and Beaudet (1983) found that interaction with neighbours was higher for elderly who live in an area with low percentage of old people.

In a study which compared age-integrated and age-segregated housing situations, it was found that the residents of the age-segregated situation had fewer friends under forty and less contact with family, however, they had more new friends and visited more with neighbours than community residents. The authors suggest that the difference in family contact may be due to children "dumping" elderly parents, parents' wishes to remain independent, or lack of living family. Two other independent studies found no relationship between age segregation and contact with friends and family (Poulin, 1984), Teaff, Lawton, Nahemow & Carlson, 1978). Poulin (1984) suggests that interpersonal relationships are developed over a lifetime and are not greatly affected by resident in an age segregated building.

To have friendly people in the neighbourhood has been reported to be more important than having friends and relatives in the neighbourhood (Carp & Carp, 1982). Having friendly people in the neighbourhood is probably tied to safety and security but also to a sense of community and belonging. The neighbourhood as a "socialization centre" for elderly people is demonstrated by the fact that elderly inner city residents relationships to neighbours are by no means limited to mutual helping activities. Often there is a strong friendship. Eighty percent of elderly report sitting and talking to neighbours, 28% eat meals with neighbours, 25% shop with neighbours, and 18% go to church together (Cantor, 1975).

Friends are very important to the elderly. Cantor (1975) reports that 60% elderly he studied have intimate friends in their immediate

environment. Carp (1976) found that over an eight year period residents of a housing project grew to have a greater desire to have their friends in near proximity. Carp suggests that over eight years the elderly people's ability to visit friends at a distance diminished, thus the desire to live near to friends.

Elderly persons who were surveyed about their personal problem rarely reported problems about friends and family. Only 5.3% reported rejection by friends to be a problem and 5.6% reported lack of family attention as problematic (Kahana et al., 1977). Bourg (1975) found that 42% of elderly had seen their elder relatives within a month of his interview, 50% has seen their same generation relatives within a week of the interview, and 42% had seen their younger generation relatives within a week of the interview. Thus, it would appear that friends and family maintain contact with the elderly, and that location of residence has little to do with this contact.

Neighbourhood/Community Environment

City streets. The Annual Housing Survey in 1973 showed that 19% of elderly surveyed believed heavy street traffic was a problem, 9% mentioned trash in the streets and 6% commented on inadequate lighting (Struyk, 1979). The same survey showed that as many as 40% of elderly live on streets with heavy traffics and 13% live on streets lined with junk, trash and litter (Struyk, 1979). Physical impairments caused by the aging process limit some elderly to the amount of topography they can negotiate. The elderly often have trouble on slopes, uneven walking

surfaces generally caused by loose pavement, trash, litter and gravel, and crossing heavily trafficked streets (Green, et al., 1975; Lawton, 1975).

According to Heuman (1976) the quality of public areas is one of three factors of universal importance to the elderly. Quality of public areas includes the existence and quality of sidewalks, the existence of ramped rather than stepped curbs, the quality of pedestrian street crossings, public benches and the like. Smith (1984) in his study of shopping patterns of urban elderly, mentions the possible safety hazards due to traffic and crossing busy streets as drawbacks to the central business area as a residence for the elderly. Finally, in a study on the "ideal" neighbourhood, good walking conditions were considered a very important component of the environment by those surveyed (Carp & Carp, 1982).

Aesthetics. In a study by Jirovec, Jirovec, and Bosse, (1984b) space, beauty and antiquity were revealed as determinants of neighbourhood satisfaction. In a subsequent analysis (Jirovec, Jirovec & Bosse, 1985) residential satisfaction was accounted for by one housing and four neighbourhood conditions. Neighbourhood beauty, neighbourhood interest level and neighbourhood quietness were three of the four neighbourhood conditions which were responsible for residential satisfaction. Carp and Carp (1982) found that aesthetics were consistently reported as significant components of the environment, and that there was no difference between the elderly person's and non-elderly person's perception of the importance of aesthetics.

On the other end of the continuum, neighbourhood dissatisfaction is most highly associated with factors that describe a neighbourhood in distress, such as rundown houses, street noise, trash, litter and junk (Lawton, 1980). In support of the last statement, Carp (1975, 1976) found that the "sluminess" of the area around a housing project for the elderly was one of the major disappointments mentioned by the majority of the residents. The Annual Housing Survey of 1973, showed that of those elderly surveyed, 23% reported problems with street noise, 9% reported trash as a problem and 3% reported problems with abandoned structures (Struyk, 1977). Thus, although aesthetics are very important to elderly persons' satisfaction with their neighbourhood, it appears that a large proportion of the elderly have to deal with conditions which make their environment aesthetically unpleasant.

Neighbourhood affluence/quality. A marginal neighbourhood is one which the locational environment of the individuals house and distance to the support services is detrimental to independent living (Huemann, 1976).

Smith and Hittner (1975) looked at the percentage of Toledo, Ohio's total aged residing in each census tract within the city in the years 1940, 1950, 1960 and 1970. The findings showed that although elderly live in different areas in the city a non-elderly, the elderly are widely distributed throughout the city. Decade of housing development, multi-family dwelling units, and census tracts closer to the central business district explained less than forty percent of the aged's location in the city. Therefore, the belief that most elderly live in

run-down central neighbourhoods is only weakly documented (Smith & Hittner, 1975).

Quality of the neighbourhood is very important in the elderly person's life. The high quality of neighbourhood (reflecting a several block area that is quiet, has little traffic, has few vacant houses, is well maintained and landscaped and has little or no business or industrial use) was found to be the most consistent predictor of well being in a sample of 224 elderly persons. Life satisfaction, neighbourhood satisfaction, interaction with neighbours and social contacts were all predicted by quality of neighbourhood; as quality increased so did the scores of the above mentioned scales (Chapman & Beaudet, 1983). Carp (1975a, 1975b, 1976) found that one of the biggest disappointments of the residents of a seniors' housing project was that their nice building was in a slum neighbourhood. The majority of residents mentioned this disappointment.

Kahana et al. (1977) reported that 40% of elderly surveyed had some type of neighbourhood problems. Problems cited were vulnerability to break-in or facing problems with undesirable neighbours. Complaints usually focused on the social environment and not on the living unit. Individuals in public housing felt more vulnerable to neighbourhood problems, reflecting the poor quality of neighbourhood public housing is located in. Overall, neighbourhood problems constituted the largest group of problems (Kahana et al., 1977).

Carp (1975b) postulated that the inner city is a good environment for the elderly. In a survey of 709 retired community residents and 352

applicants to public housing for the elderly she found that inner city residents were more likely than suburban residents to judge their present rate of trip taking as "about right", travelled to more places, and had a higher involvement in leisure activities with other people, more frequent visits to family and more frequent attendance to meetings. Carp suggested that quality of housing is best in the new outer suburban areas and inferior in the inner city areas. Thus, while the inner city environment is not a problem for the elderly, the poor quality housing is problematic.

Crime. According to Lawton (1975) the most salient social concern of the elderly is the safety or crime level of the neighbourhood. The 1976 Annual Housing Survey found that one of the most frequent complaints of the elderly was crime (Struyk & Soldo, 1980). Lawton and Yaffe (1980) surveyed 662 elderly in 38 communities and found that 69% of respondents never leave home after dark. In another sample of 297 elderly from Nashville, one-third of the sample were afraid to go out alone; of these, 49% mentioned it was not safe, too dangerous or afraid, and 17% reported fear of getting robbed or beaten up (Bourg, 1975). In the same sample, three-fourths of all respondents did not go out at night; 68% said it was too dangerous, unsafe or afraid and 20% mentioned fear of getting robbed and beaten up. Street crime was mentioned as a neighbourhood problem by 15.1% of community residents and 26% of public housing residents (Kahana, et al., 1977).

Fear of crime and perceived victimization can affect the elderly's feeling of satisfaction with life, housing and neighbourhood. Housing

and neighbourhood satisfaction and morale were greater when fear of crime was lower (Lawton & Yaffe, 1980).

Satisfaction with living unit and living area was related to harm avoidance, including safety from crime and resources in neighbourhood to meet the need of harm avoidance (Carp & Christensen, 1986a). Depression was related to local areas which were objectively unsafe and noxious (Carp & Christensen, 1986b). Contentment, on the other hand, was associated with living in homes and neighbourhood that were objectively safe (Carp & Christensen, 1986b). Satisfaction with physical safety of community was an important predictor of community satisfaction (Toseland & Rasch, 1978). Residential satisfaction was predicted by neighbourhood safety among other factors (Jirovec, Jirovec & Bosse, 1985). Crime rate has been found to be a significant predictor of amount of social contact the older person has with family and relatives (Chapman & Beaudet, 1983).

Thus, crime and fear of crime represent real problems for the aged. Heumann (1976) suggests that crimes against the person and property are the most important to consider because elderly are so often the victims. Among the elderly the most vulnerable groups are city center residents, single-person households, and renters. For these groups crime and fear of crime have more impact on satisfaction with neighbourhood (Lawton, 1980).

Services and amenities in neighbourhood. The general consensus regarding services is that the more accessible the housing is to a wide range of services, the less the dissatisfaction (Huttman, 1977; Lawton,

1975; Page & Muir, 1971). In one study, 90% of 718 elderly in four types of housing considered their location in relation to community facilities and services to be very important or somewhat important (Huttman, 1977). In the same survey, the sample prioritized services as shopping (first), doctor, hospital or clinic (second), and other services such as place of worship, library, park, and senior' centre, (third) (Huttman, 1977). Shopping facilities appears to be one of the biggest determinants of satisfaction.

The Annual Housing Survey in 1976 found that lack of shopping facilities was the greatest source of dissatisfaction with neighbourhood services for the elderly (Struyk & Soldo, 1980). Carp and Christensen (1986) found that satisfaction with neighbourhood was related to the neighbourhood resources which met the needs of harm-avoidance, including the ability to shop without inconvenience. Likewise, in another study, closeness to a food store was reported to be a very important component of the environment and in an "ideal" neighbourhood; 79% of respondents wanted a food store in walking distance and 62% wanted a drug store in walking distance (Carp & Carp, 1982). Carp (1975, 1976) found that residents of a seniors' housing project in San Antonio became increasingly dissatisfied with the location of the project because of the lack of shopping. In the first year 13% felt the worst thing about their home was no place to shop, and by the eighth year 21% reported the worst thing was the lack of shopping facilities. The authors believed that the growing dissatisfaction was due to increasing age of the residents (Carp & Carp, 1982).

The most frequently used service by the largest number of respondents of a survey in New York city was shopping for food; 87% visited the grocery store and 63% bought meat at a separate butcher. One quarter of respondents visited a grocery store every day, 80% patronized a drug store at least 2 or 3 times a month, and shopping for clothes was done once or twice a year (Cantor, 1975).

Medical services were used once a month on average, and it was the one critical service for which 50% of respondents had to leave their neighbourhood (Cantor, 1975). Satisfaction with health care facilities has been found to be a predictor of community satisfaction (Toseland & Rasch, 1978). When asked if people wanted certain services within their neighbourhood, 53% wanted their own doctor within walking distance, 47% wanted their own dentist within walking distance. Just any doctor or dentist was seen as irrelevant to the ideal neighbourhood, as only the individual's doctor or dentist was important (Carp & Carp, 1982).

Place of worship and recreation facilities also play vital roles in the satisfaction an individual has with his/her neighbourhood. Of the elderly New Yorkers surveyed, 74% attended church or synagogue weekly (Cantor, 1975). When asked which services and facilities elderly people wanted in their ideal neighbourhood, 65% wanted their place of worship, while 56% mentioned a restaurant in walking distance (Carp & Carp, 1982). Community satisfaction may be predicted by satisfaction with recreation facilities (Toseland & Rasch, 1978). Residents of a seniors' housing project stated that next to lack of shopping, no restaurants and no places of worship were big disappointments about their home (Carp, 1976).

Public transit is a vital service for many elderly. For example, most of a group of elderly New Yorkers interviewed used the public transit to get to medical facilities (Cantor, 1975). Closeness to a bus stop was considered a very important component of the environment by elderly and non-elderly, however, it was considerably more important to the elderly than the non-elderly (Carp & Carp, 1982).

Distance to the central business district. Satisfaction with services and amenities is often linked to the accessibility of these services and amenities. Therefore it is often assumed that the nearer to the central business district of a city, the better the location for housing for seniors. In a housing project for seniors, the residents were unhappy because of a lack of stores, restaurants and places of worship in their neighbourhood. The lack of nearby services forced the residents to use the central business area. One quarter of the residents mentioned being able to walk downtown as a desirable aspect of their home (Carp, 1975, 1976). What can be questioned is whether this would be true if services were available in their home neighbourhood.

Smith (1984) found that the restriction of elderly persons to central business areas due to location of housing and poor transportation has four drawbacks:

- (1) the absence of supermarkets in downtown areas limits elderly's ability to purchase food at discount prices;
- (2) possible safety hazards of crossing busy streets;
- (3) restriction upon opportunities to shop in the different retail environments; and
- (4) long distances between home and outlets.

In another study it was found that distance from the city centre was a predictor of well-being, as the farther away the higher the well-being scores (Chapman & Beaudet, 1983). The authors believed that the negative features that are often associated with such convenient neighbourhood, such as high crime rates, noise, traffic and transiency, outweighed their virtues for this particular sample. Those who lived farther from the city centre were likely to live with someone who drove, or could rely on social contacts outside of their home for rides (Chapman & Beaudet, 1983). Thus it is difficult to know whether proximity to central business district has a positive or negative affect.

Socio-Political Environment

The socio-political environment includes social process such as government, economic climate and societal attitudes and pressures. It is beyond the scope of this research to study the effect of this environment on the focal system. Let it suffice to note that many aspects of the two other environments, and the resources of the focal system are greatly influenced by the socio-political environment.

Chapter 4

HYPOTHESES

The Focal System: Subsystem 1b

Characteristics

- (1) Sex and age independently contribute to life satisfaction scores among the elderly.

Resources

- (2) Income, assistance in transportation, health, living spouse, mobility and number of years of education independently contribute to the life satisfaction among the elderly.

The Environment

- (3a) The elderly's life satisfaction scores are positively related to the amount of usage of environmental features.
- (3b) The elderly's life satisfaction scores are greater with a higher number of on-site environmental features.
- (4) Housing location (community, EPHS, EPHNS, MLC) is related to life satisfaction among the elderly such that the more available services within the housing situation, the higher life satisfaction scores, when health is controlled.
- (5) Among elderly respondents who moved to find better environments, those who found better environments have higher life satisfaction scores than those who did not find a better environment.
- (6) Proximity to friends and family is positively related to life satisfaction scores among the elderly.

Chapter 5

METHODOLOGY

Data Collection

Data for this thesis are from a project entitled "Housing and Supportive Services for Elderly Persons in Manitoba" conducted by Dr. Neena L. Chappell, National Health Scholar, Director, Centre on Aging, University of Manitoba and Dr. John Horne, Associate Professor, Department of Social and Preventive Medicine, Faculty of Medicine, University of Manitoba. This project was carried out with the assistance of grants from Manitoba Housing and Renewal Corporation, Manitoba Health Services Commission, Canada Mortgage and Housing Corporation (under the terms of the External Research Program), and The Winnipeg Foundation.

Data were collected using face-to-face interviews with those living in the four types of settings. A cluster random sampling technique was used to select respondents to be interviewed. A complete and current listing of all elderly persons' housing (EPHs) in the province (excluding the Norman region) was obtained from the Manitoba Housing and Renewal Corporation (and verified by the Provincial Gerontologist, a local representative of CMHC, and the Manitoba Health Services Commission) and differentiated according to which services, if any, were being provided. If services were provided, information was compiled on whether this was done internally, externally, or through joint management with a proximate facility (multi-level care facilities). A random sample of

EPHs (15 in Winnipeg and 15 in non-Winnipeg) providing no services to residents, EPH(NS) was selected first. Five individuals were then randomly selected for inclusion within each of the chosen locations. Stratification by rural-urban location resulted in a study sample consisting of 150 respondents; 75 from Winnipeg and 75 from other areas of the province. All individuals were age 60 or over.

The sample of individuals living in EPHs providing supportive services, EPH(S) was selected next. They were selected in the same manner as those above but matched by age group (i.e., 60-64, 65-69, etc.) to those living in EPH(NS). Those living in multi-level care facilities (MLCs) were selected in a similar manner and were, once again, matched according to age group with the EPH(NS) samples. Facilities were divided into two types - joint managed (i.e., owned and managed by the same board as another facility but not attached to that facility) and juxtaposed (i.e., physically linked). Interviews were divided between them (75 individuals interviewed from Winnipeg - 38 in juxtaposed facilities and 37 in joint managed facilities - and 75 individuals interviewed from non-Winnipeg - 38 from juxtaposed facilities and 37 from joint managed facilities). Those living in their own homes in the community were drawn on a random basis from those residing in an area proximate to each location selected in the EPH(NS) sample using postal codes and matched by age group with those in the latter sample.

All respondents were interviewed during the summer and fall of 1986. The overall refusal rate for the study was 22% and ranged from 10.9% for non-Winnipeg respondents to 30.7% for respondents living in Winnipeg. The ineligibility rates due to such factors as relocation, death, hospitalization and institutionalization were 27.3% (overall), 31.7% (Winnipeg), and 22.4% (non-Winnipeg). In instances where potential respondents were either unable or unwilling to participate in the study, matched replacements were used. In total, 600 respondents were interviewed including 300 in Winnipeg and 300 in non-Winnipeg.

The interview data include standard demographic variables as well as information on residential and neighbourhood locations, overall well-being, recreation, social networks and social supports, health, and service utilization. (Taken from Chappell & Horne, 1987).

For the purpose of this thesis only data collected from the Winnipeg sample are used. Urban and rural elderly face very different environmental situations and should not be considered as the same population. The exclusion of rural elderly in this thesis avoids making generalizations over two separate populations.

Statistical Analysis

Hypothesis 1: Sex and age independently contribute to life satisfaction scores among the elderly. This hypothesis will be analyzed with a multiple regression. The dependent variable will be a life

satisfaction scale using the questions 28, 29, 30, 32, 33, 35, 36, 37, 38, 39 (see Appendix A for questionnaire). The independent variables will be questions 1 (age) and the question on face sheet (sex).

Hypothesis 2: Income, assistance in transportation, living spouse, mobility and number of years of education independently contribute to life satisfaction among the elderly. The analytic technique for this hypothesis is a multiple regression with the life satisfaction scale (same as hypothesis 1) as the dependent variable. Assistance in transportation is question 87, health is question 80, a health problems scale will be formed by question 81a to q, living spouse is question 8a, years of widowhood question 8b, mobility is question 86, b,c,i, (ability to shop for groceries, ability to shop for clothing, ability to walk) and years of education is question 7. (All questions are from Appendix A.)

Hypothesis 3a: The elderly's life satisfaction scores will be related to the amount of usage of environmental services. This hypothesis will be examined with a Pearson Correlation. The life satisfaction scale will be the dependent variable. The independent variables will be the frequency of usage of the following environmental services; entertainment facilities; question 89 part 23, shopping facilities - question 89 part 25, minister/rabbi/priest - question 90 part 11, senior centre - question 90 part 13, lawyer - question 90 part 16, community health clinic - question 90 part 15, emergency clinic - question 90 part 1, chiropractor - question 90 part 4, pharmacist - question 90 part 7, optician - question 90 part 8 and dentist - question 90 part 3 (all questions in Appendix A).

Hypothesis 3b: The elderly's life satisfaction scores will be greater with a higher number of on-site environmental services which are either permanent or delivered to site. A Pearson correlation will be used to analyze this hypothesis. The dependent variable will be the life satisfaction scale as described in hypothesis 1. The independent variables will be those environmental services located on-site at the elderly person's home (Question 89 and 90, Appendix A).

Hypothesis 4: Housing Location (community, EPH, EPHNS, MLC) is related to life satisfaction scores among the elderly such that the more available services within the housing situation the higher the life satisfaction score when health is controlled. An analysis of variance will be used to test this hypothesis. Life satisfaction scale will be the dependent variable and the independent variables will be: housing setting - question on face sheet, health - question 80, health problem scale - question 81 a-q (Appendix A).

Hypothesis 5: Among elderly respondents who moved to find better environments, those who found better environments have higher life satisfaction scores than those who did not find a better environment. This hypothesis will be tested by two t-tests. The first will establish if there is a difference in life satisfaction scores between those who felt the independent variable was a reason for moving. The second t-test will establish if there is a difference across life satisfaction scores for those who moved and found a better environment and those who moved and did not find a better environment (Question 17a,c,d,e,f,h, and i, Appendix A).

Hypothesis 6: Proximity of family and friends will be related to life satisfaction scores. A Pearson correlation will be used to test this hypothesis. The dependent variable is life satisfaction scale and the independent variable will be a scale made from the responses of question 43, 47, 51, 55, 59, 63.

Sample Characteristics

Table 4 shows characteristics of the total sample of 300. Two thirds of the sample are female and 1/3 are male. Just under 25% are between the ages of 60 and 70, 36% of the sample are between the ages of 70 and 80 and the remaining 40% are 80 to 94 years in age. The minority of the sample were still living with his or her spouse. Three quarters of the sample were either single, divorced/separated or widowed, with widowhood the most common reason for being alone (54.7% of sample). A majority of the sample had between 7 and 12 years of education. Only 28% had less than 7 years of education and fewer still, 8%, had greater than 12 years of education. Fifty-six percent of the sample had a monthly income somewhere between \$500.00 and \$749.00. Fewer than 10% of this sample had a monthly income of less than \$500.00 and 34.5% had a monthly income greater than \$750.00

Table 5 shows the characteristics which were found to be significantly different between the men and women. Age was not found to be significantly different, as the sample was matched for age. Years of education and perceived health were also not found to differ significantly by sex. The values of the variable of marital status were dichotomized to unmarried (including divorced/separated, single and

Table 4
Samples Characteristics

Characteristic	n	%	Cumulative %
<u>Sex</u>			
Male	101	33.7	
Female	199	66.3	
	<u>300</u>	<u>100.0</u>	
<u>Age</u>			
60-64	26	8.7	8.7
65-69	44	14.7	23.4
70-74	50	16.7	40.1
75-79	58	19.3	59.4
80-84	62	20.7	80.1
85-89	42	14.0	94.1
90-94	18	16.0	100.0
	<u>300</u>	<u>100.1</u>	
<u>Marital Status</u>			
Single	37	12.3	
Married	74	24.7	
Divorced/separated	25	8.3	
Widowed	164	54.7	
	<u>300</u>	<u>100.0</u>	
<u>Years of Education</u>			
0-6	84	28.1	28.1
7-9	82	24.4	55.5
10-12	109	36.5	92.0
12 and up	24	8.0	100.0
	<u>300</u>	<u>100.0</u>	
<u>Income (\$/month)</u>			
250-499	26	9.6	9.6
500-749	151	55.9	65.5
750-999	48	17.8	83.3
1,000-1,249	21	7.8	91.1
1,250 and up	24	8.9	100.0
	<u>300</u>	<u>100.0</u>	

Table 5
Sample Characteristics by Gender

Characteristic	Male		Female	
	n	%	n	%
<u>Marital status</u>				
Single (no spouse)	48	47.5	178	89.4
Married (spouse present)	53	52.5	21	10.6
	<u>101</u>		<u>199</u>	
$\chi^2(1)=61.13, p<.0001.$				
<u>Environmental Setting</u>				
Community	42	41.6	33	16.6
EPHNS	23	22.8	52	26.1
EPHS	20	19.8	55	27.6
MLC	16	15.8	59	29.6
	<u>101</u>		<u>199</u>	
$\chi^2(3)=23.81, p<.0001.$				
<u>Income (\$/month)</u>				
250-499	6	6.4	20	11.4
500-749	40	42.6	111	63.1
750-999	22	23.4	26	14.8
1,000-1,249	13	13.8	8	4.5
1,250 & up	13	13.8	11	6.3
	<u>194</u>		<u>199</u>	
$\chi^2(4)=19.51, p=.0006.$				

widowed) and married. The reasons for this change are: 1) to decrease the number of groups with small samples sizes, and 2) to suit the hypothesis and the model being tested in this study. The model suggests that having a living spouse is a personal resource. Whether an individual is single, widowed, divorced or separated that individual is lacking the resource of a living spouse. The hypothesis tests the effect the resource, living spouse has on life satisfaction scores. Thus, the variable is better if it distinguishes only between having a spouse - married and lacking a spouse - not married. Men are more likely to be married (52.5%) while women are likely not to have living spouse (89.4%). While 41.6% of men live in the community there is a trend that fewer men live where there are more services and supports available (EPHNS 22%, EPH 19.8%, MLC 15.8%). Women, on the other hand tend to live anywhere but the community (16.6%). Finally there is a significant difference in income by sex with men reporting a higher monthly income. However, the modal category of individual income for both men (42.6%) and women (63.1%) is \$500 to \$749 per month.

Table 6 shows that characteristics which were found to be significant by environmental setting. Those characteristics which were not significant were age (sample was matched for age) and length of widowhood. Of the sample living in the community, the majority were male. In all other environmental settings, the majority were female. In the community, married persons outnumbered not married persons almost two to one. However in all other environmental settings, the not married were definitely in the majority. Only in the community setting

Table 6
Sample Characteristics by Environmental Setting

Characteristic	Community		EPHNS		EPHS		MLC	
	N	%	N	%	N	%	N	%
<u>Gender</u>								
Male	42	56	23	30.7	20	26.7	16	21.3
Female	33	44	52	69.3	55	73.3	59	78.7
$\chi^2(3)=23.81, p<.0001.$								
<u>Marital Status</u>								
Single (no spouse)	28	38.7	71	94.7	60	80.0	66	88.0
Married (spouse present)	46	61.3	4	5.3	15	20.0	9	12.0
$\chi^2(3)=76.70, p<.0001.$								
<u>Income (\$ per month)</u>								
250-499	8	12.5	3	4.4	7	10.4	8	11.3
500-749	22	34.3	48	70.6	45	67.2	36	50.7
750-999	9	14.1	12	17.6	13	19.4	14	19.7
1,000-1,249	12	18.8	2	2.9	1	1.5	6	8.5
1,250 & up	13	20.3	3	4.4	1	1.5	7	9.9
$\chi^2(12)=43.77, p<.0001.$								
<u>Years of Education</u>								
0-6	11	14.7	24	32.0	28	37.8	21	28.0
7-9	19	25.3	23	30.7	22	29.3	18	24.0
10-12	36	48.0	22	29.3	20	27.0	31	41.3
12 and up	9	12.0	6	8.0	4	5.4	5	6.7
$\chi^2(9)=16.95, p<.05.$								

did over 50% of the sample have an income above \$750 a month. In all other settings the majority of people had an income below \$750 a month. Following the same pattern, only in the community was it found that the majority of the sample had 10 or more years of education, while in all other settings, the majority had less than 10 years of education. Hence, there are many similarities between elderly in EPHNS, EPHS and MLC settings and all three seem to differ from the community setting.

Sample Characteristics Compared to Canada,

Manitoba and Winnipeg Populations

Characteristics of the sample population are not identical to the Canadian, Manitoban or Winnipeg populations, but follows the trends of the larger populations. In Canada of those 65 and older, 42.01% are men, 57.99% are women and Manitoba's population is similar (42.60% men, 57.74% women). Winnipeg however, has a higher percentage of women (60.21%), and fewer men (39.79%). The sample surveyed has an even stronger skew towards women (65.6% female and 34.4% male) (see Table 7).

Marital status of the sample is not similar to Manitoba's and Canada's populations (Table 8). In Canada 75.6% of men are married, 14.1% widowed, compared to 52.5% of the men in the sample being married and 30.7% being widowers. This large difference between sample and larger populations is also seen among the women. Forty-nine percent of Canada's female population are widows compared to 66.8% of the sample, while 39.9% of Canada's women are married compared to 10.6% of the sample (Table 8).

Table 7
 Comparison of Sample to Winnipeg, Manitoba
 and Canada Populations - Sex by Age

	Total	Men		Women	
		#	%	#	%
^a Canada					
65 and older	2,697,575	1,133,335	42.01	1,564,240	57.99
^a Manitoba					
65 and older	133,885	57,030	42.60	76,855	57.74
^b Winnipeg					
65 and older	75,530	3,005	39.79	45,430	60.21
Sample	274	94	34.4	180	65.60
65 and older					

(^aStatistics Canada, 1987.

^bStatistics Canada, 1988)

Table 8
Comparison of Sample to Canada and Manitoba
Populations Marital Status

	Single	Divorced	Widowed	Married
^a Canada men 65	8.5%	1.8%	14.1%	75.6%
^b Manitoba Men 65 and older	10.0%	1.9%	13.3%	74.9%
Sample Men 60 and older	8.9%	7.9%	30.7%	52.5%
^a Canada Women 65 and older	9.5%	1.5%	49.1%	39.3%
^b Manitoba Women 65 and older	8.6%	2.6%	49.6%	40.0%
Sample Women 60 and older	14.1%	8.5%	66.8%	10.6%

(^aStatistics Canada, 1984; ^bBlandford & Chappell, 1985)

Table 9 shows that income is fairly similar across the sample, Manitoba and Canada, with the sample perhaps having the lowest income. Table 10 compares education levels across the Canada, Manitoba and sample populations with the sample being skewed towards lower education than Canadian and Manitoban populations.

As this sample has a higher number of women, a much higher percentage of widows and widowers, lower income and less education than the provincial and national values, the results of this study must be cautiously interpreted. It is possible that the sample is somewhat uncharacteristic as one-third of the sample are living in multi-level care homes, while only 6.7% of Canadians 65 and older live in such homes (Statistics Canada, 1984).

Table 9
Comparison of Sample to Canada and Manitoba
Population - Income

	Average Annual Income
<u>Canada</u>	
^a unattached individuals 65 and older	\$9,500.00
^b individual 65+ men	\$11,500.00
individual 65+ women	\$7,000.00
<u>Manitoba</u>	
^c non-family individual 65+ men	\$8,541.00
^c non-family individual 65+ women	\$7,648.00
MODE INCOME GROUP - WOMEN 60+(63.1%) 6,000 to 8,988.00	
MODE INCOME GROUP - MEN 60+(42.6%) \$6,000 to \$8,988.00	

(^aGovernment of Canada, 1983; ^bStatistics Canada, 1984;
^cBlandford & Chappell, 1983)

Table 10

Comparison of Sample to Canada and Manitoba
Populations - Years of Education

	Canada ^a	Manitoba ^b	Sample
less than Grade 9	52.9%	53.0%	55.5%
grade 9 to 13	30.0%	30.4%	36.5%
some university	6.0%	6.3%	(
non-university certificate	7.5%	10.3%	(8.0%
university certificate	5.0%	-	(
	-----	-----	-----
	101.0%	100.0%	100.0%

(^aStatistics Canada, 1984; ^bBlandford & Chappell, 1985).

Chapter 6

RESULTS

Reliability of Scales

The scales which were to be used for the dependent variable (life satisfaction), and as independent variables (health problem scale and proximity of friends and family scale) were all tested for reliability prior to being used in the statistical analysis. Reliability was tested by Cronbach alpha coefficients which tests the proportion of variance due to common factors among the items in the scale. A scale would need a reliability coefficient of .60 or better to be considered at least moderately reliable (Kerlinger, 1973); thus only scales with this value or better were used in the analysis.

Scale Building

Life Satisfaction Scale - dependent variable (LSAT). The scale was made of the following variables: satisfaction with health (Var 121), satisfaction with finances (Var 122), satisfaction with family relations (Var 123), satisfaction with friendships (Var 125), satisfaction with housing (Var 126), satisfaction with recreation (Var 128), satisfaction with religion (Var 129), satisfaction with self-esteem (Var 130), satisfaction with transportation (Var 131), general life satisfaction (Var 132).

The subject was asked to express which level from the following labels best described how he/she felt about that particular area of his/her life. The scale was 1) Terrible, 2) Very dissatisfying, 3) Dissatisfying, 4) Mixed, 5) Satisfying, 6) Very Satisfying, 7) Delightful, 8) No opinion.

The scale was found to be reliable ($\alpha=.777$) with 254 respondents providing answers on all items. The missing cases were equally distributed across the four types of environmental settings (Table 11).

Health Problems (HPROBS). The proposed Health Problems scale was to include variables 347 to 363. They are presence of the following: heart and circulation problems (Var 347), stroke (Var 348), arthritis (349), palsy (Var 350), eye trouble (Var 351), ear trouble (Var 352), dental problems (Var 353), respiratory problems (Var 354), digestive-stomach problems (Var 355), kidney trouble (Var 356), diabetes-glandular problems (Var 357), foot trouble (Var 358), nerve trouble (Var 359), skin problems (Var 360), nervous system problems (Var 361), cancer-tumor (Var 362), other chronic conditions (Var 363).

The above variables were presented in the survey as a list of health problems. Subjects were asked if they had any of the problems within the last year or otherwise will have after effect from having them. This scale was found to have an alpha of .5807, using 298 of the possible 300 cases. To raise the alpha to .60, many variables reflecting stroke, palsy, diabetes, nervous system problems, cancer and other ailments were removed.

Having removed these six variables, an alpha of .6002 was reached, utilizing 11 items. Removing other variables would not raise the alpha.

Proximity of friends and family. The scale of Proximity of Friends and Family was to include the following variables: location of nearest child (Var 233), location of nearest relative (Var 269), location of nearest friend (Var 281), location of nearest neighbour (Var 293),

Table 11

Frequency of Missing Cases for Life Satisfaction
Scale Across Environmental Setting

	Frequency of Missing Cases	% of Population Setting
Community	12	16
EPHNS	12	16
EPHS	9	12
MLC	13	17.3

location of nearest sibling (Var 245). (Location of nearest parent was excluded because only 10 of 300 subjects had living parents.)

Only 134 respondents provided answers to each of these items. The scale was not found to be reliable ($\alpha = .3796$). Dropping variables would not sufficiently raise the scale's reliability.

Examination of the correlation matrix (Table 12) of these variables revealed a positive correlation between location of nearest friends and neighbour, and a positive correlation between location of nearest child, sibling and relative. Thus two scales were formed:

- 1) Proximity of family.
- 2) Proximity of friends.

The Proximity of Family scale used 173 cases of the possible 300 in the reliability test. The scale was not reliable ($\alpha = .4705$). While the alpha could be raised to .5306, the scale would lose its meaning if variables were deleted. Thus, these variables will be examined individually.

Proximity of Friends scale used 218 of the possible 300 cases in the reliability test. The scale was not reliable with an alpha of .3007. Thus, each item attempted in the scale will be examined individually.

Statistical Analysis

Hypothesis 1: Sex and age independently contribute to life satisfaction scores among the elderly.

A Pearson's Correlation analysis revealed no significant correlation between the age of subjects and their life satisfaction scores ($r=.076$, $n=300$, $p=.094$). A t-test revealed no significant

Table 12
Correlation Matrix of Proximity of Family
and Friends Scale

Location of nearest:

	Child	Relative	Friend	Neighbour	Sibling
Child	1.0000				
Relative	.3706	1.0000			
Friend	-.1054	.1278	1.0000		
Neighbour	-.0437	.1345	.3385	1.0000	
Sibling	.0221	.3057	-.0214	.0834	1.0000

difference in life satisfaction scores by sex ($t(252)=1.29$, N.S.). A regression analysis further supported the above findings. The regression was completed with a simultaneously forced entry of both variables, age and sex, and a listwise deletion of missing data was used. The analysis was based on a sample size of 254. The regression found the overall $R^2(2,251)=.0101$, $p=.278$. Thus, neither age nor sex have predictive power on life satisfaction scores.

Hypothesis 2: Income, assistance in transportation, health, living spouse, mobility and number of years of education independently contribute to life satisfaction.

To analyze this hypothesis Pearson's Correlations were calculated (where appropriate) to discover if any relationships between the variables and Life Satisfaction scores existed. A Pearson's Correlation was used for perceived health, and the three mobility variables. Only the perceived health had a significant negative correlation with life satisfaction scores ($r = -.1956$, $N=300$), $p < .001$). Perceived health scale is rated from excellent for age (1) to bad for age (5), while life satisfaction scale is rated from terrible (1) to delightful (7).

None of the three mobility variables (ability to walk, ability to shop for groceries, and ability to shop for clothing) were found to have significant correlations with life satisfaction. (Ability to walk $r = .0688$, $n=300$, $p = .117$, ability to shop for groceries $r = -.712$, $n=300$, $p = .110$, ability to shop for clothes $r = .0083$, $n=300$, $p = .443$).

The relationship between life satisfaction and assistance in transportation variable and marital status were analyzed by a t-test.

One-tailed probability was used because it was hypothesized that those who received no transportation assistance and those who were married would be more satisfied. A pooled-variance estimate was used because the groups are drawn from the same sample. Those who received no assistance in transportation had a higher mean Life Satisfaction score than did those who received assistance ($t(252)=1.83, p<.05$). Whether or not a subject had a spouse was unrelated to life satisfaction ($t(252)=-1.03, p>.05$).

The relationship between education and income with Life Satisfaction scores were examined by one-way analysis of variance. The ANOVA years of school was significant, ($F(3,24)=4.70, p<.01$). The mean life satisfaction scores became greater with an increase in number of years of school. A Scheffe procedure found that those with education levels of grade 6 and less were significantly less satisfied ($p<.05$) than those with at least 10 years of education (Table 13).

A significant income effect was found for life satisfaction, $F(5,223)=3.5448, p<.001$). The mean life satisfaction score for each group increased with increasing income with the exception of group 3. A Scheffe procedure indicated significant differences ($p<.05$) between those earning \$500-749/month and \$1250+/month (Table 14).

A multiple regression was used to test if any of the previously mentioned variables independently contribute to life satisfaction. A stepwise multiple regression was conducted using a mean substitution for missing data. On step 1, perceived health was entered and on step 2 health problems was entered (Table 15). No other variables were entered

Table 13
Mean Life Satisfaction Score by Education

Education	Mean Life Satisfaction Score
Group 1 - grade 6 or less	48.2571
Group 2 - grades 7 to 9	50.7947
Group 3 - grades 10 to 12	51.3483
Group 4 - post secondary	51.650

Table 14
Mean Life Satisfaction Score by
Average Monthly Income

Income	Mean Life Satisfaction Score
Group 1 \$250 or less	43.0000
Group 2 \$250 to \$499	50.3182
Group 3 \$500 to \$749	49.3902
Group 4 \$750 to \$999	50.8409
Group 5 \$1000 to \$1249	51.6500
Group 6 \$1250 or more	54.3889

Table 15

Multiple Regression of Personal Resource Variables
and Life Satisfaction (PIN =.05)

Variables in order of selection	r	b	r ²	F change
Var 346 Perceived health	.5409	-.5409	.2926	123.266*
Health problems scale	.5627	-.1846	.3166	68.806*

*p<.001

Table 16

Multiple Regression of Personal Resources Variables
and Life Satisfaction (PIN =.5)

Variables in order of selection	r	b	r ²	F change
Var 346 Perceived health	.5857	-.5857	.3430	73.625*
Health problems scale	.6123	-.2136	.3749	41.986*
Var 43 Income	.6181	.0865	.3820	26.641*

*p<.001

because the $PIN=.050$ limits were reached. With PIN raised to $.5$, and $POUT$ to $.55$, only income was added to the equation (Table 16).

Hypothesis 3a: The elderly's life satisfaction scores will be positively related to the amount of usage of environmental services.

Each individual variable was correlated with Life Satisfaction scores to determine whether a relationship existed. In only one case (entertainment/recreational services) was the hypothesis supported (Table 17).

Greater use of emergency clinics, dentists, pharmacists, community health clinic and lawyer were all significantly, but negatively, related to life satisfaction. Health and service related variables (chiropractor, optician) tend to be negatively related to life satisfaction, while leisure, recreation, and social variables (shopping, visits to minister/rabbi/priest and visits to a seniors' centre) tend to be positively correlated with life satisfaction.

Hypothesis 3b: The elderly's life satisfaction scores will be greater with a higher number of on-site environmental services.

Due to the data distribution this analysis could not be done. In For most of the the variables very few subjects were actually using the service and only those who used the service were asked if the service was located on site. Thus the sample sizes for eight of the eleven variables were under 50. In four cases there was no variation in the value of the variable and no correlation coefficient could be completed. A scale could not be computed because there were not sufficient numbers of subjects who answered all variables. Thus this hypotheses cannot

Table 17

Pearson Correlations between Frequency of use of
Environmental Services and Life Satisfaction

Variable	LSAT
var 708 entertainment/ recreational services	r=.1435 n=251 p<.05
var 718 shopping facilities	r=.0262 n=252 NS
var 723 emergency clinic	r=-.1183 n=251 p<.05
var 731 dentist	r=-.1809 n=252 p<.05
var 735 chiropractor	r=-.0191 n=254 NS
var 747 pharmacist	r=-.1372 n=248 p<.05
var 751 optician	r=-.0257 n=253 NS
var 763 minister/rabbi/ priest or church visitor	r=.0585 n=251 NS
var 771 seniors' centre	r=.0019 n=253 NS
var 779 community health clinic	r=-.1892 n=254 p<.001
var 783 lawyer	r=-.2353 n=253 p<.001

be analyzed. This problem occurred due to the way the subjects answered the questions, not due to the hypothesis or interview schedule.

Hypothesis 4: Environmental setting (community, EPHS, EPHNS, MLC) is related to life satisfaction among the elderly such that the more available the services within the housing situation, the higher the life satisfaction score when health is controlled for.

The first analysis of covariance to test this hypothesis only controlled for perceived health. Fifty cases were missing. Controlling for perceived health, a main effect of environmental setting in life satisfaction was found $F(3,245)=3.564$, $p<.05$ (Table 18).

The pattern of mean life satisfaction scores by environmental settings (Table 19) supports the hypothesis, as it appears that, of elderly who most need services (seniors in EPHS and MLC), those in MLC have a higher mean life satisfaction score. Those who need fewer services (community and EPHNS residents) have a higher life satisfaction score if they are in the community. Furthermore, residents in MLC have a higher life satisfaction score than in EPHNS; this may relate to EPHNS residence needing services which are not available.

The second analyses of covariance examined environmental setting and health problems controlling for perceived health. The covariate, perceived health, significantly contributed to the variance of life satisfaction scores with an $F(1,323)=143.907$, $p<.001$. Environmental setting contributed significantly to life satisfaction $F(3,23)=3.69$, $p<.05$ when perceived health was controlled. Health problems did not contribute significantly. The two-way interaction between health problems and environmental exists $F(9,232)=2.808$, $p<.01$ (Table 20).

Table 18
 Analysis of Variance
 LSAT by Var13A with Var 346 Perceived Health

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates					
Var 346	2802.211	1	2801.211	133.512	0.000
Main Effects					
Var 13A	224.391	3	74.797	3.564	0.015
Explained	3026.602	4	756.651	36.051	0.000
Residual	5142.154	245	20.988		
Total	8168.756	249			

300 cases were processed.
 50 cases (16.7%) were missing.

Table 19
 Mean Life Satisfaction Scores By Environmental
 Settings, and By Health Problems

Environmental Setting	Mean Life Satisfaction Score
Community	52.10
EPHNS	49.03
EPHS	48.45
MLC	51.77

Health Problems *	Mean Life Satisfaction Score
Health Category 1	52.89
Health Category 2	50.76
Health Category 3	49.26
Health Category 4	46.80

*health categories are based on quartiles of health problem scale.

Table 20
 Analysis of Variance
 LSAT by Var 13A HCATG with Var 346
 Perceived Health

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates					
Var 346	2778.431	1	2778.431	143.907	0.000
Main Effects	369.219	6	61.536	3.187	0.005
Var 13A	213.822	3	71.274	3.692	0.013
HCATG	149.991	3	49.997	2.590	0.054
2-way interactions					
Var 13A HCATG	487.992	9	54.221	2.808	0.004
Explained	3635.641	16	227.228	11.769	0.000
Residual	4479.258	232	19.307		
Total	8114.900	248	32.721		

Examining life satisfaction means for each cell, environmental setting does not change. Health problems were categorized into groups based on quartiles of the distribution of the health problem scale. Subjects in Health Category 1, have fewer health problems than those in health category 2, 3 or 4. Table 18 also shows that as the number of health problems increase the life satisfaction scores are lower. An examination of life satisfaction by environmental setting and health categories (Table 21) shows a similar pattern.

After excluding the community setting, there is a trend for those in higher care facilities to report higher life satisfaction, within each health category. This supports the hypothesis.

Hypothesis 5: Among elderly who moved to find better environments, those who found better environments have higher life satisfaction scores than those who did not find a better environment.

Several different reasons for moving are examined to test this hypothesis. For each reason two t-tests were completed. The first t-test is to determine whether those who moved for a given reason had higher life satisfaction scores than those who did not move for that given reason. The second t-test for each reason directly addresses hypothesis 5. This t-test examines those who did move for a particular reason. It is hypothesized that if the subjects found what they moved to find, they will have a higher life satisfaction score. In both t-tests, the groups are from the same population; therefore a pooled variance estimate is used.

Table 21

Mean Life Satisfaction Scores by
Environmental Settings by Health Categories

Env. Setting	Health Category			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4
1 community	53.35 (31)	51.92 (13)	52.00 (10)	48.11 (9)
2 EPHNS	50.83 (18)	55.29 (7)	46.88 (17)	47.26 (19)
3 EPHS	52.61 (23)	48.00 (14)	49.00 (10)	42.59 (17)
4 MLC	53.96 (27)	49.75 (8)	50.30 (10)	50.00 (16)

The first tested reason for moving is better shopping facilities. There is no significant difference between those who moved for this reason and all others ($t(207)=.53, p>.05$). Of those who moved to find better shopping facilities, there was a significant difference in mean life satisfaction scores between those who found better shopping facilities, and those who did not ($t(32)=1.75, p<.05$). Those who found better shopping facilities had higher life satisfaction scores than the group who did not find better shopping facilities.

Subjects who moved to find better leisure facilities had higher mean life satisfaction scores ($\bar{x}=51.65$) than those who did not move for this reason ($\bar{x}=49.36$) ($t(207)=-2.44, p<.05$). Of those who moved for this reason, those who found better leisure facilities had higher life satisfaction scores than those who moved and did not find improved leisure facilities ($t(45)=1.73, p<.05$).

Moving to find better health facilities is not related to life satisfaction ($t(207)=.2, p>.05$). However, if the subjects moved for this reason and did not find the health facilities to be better than in the previous residence, the life satisfaction score was lower than if better facilities had been found ($t(37)=1.80, p<.05$).

Moving to find better residential facilities was not related to mean life satisfaction scores across those who moved for this reason and those who did not ($t(207)=1.37, p>.05$). Again, if this was a reason for moving, if the better residential facilities were found, life satisfaction scores were higher ($t(73)=3.60, p<.001$).

No significant difference in life satisfaction scores were found between those who moved because of less comfort or security at previous residence and those who did not move for this reason ($t(207)=.08$, $p<.05$). However those who moved for this reason and found more comfort and security had higher life satisfaction scores than those who did not find greater comfort and security ($t(89)=3.18$, $p<.01$).

There was a significant difference found between those who moved to be near family and friends, and those who did not ($t(207)=2.23$, $p<.05$). The group who moved for this reason had a higher mean life satisfaction score than the group who did not move for this reason. Of those who moved to be near family and friends, those who found themselves nearer to family and friends had higher life satisfaction scores than those who did not find family and friends nearer ($t(57)=2.51$, $p<.01$).

No significant difference was found between those who moved to find better social activity and those who did not move for this reason ($t(207)=1.47$, $p>.05$). However, those who moved for social activity and found improved social activity had higher life satisfaction scores than those who moved to find social activity and did not find it. ($t(42)=2.19$, $p<.05$).

Hypothesis 6: Proximity of family and friends will be related to life satisfaction scores among the elderly.

The original test of this hypothesis was to be a correlation between life satisfaction scores and a scale of proximity of family and friends. However, as explained in the methodology section, the scale was unreliable; thus each variable was separately correlated with the

Life Satisfaction score. Proximity of Family and Friends, was measured by how close or far away the nearest family member or friend lived. Proximity was measured by 1) within walking distance, 2) not within walking distance but somewhere within the city, 3) less than a day's journey, 4) a day's journey and, 5) more than a day's journey. A nonparametric correlation, Spearman rank order correlation, was used because the variables of proximity are rank ordered, and not equal interval, data. The proximity of children, siblings, other relatives, friends and neighbours were used while proximity of parents was excluded due to a small sample size of 7. A significant correlation was found between proximity of children and life satisfaction score ($r = -.1418$, $n=201$, $p < .05$). This correlation determines that proximity to children is related to higher life satisfaction scores. A significant correlation was found between proximity of other relatives ($r = -.1559$, $n=238$, $p < .01$). The proximity of siblings was unrelated to life satisfaction ($r = .0301$, $N=202$, $p > .05$).

Proximity of neighbours was significantly correlated with life satisfaction scores. ($r = .1160$, $N=221$, $p < .05$). Here, the relationship is that the nearer the neighbour the lower the life satisfaction score. The proximity of friends was not found to correlated significantly with life satisfaction ($r = .0491$, $n=220$, $p > .05$). Thus hypothesis six was partially supported.

The Model.

The model was tested by a series of hierarchical multiple regressions. The regressions were found not to be significant.

However, the following section discussed the independent variables order to selection based on variance accounted for. A high PIN POUT (.1 on .1 respectively) were used to keep all variables in the equation. A means substitution was used for missing values.

The first hierarchical regression used a forced entry to reflect the model. The characteristic variables (age, sex, and length of widowhood, were entered first, simultaneously, followed by personal resource variables, also entered simultaneously, and last, by all environmental variables entered stepwise. The results indicating entry order of this regression are shown in Table 22. The characteristic variables are grouped as are the personal resource variables. The environmental variables follow the vague pattern of health related environmental variables groups first, followed by proximity of relatives, and all other variables to follow.

A stepwise hierarchical regression analysis was then conducted on all variables. This was to discover if the order of selection of all variables would be similar to the model's grouping of variables. The result of this regression analysis, again not statistically significant, showed only a pattern of health related variables, both resources and environmental, selected first, followed by income, proximity of family and other variables (Table 23).

Finally, two hierarchical regressions were conducted on only the variables found in earlier analyses to be significantly related to life satisfaction. The first of these hierarchical regressions forced a simultaneous entry for personal resource variables (no characteristic

Table 22

Hierarchical Regression of All Variables.
Forced Entry to represent Model

Variables in order of selection	Original Category of Variables
Age	Character
Sex	Character
Length of widowhood	Character
Health problems	Personal resource
Education	Personal resource
Income	Personal resource
Assistance in transportation	Personal resource
Marital status	Personal resource
Ability to walk	Personal resource
Perceived health	Personal resource
Ability to shop for clothes	Personal resource
Ability to shop to groceries	Personal resource
Proximity to relatives	Personal living environment
Frequency visit dentist	Neighbourhood/community environment
Frequency visit lawyer	Neighbourhood/community environment
Frequency visit community health clinic	Neighbourhood/community environment
Proximity of children	Personal living environment
Frequency of visits to optician	Neighbourhood/community environment
Proximity of siblings	Personal living environment
Frequency of visits to emergency clinics	Neighbourhood/community environment
Frequency of entertainment facility	Neighbourhood/community environment
Proximity of friends	Personal Living Environment
Frequency of visits to pharmacy	Neighbourhood/community environment
Environmental setting	Personal living environment
Frequency visits to shopping centre	Neighbourhood/community environment
Frequency visits to seniors centres	Neighbourhood/community environment
Proximity of neighbours	Personal living environment
Frequency visits to priest/rabbi	Neighbourhood/community environment
Proximity to parents	Personal living environment
Frequency visits to chiropractor	Neighbourhood/community environment

Table 23

Hierarchical Regression of All Variables: Stepwise

Variables in order of selection	Original category of variable
Perceived health	Personal resource
Health problems	Personal resource
Proximity of relative	Personal living environment
Frequency visits to dentist	Neighbourhood/community environment
Frequency visits to community health clinic	Neighbourhood/community environment
Frequency visits to lawyer	Neighbourhood/community environment
Income	Personal resource
Frequency visits to optician	Neighbourhood/community environment
Sex	Characteristic
Proximity of siblings	Personal living environment
Proximity of children	Personal living environment
Frequency of visit to entertainment facility	Neighbourhood/community environment
Frequency of visits to emergency clinics	Neighbourhood/community environment
Age	Characteristic
Ability to shop for clothes	Personal resource
Ability to shop to groceries	Personal resource
Proximity of friends	Personal living environment
Frequency visit to pharmacy	Neighbourhood/community environment
Environmental setting	Personal living environment
Length of widowhood	Characteristic
Education	Characteristic
Marital status	Characteristic
Assistance in transportation	Personal resource
Frequency visit to shopping facilities	Neighbourhood/community environment
Frequency visits to seniors centres	Neighbourhood/community environment
Proximity of neighbour	Personal living environment
Frequency visits to priest/rabbi	Neighbourhood/community environment
Ability to walk	Personal resource
Proximity of parents	Personal living environment
Frequency visits to chiropractor	Neighbourhood/community environment

Table 24

Hierarchical Regression of Significant Variables:
Forced Entry According to Model

Variables in order of selection	Category of variable
Health problems	Personal resource
Education	Personal resource
Assistance in transportation	Personal resource
Income	Personal resource
Perceived health	Personal resource
Proximity to relative	Personal living environment
Frequency visit to dentist	Neighbourhood/community environment
Frequency visit to community health clinic	Neighbourhood/community environment
Frequency visit to lawyers	Neighbourhood/community environment
Proximity of children	Personal living environment
Frequency visit to emergency clinic	Neighbourhood/community environment
Frequency visit to entertainment facility	Neighbourhood/community environment
Environmental setting	Personal living environment

variables were significant) and used a stepwise entry for the remaining environmental variables (Table 24). The analysis results in a similar pattern of health related variables being ordered first followed by resource variables. When all these variables were entered in a stepwise hierarchical regression this pattern is again seen (Table 25). Health variables are followed by income and family variables.

Table 25

Hierarchical Regression of Significant Variables:
Stepwise

Variables in order of selection	Category of variable
Perceived health	Personal resource
Health problems	Personal resource
Proximity to relative	Personal living environment
Frequency visits to dentist	Neighbourhood/community environment
Frequency visits to community health clinic	Neighbourhood/community environment
Frequency visit to lawyer	Neighbourhood/community environment
Proximity of children	Personal living environment
Frequency visits to emergency clinics	Neighbourhood/community environment
Frequency visits to entertainment facilities	Neighbourhood/community environment
Assistance in transportation	Personal resources
Education	Personal resource
Environmental setting	Personal living environment

Chapter 7

DISCUSSION

Hypotheses

Hypothesis 1: Sex and age independently contribute to life satisfaction scores among the elderly.

Sex was not independently related to life satisfaction as was hypothesized. This is supported in the literature by Larsen (1978) who reviewed thirty-seven years of research on well-being and found no consistent sex differences. In the perspective of the focal system as described in the developed theory, sex is neither a help nor hinderance, thus it is characteristic, not a resource.

Age was found not to independently contribute to life satisfaction as well. The literature is slightly confusing on the issue of age and life satisfaction; most research finds that age itself is not one of the major contributors to life satisfaction (Thomas, 1980). However, age is related to other variables such as the renting of a home versus owning a home (Connidis and Rempel, 1983) which may contribute to life satisfaction. Thus, in an indirect way, age may affect life satisfaction, but it does not independently affect life satisfaction. As with sex, this finding clearly denotes age as a characteristic, not a resource.

Hypothesis 2: Income, assistance in transportation, health, living spouse, mobility, number of years of education independently contribute to life satisfaction.

Of the variables hypothesized to contribute to the life satisfaction scores, health, income, assistance in transportation and

years of education were related to the dependent variable. The tests used to determine the relationships between the independent variables and life satisfaction do not examine the independent affect of each variable. To determine the independent contribution of each variable a multiple regression was conducted. Perceived health and health problems were the only two variables selected which independently contribute to life satisfaction.

The strength of the relationship between life satisfaction and health is well supported in literature. Health was found to be the only demographic variable which significantly predicts life satisfaction. (Chapman & Beudet, 1983). This may also be supported by the Interactive Ecological Theory. Health is a non-renewable resource and as this resource dwindles, the result is that needs cannot be fulfilled and new needs due to loss of health arise. For example, arthritic pain may be lessened, but the crippling effect of the condition cannot be corrected. Hands which cannot hold a pen are very difficult to replace. Likewise, stroke, heart conditions and loss of vision/hearing can all be partially dealt with medically; however, the lasting problems which affect daily living are difficult to remedy and interfere with one's ability to maintain independent living. Thus, the effect health, and perceived health have on life satisfaction is easily explained.

Other variables, although they did not contribute independently, did have a significant relationship with life satisfaction. There was a significant difference in mean life satisfaction scores between those

individuals who had help in transportation and those who did not. Those who did not receive assistance had a higher life satisfaction scores. This may be interpreted as those who do not receive help are not in need; thus, they still have personal resources which allow them the independence. The other group lacks the personal resource of transportation and must rely, at least in part, on others. Reliance on others for transportation may be a threat to the individual's feelings of autonomy and independence (Cutter, 1975) and lack of personal transportation has been related to declining life satisfaction scores (Cutter, 1975). In addition, reliance on others for transportation may be unreliable, frustrating and inconvenient.

Years of schooling were found to be significantly related to life satisfaction scores. Those with grade 6 or less were significantly less satisfied than those with more than a grade 10 education. Many explanations for this relationship are offered in the literature. Higher education levels are related to feelings of greater self-worth and self-esteem (Hess & Markson, 1980); ability to adapt to changes increases with increasing education levels (Hess & Markson, 1980); and higher education is related to higher income. In this study the correlation between income and education is .1415 ($n=300$, $p<.05$). The Interactive Ecological Theory would explain this relationship as a culmination of the other explanations. Increasing education level is a resource which, through higher self-esteem, more varied coping mechanisms, higher income, etc., allows the focal system to fulfill its needs. The fulfillment of needs is obtained more easily with greater competence and results in greater satisfaction.

Income level was found to account for a significant proportion of the variance of life satisfaction scores; the greater the income the higher the life satisfaction scores. The slight drop in the third group's (\$500 to \$749/month) life satisfaction scores, an exception in the previously mentioned trend, is likely because the majority of subjects are in this category having the greatest variance in scores. If all income categories contained equal numbers of respondents, the trend of higher income, higher life satisfaction would likely hold true. The relationship between income and life satisfaction is well documented in the literature (Kahana et al., 1977; Lawton, 1980). This relationship is easily defined by the developed theory. Income is a resource which aids in the fulfillment of many of the focal system's needs. The more income the more easily needs are fulfilled. Lack of income can result in many needs not being attended.

The two variables which were not significantly related to the dependent variable were having a living spouse and mobility. The mobility variables, surprisingly, did not correlate with life satisfaction. This result is not found in the existing literature; mobility has been found to relate to life satisfaction, (Bourg, 1975; Hulmann, 1976; Toseland & Tasch, 1978). One explanation, and the most viable, is that the measures of mobility did not indeed measure mobility. The items used to determine mobility included "Yes, but need some help usually, can do regular shopping alone but may need assistance carrying, transportation, or delivery to home." It is clear that physical mobility, lack of transportation and ability to get assistance are confounded. Another explanation may be that two-thirds or more of

the sample did not have mobility problems and that this skew in the sample affected the outcome of the correlational analysis. This result is also in contradiction to the proposed theory. Mobility is a resource which is needed to fulfill, or at least more easily fulfill, many needs, including shopping, cooking and actually eating.

Having a living spouse is considered a resource by the proposed theory. This is supported in the literature, for marital couples are more likely to have higher incomes, better housing and be younger, and consequently better able to maintain their home (Connidis and Rempel, 1983; Lawton, 1981). Larson, 1978, supports the relationship between life satisfaction and presence of a living spouse; his research differentiates between married people and those separated, divorced and widowed. However, he found people who were never married to have the same life satisfaction scores as married. Thus, the lower life satisfaction scores may be related to a loss of spouse, not to the lack of a spouse. The theory can further support this finding; having a spouse is related to other resources (e.g. home ownership) which may help to fulfill needs. The loss of a spouse will temporarily affect life satisfaction. The lack of a spouse does not directly affect life satisfaction, and would do so only if other resources were affected.

Hypothesis 3. The elderly's life satisfaction scores will be related to the amount of usage of environmental services.

The data did not support this hypothesis. The Usage scales which were to test this hypothesis were not found to be reliable, and only individual correlations were used. The pattern which occurred was that service type of environmental services (such as clinics or lawyers) were

negatively related to life satisfaction; more visits were related to lower life satisfaction. This may indicate these visits are caused by negative life events such as illness or legal problems. Therefore the more often the person makes such visits, the lower the life satisfaction. It is doubtful that the location of these services, or availability of these services is actually reflected by this relationship. Furthermore, frequency of visits does not reflect the importance of the visit, or the life event surrounding the visit. For example, a visit to a lawyer may be to add an item to a will or it may be to execute a deceased spouse's estate. The impact of the visits are very different. Likewise, the positive relationship between recreation facilities and life satisfaction suggests the positive aspect of the visits. Availability of these services is difficult to analyze with these data. However, since usage of these services, entertainment, and recreation services, shopping facilities, seniors' centres, and rabbi/priest/clergy are positively correlated with life satisfaction scores, it may be assumed that if these services were not available that life satisfaction scores would be reduced. Further, it may be assumed that if those services which are used due to negative life events were not available an even greater reduction in life satisfaction would occur. This would happen because the individual would have no ability to correct or relieve the negative life event. However extreme caution must be used when making such assumptions.

The results of this analysis are contrary to results commonly found in literature. In the literature it is generally agreed that the more available services are to housing the more satisfied are individuals

(Huttman, 1977; Lawton, 1975; Page & Muir, 1975). The contradiction between this result and the commonly held view in the literature only confirms the likelihood that the items used to test the hypothesis, were not reflecting availability of the service but purpose of the visit to the service.

Hypothesis 4: Environmental setting (community, EPHS, EPHNS, MLC) is related to life satisfaction among elderly such that the more available the services within the housing situation, the higher the life satisfaction score when health is controlled.

Close proximity of services is repeatedly discussed as a predictor of life satisfaction (Carp, 1976; Carp & Carp, 1982; Cantor, 1975; Struyk & Soldo, 1980; Huttman, 1977, Lawton, 1975; Page & Muir, 1971). This hypothesis takes this one step further and suggests that the availability of a service in one's housing is positively related to life satisfaction. This hypothesis was supported if the community residents are not included in the analysis. This suggests that the availability of a needed service positively affects life satisfaction. If an available service is not needed, such as in the community sample, there is no relationship to life satisfaction. This relationship is most strongly seen when the health category and environmental setting are studied. Here, the greater the number of health problems, the greater life satisfaction scores as the amount of services in the environmental settings increases.

Hypothesis 5: Among elderly who moved to find better environments, those who found better environments have higher life satisfaction scores than those who did not find a better environment.

In all cases, when a subject moved for any of the given reasons (better shopping facilities, better leisure facilities, better health facilities, better residential facilities, better security, to be near family and friends and for increased social activity) those who found what they felt had been lacking in their previous home had a higher life satisfaction than those who felt only a marginal or non existent change. This result further supports the results for hypothesis 4, in that if there was a need life satisfaction was affected. The relationship between life satisfaction and environmental services and amenities is well documented in the current literature (Cantor, 1975; Carp, 1976; Carp & Carp, 1982; Huttman, 1977, Lawton, 1975; Page & Muir, 1971; Struyk & Soldo, 1980).

The model predicts the finding that the availability of a service affects life satisfaction only when a need arises. As personal resources such as health and mobility are depleted, services which increase convenience, such as a nearby grocery store, help in meeting needs, thus satisfying the focal system.

An interesting finding was that only two reasons for moving were related to life satisfaction, regardless of the outcome of the move. Moving to find better leisure facilities and to be near to family and friends were both related to life satisfaction. One interpretation of this finding could be that just having a great enough interest in leisure activity or one's family or friends as to consider it a reason for moving is in itself a predictor of greater life satisfaction. Those who lack the interest are perhaps lacking a very vital part of their life - leisure or family interests, this may predict lower life satisfaction.

Hypothesis 6: Proximity of family and friends will be related to life satisfaction scores among the elderly.

This hypothesis was not strongly supported. Only proximity of children or "other relatives" correlated significantly with life satisfaction. The literature points to continued contact with family and friends regardless of location of residence and proximity (Bourg, 1975, Kahana, 1977; Poulin, 1984). However, Carp (1976) found that over an eight year period residents of a housing project grew to have a greater desire to have their friends and family in near proximity. In light of Carp's (1976) findings perhaps this hypothesis would be better tested longitudinally.

The relationship between proximity of a neighbour and life satisfaction scores is contradicts the published literature. Cantor (1975) found that neighbours offer more than mutual helping activities, in fact, often very strong friendships between the elderly and their neighbours exist. One reason for this contradiction may be that in the study a neighbour was defined as "other than relatives or friends, how many people do you consider neighbours?" This definition does not conjur images of friendly people who live next door. Actually "friends" are eliminated from the definition of a neighbour. Thus Cantor's findings are unlikely to be reflected in this study's findings. This relationship between close proximity of neighbours and low life satisfaction may be reflecting over crowded conditions in neighbourhoods EPH and MLC.

The Model

Prior to discussing the results of the tests of the model certain key points regarding the model must be highlighted. The focal system is always moving towards an endstate of self maintenance. The initial condition of the focal system and the environment will determine the final state, that is, the level of self-maintenance the focal system will attain. In the process of moving towards an end state, if the focal system needs, accesses and uses an environmental feature, then by definition, that environmental feature has crossed the functional boundary and become part of the focal system's subsystem of personal resources. Further, the model does not imply one level of environment is more important than another. The ordering of environments is a means of defining systems within systems, thus the stratified environmental levels, such as a housing development (personal living environment) within a larger neighbourhood (Neighbourhood/Community environment).

At first glance the results of the hierarchical regression analysis seems not to support the model. However, in light of the points highlighted, the contrary is true. First, the stepwise hierarchical regression (Table 23) orders perceived health and health problems first, followed by proximity of relative, frequency visits to dentist and frequency visits to community health clinic, all of which could be environmental features used in fulfilling health needs. This supports the model in that the initial condition of the focal system and environment determine the end state. The order of variables which results from this regression combines needs (lack of personal resource)

with the environmental features which are used in the fulfillment of these needs. Lawyer and income are sequentially ordered. Visits to lawyers often are income related, through wills and estates, real estate or pension concerns. Sex is grouped with proximity to siblings and children; women tend to be alone (single, widowed) more than men, thus rely more heavily on family.

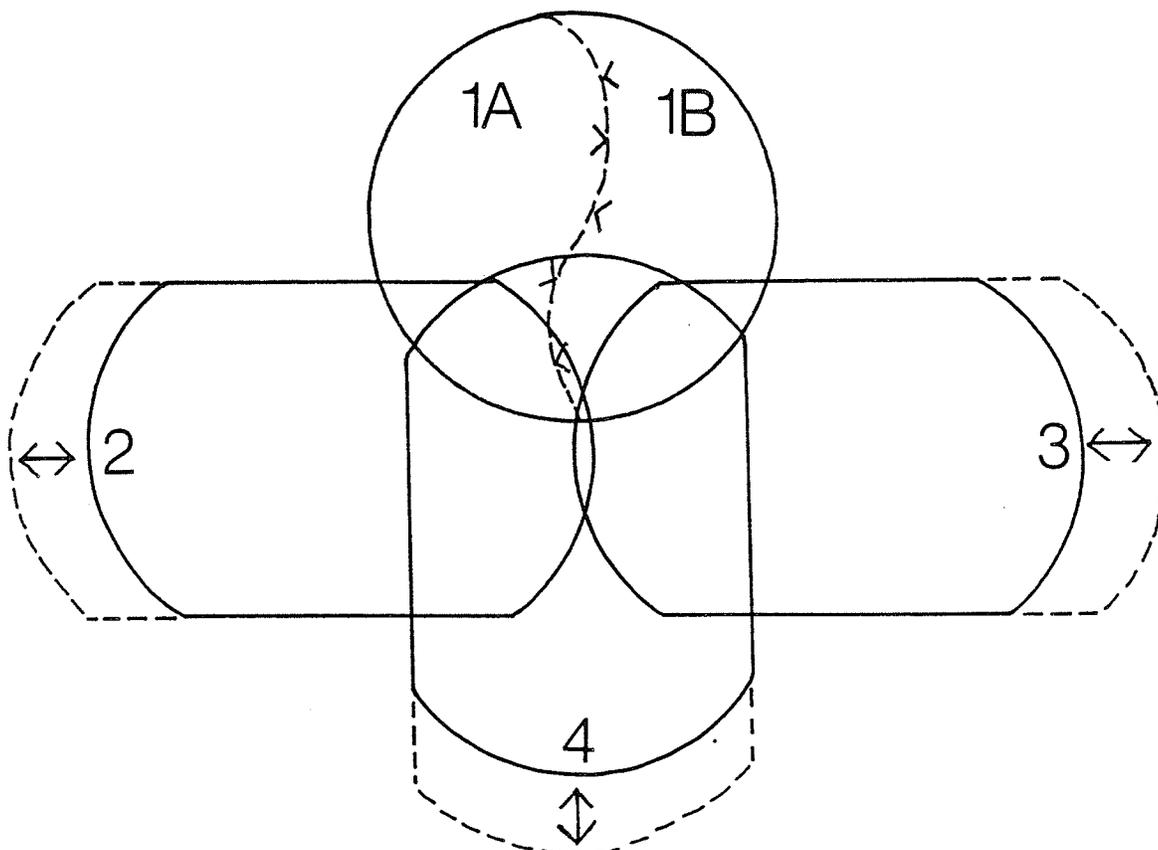
The results from the series of hierarchical regressions also support the model when functional boundaries of the focal system are taken into account. The significant relationships between environmental variables and life satisfaction suggest that these environmental variables are used in an attempt to fulfill needs. Thus they are by definition part of the focal system's subsystem of personal resources. These environmental variables can be best explained as prostheses for the missing personal resources. As the focal systems personal resources diminish, the environment is relied on to fill gaps. Problems occur when the environment cannot fill the gaps with a prosthesis or if the prosthesis is not easily accessible. For example, when an elderly person can no longer drive for health reasons, then the environment is relied on to provide a prosthesis: Public transportation which can be readily used, even by a functionally impaired senior.

Finally, the order of the variables shows that the neighbourhood/community environment is as important as, and in some cases more important than, the personal living environment and even certain characteristics and resources of the focal system. This supports the model; as the focal system ages and personal resources diminish, there is greater reliance on the neighbourhood/community environment for help in fulfilling its needs.

Figure 2.

Model of Interactive Theory for
The Environment and The Elderly

- 1 Elderly individual.
 - A. Physiological, social
and psychological needs.
 - B. Individual's resources and
characteristics.
- 2 Personal living environment.
- 3 Neighbourhood/Community environment.
- 4 Socio-Political environment.



The results from these hierarchical regressions suggest that a different visual representation of the theory is needed: One which does not stratify the environments, but shows interaction (Figure 2).

This revised visual representation of the theory (Figure 2) does not change the actual theory but better represents the environments. In this model, the amount the ellipses overlap the focal system represents the amount of interaction across boundaries. This depicts the three environments to be of equal importance but with varying degrees of inputs to the focal system. Also, the segmented line between the two subsystems of the focal system represents its malleability. This allows one subsystem to grow and be larger than the other. The focal system is continually changing as it ages. All other aspects of the model remain the same.

Chapter 8

LIMITATIONS AND SUGGESTIONS

There are some general limitations and suggestions for further research. The first limitation is the sample. The sample used in this research is not highly representative of the city, provincial or national population for two main reasons. First, the sample was matched for age, and second, one third of the sample lived in multi-level care facilities where as only 6.7% of Canadians 65 and older live in such homes (Statistics Canada, 1984).

The other limitations of this research project are due to the fact that secondary analysis of data was used for this research. The reasons secondary analysis were used were: 1) secondary analysis saves on limited financial resources; data collection is very costly and the more often one data set may be used, the less expensive that data set becomes; 2) secondary analysis saves duplication of data; 3) secondary analysis saves the target population time as fewer surveys will be conducted using their time; and 4), secondary analysis saves time in research.

Limitations due to secondary analysis are: 1) hypotheses have to "fit" the data. This occurs because available data sets may not have all variables needed to test a given hypothesis. Thus, one must create hypotheses which may be tested by available variables in data being used. This limits the ability to accurately test the theory and model developed. 2) Items on questionnaires do not always accurately reflect the variable the researcher is attempting to study. An example of this limitation is in the testing of hypothesis 3 where the reason for a

visit to an environmental service may have been what was being measured as opposed to the accessibility and usage of the environmental service.

3) When using secondary analysis extreme caution must be used in interpreting results because of the aforementioned limitations.

The limitations of this research project suggest that further research should be conducted. The theory should be tested with a more representative sample. To truly test the theory an objective analysis of personal living environment and neighbourhood/community environments should be conducted for each focal system. With this information and information about the focal system's characteristics, resources and needs, the actual relationship between environment and the elderly could be found.

Longitudinal research which traces the focal system as it ages and the environment as it changes would give an accurate reflection of the interaction between environments and the focal system through time. This research, although costly, would be an excellent test of the theory developed in this project.

The findings of the study also suggest that further research should be completed. First, the relationship between environment and life satisfaction could be further studied to find which environment - personal living, neighbourhood/community, or socio-political is of most importance.

Secondly, how can a deficient neighbourhood be improved so that people will not have to move to find better services? This study found neighbourhood to be as important as other aspects of environment, thus new housing neighbourhoods may be little better than deficient housing. This is relevant considering that lower valued property is where EPH facilities are built due to financial limitations.

Third, the new model which was based on the findings should be tested and further developed.

Chapter 9

IMPLICATIONS

One of the most enlightening findings of this research, that is supported in the literature, is age alone does not affect life satisfaction. This implies that all things being equal, an elderly person may be as satisfied with life as a young person. However, not all things are equal.

The relationship found between health and life satisfaction is supported in the literature. The poorer one's health, the lower life satisfaction. The knowledge of the importance of health in life satisfaction as one ages should be recognized and maintenance of health stressed. This finding is certainly not new and is fast becoming "old hat". However, the implication that through maintenance of health people can be healthier thus happier in old age must be not lost. Health promotion must be stressed as part of life development and certainly in education dealing with retirement. Research into helping people choose and maintain healthy life styles is needed.

The importance of income on life satisfaction is also not a new finding. However, this finding implies that people must recognize the need for adequate income. Government policy and public education are two ways to ensure a more affluent elderly population in the future. Public education through mass media could enlighten the public to appropriate financial schemes to insure a better financial future as an individual ages. Government policy on pensions and taxes could reflect this knowledge and help citizens to plan for a brighter financial future.

The support the model received from this research stresses the need for a more supportive neighbourhood/community environment. More research is needed to determine what are the general needs of the elderly regardless of the urban environment in which they live. Research of increasing accessibility of services would be useful. Finally, prior to the development of housing projects for seniors, a needs assessment of the prospective tenants is needed to assess to the available services in the neighbourhood/community environments. Needs not being met by the neighbourhood environment will either have to be met by the housing project itself or implemented in the neighbourhood/community environment.

This process must be conducted regularly over the years to ensure that the changing and likely increasing needs of the tenants are being met by the changing environment. Only if special care is taken to ensure that needs are met within the environment will housing projects maintain the elderly at a level of life satisfaction that our society desires.

Chapter 10

SUMMARY AND CONCLUSION

Using a secondary analysis of data obtained from interviews with 300 men (34.40%) and women (65.6%) the Interactive Ecological Theory for the Environment and the Elderly was tested. From this theory several hypotheses about characteristics, personal resources, and environmental services in relation to life satisfaction were developed and likewise tested. The dependent variable throughout this study was a life satisfaction score. This score was obtained from a life satisfaction scale which was found to be reliable with a Cronbach alpha coefficient of .777, which exceeds the .60 criteria. Independent variables include characteristics of the subjects: age, sex and length of widowhood; personal resources such as income, living spouse, education and health; and environmental variables such as reasons for moving, use of facilities and proximity of family and friends.

The sample tends to be uncharacteristic of Canada or Manitoba having lower income and education levels (Average income \$6,000 to \$8,988/year; 8.5% have grade 9 or less), a higher percentage of widows and widowers (66.8% women, 30.7% men), and one third the sample live in multilevel care facilities. Due to these factors, caution must be taken in generalizing the results. Trends in sex differences are that men tend to be married, live in the community and have higher incomes, whereas women tend to live in EPH and MLC facilities, be widowed and have low incomes.

The results of a multiple regression found that neither age nor sex contributed independently to life satisfaction. Of personal resources tested, health, income, assistance in transportation and years of education were related to life satisfaction. The relationships between health problems and perceived health to life satisfaction were the strongest relationships. There was a significant relationship between the use of several environmental services and life satisfaction. As well it was demonstrated that finding expected environmental features is important in predicting life satisfaction after the move. Finally, proximity of relatives and children were found to significantly relate to life satisfaction.

The theory was supported by the selection order of variables in a hierarchical regression. Environmental features which had become part of the focal system's functioning were ordered before those not being used for the functioning of the system. Also, the variables were in groups of needs and environmental features which were related to those needs.

In conclusion, the neighbourhood and community environment are of equal importance to the life satisfaction as the personal living environment and some personal resources. Thus great care must be taken when building developments for seniors. Further, through increasing the network of neighbourhood services, community living may become even more of an option for seniors than it is today. Proper assessments of the

elderly's needs and of communities must be done before building residences and initiating services. Those assessments must continue thereafter to ensure that changing needs are being met. Maintaining and implementing new services for the elderly to keep up with their needs is one of the biggest challenges in social gerontology today.

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Appendix

HOUSING AND SUPPORTIVE SERVICES FOR ELDERLY PERSONS IN MANITOBA

INTERVIEW SCHEDULE

Centre on Aging
University of Manitoba

Summer, 1986

FACE SHEET

IDENTIFICATION NO. _____

Line

01

INTERVIEWER: _____

DATE OF INTERVIEW: (Day, Month, Year)

TIME STARTED (in minutes) _____

TIME FINISHED (in minutes) _____

Time (minutes)

NO. OF CALLS TO OBTAIN INTERVIEW:

1

2

3

4

NO. OF CALLS TO COMPLETE INTERVIEW:

1

2

3

4

REGION

1 - Interlake

2 - Parklands

3 - Westman

4 - Winnipeg

5 - South Central

6 - Eastman

HOUSING ARRANGEMENTS 1 - Detached
 2 - Semi-detached
 3 - Apartment (no more than 4 stories)
 4 - Multiple unit, single storey
 5 - High rise
 6 - Guest/boarding home
 7 - Other (SPECIFY) _____
 9 - Missing

ENVIRONMENTAL SETTING 1 - Community
(LEAVE BLANK) 2 - EPH
 3 - Support Housing
 4 - MLC - (SPECIFY _____)

Joint management _____ Yes

_____ No

Juxtaposed _____ Yes

_____ No

LANGUAGE USED FOR INTERVIEW (SPECIFY) _____

SEX 1 - male
 2 - female

- iii -

INTERVIEWER: INTRODUCE YOURSELF TO THE RESPONDENT.

HELLO (MR./MRS./MS.) _____ . MY NAME IS
_____. I AM FROM THE UNIVERSITY OF MANITOBA. WE
ARE INTERESTED IN TALKING TO PEOPLE OF YOUR AGE ABOUT THEIR HOUSING. YOU ARE
ONE OF ABOUT 600 PEOPLE WHOM WE ARE INTERVIEWING THROUGHOUT MUCH OF THE
PROVINCE. YOUR NAME WAS SELECTED FROM A LIST OF PEOPLE AGED 60 AND OVER
LIVING IN THE PROVINCE. I WANT TO ASSURE YOU THAT EVERYTHING YOU TELL US WILL
BE KEPT CONFIDENTIAL AND YOUR NAME WILL NOT BE USED ANYWHERE. WE ARE
INTERESTED IN GENERAL PATTERNS AND NOT IN THE WAY A PARTICULAR PERSON BEHAVES.

I WILL BE TALKING TO YOU ABOUT YOURSELF, YOUR FAMILY, YOUR FRIENDS, WHERE YOU
LIVE AND THE SERVICES YOU USE. SOME OF THE QUESTIONS MAY NOT SEEM TO APPLY TO
YOU. HOWEVER, WE ARE INTERESTED IN GETTING INFORMATION FROM PEOPLE IN ALL
KINDS OF CIRCUMSTANCES. IF THERE ARE ANY QUESTIONS YOU WOULD RATHER NOT
ANSWER, PLEASE DO NOT FEEL OBLIGATED TO DO SO. WE REALLY APPRECIATE YOUR
HELP.

DEMOGRAPHIC SECTION

First, I'd like to know a little about you.

1. In what year were you born? What month? What day?

(CODE DAY, MONTH, YEAR) _____
(CODE AGE IN YEARS) _____

--
--
--
--

2. In what country or province were you born?

- 01 Ontario
- 02 B.C.
- 03 Alberta
- 04 Saskatchewan
- 05 Manitoba
- 06 Quebec
- 07 Atlantic Provinces
- 08 Other English speaking country
(SPECIFY _____)
- 09 Other country
(SPECIFY _____)
- 99 Missing

--

3. Do you consider yourself a member of a particular ethnic group?

- 1 No
- 2 Yes
- 9 Missing

--

(IF YES) Which ethnic group?

- 01 Canadian
- 02 British (ISLES) English
- 03 U.S.A. or Western Hemisphere
- 04 French
- 05 German
- 06 Norwegian/Danish/Swedish/Icelandic
- 07 Dutch/Belgian
- 08 Polish
- 09 Russian
- 10 Ukrainian
- 11 Other European-Middle East
(Italian, Spanish, Portuguese, Greek, Slavic, etc.)
- 12 Asia Oceanic (Chinese, Japanese, Polynesian, East Indian, etc.)
- 13 Native Indian or Eskimo
- 14 Jewish
- 15 Other (SPECIFY _____)
- 99 Missing

--

DEMOGRAPHIC SECTION (cont'd)

7. How many years of schooling do you have? (If education was obtained outside Canada, have respondent specify Canadian equivalent if possible.)

--

8. What is your marital status?

- 1 Single
- 2 Married
- 3 Divorced/separated
- 4 Widowed
- 5 Other (SPECIFY) _____
- 9 Missing

-

(IF WIDOWED) How long have you been widowed?
(CODE IN MONTHS) _____

9. What was your major occupation in life? (SPECIFY) _____

- 1 Professional (self-employed or employed)
- 2 High level management, semi-professional
- 3 Low level management, skill crafts, trades, technical
- 4 Semi-skilled or unskilled
- 5 Farm labourer/farmer
- 6 Housewife/househusband
- 7 Other (SPECIFY _____)
- 9 Missing

-

10. What was your spouse's major occupation in life, if applicable?
(SPECIFY _____)

- 1 Professional (self-employed or employed)
- 2 High level management, semi-professional
- 3 Low level management, skilled crafts, trades, technical
- 4 Semi-skilled or unskilled
- 5 Farm labourer/farmer
- 6 Househusband/housewife
- 7 Other (SPECIFY _____)
- 9 Missing

-

DEMOGRAPHIC SECTION (cont'd)

11. Are you currently employed?

- 1 No
- 2 Yes, full-time
- 3 Yes, part-time
- 4 Yes, occasionally
- 9 Missing

(IF YES) What occupation are you working in now?

(SPECIFY _____)
(CODE SAME AS ABOVE)

12. Now I would like to ask about your income and expenses.
What you tell me is confidential information.

(EXPLAIN THAT THE QUESTIONNAIRE IS NOT MENTIONING HIS/HER NAME
AND THAT THE INFORMATION WILL BE USED STATISTICALLY AS WE WANT
TO KNOW WHAT INCOMES OLDER PEOPLE MAKE IN GENERAL AND NOT THE
INCOME OF ANY ONE INDIVIDUAL.)

a) What is your average monthly income including the old age
security payment? (If income for a couple is provided,
divide by 2, that is, record income for the individual only.)
Try to record exact amount for coding later.

(SPECIFY _____)

- 00 No income
- 01 Less than \$250 month
- 02 \$250 - \$499
- 03 \$500 - \$749
- 04 \$750 - \$999
- 05 \$1,000 - \$1,249
- 06 \$1,250 - \$1,499
- 07 \$1,500 - \$1,749
- 08 \$1,750 - \$1,999
- 09 \$2,000 - \$2,249
- 10 \$2,250 - \$2,499
- 11 \$2,500 - \$2,749
- 12 \$2,750 - \$2,999
- 13 \$3,000 or more
- 99 Missing

RESIDENTIAL SECTION (cont'd)

17. I would like to ask you about why you moved here. I am going to read you a list of reasons which may or may not have been important. As I read each one to you, could you tell me whether or not it was a reason for your move, how important it was, and whether or not it happened as a result of the move?

	(a) <u>Reason?</u>		(b) <u>Important</u>			(c) <u>Happened?</u>		
	No	Yes	Very	Somewhat	Not at All	Great Deal	Somewhat	Not at All
a) To be more independent or on your own?	1	2	1	2	3	1	2	3
b) Better shopping facilities?	1	2	1	2	3	1	2	3
c) Better leisure facilities?	1	2	1	2	3	1	2	3
d) Better health care services?	1	2	1	2	3	1	2	3
e) Better residential facilities (improved housing quality)?	1	2	1	2	3	1	2	3
f) Less comfort or security at previous residence?	1	2	1	2	3	1	2	3
g) Less ability to manage at previous residence?	1	2	1	2	3	1	2	3
h) To be near family and friends?	1	2	1	2	3	1	2	3

RESIDENTIAL SECTION (cont'd)

17. (cont'd)

	(a) <u>Reason?</u>		(b) <u>Important</u>			(c) <u>Happened?</u>		
	No	Yes	Very	Somewhat	Not at All	Great Deal	Somewhat	Not at All
i) Because of social activities?	1	2	1	2	3	1	2	3
j) You needed help/assistance but could not obtain it where you were?	1	2	1	2	3	1	2	3
k) Because of rent that you could afford?	1	2	1	2	3	1	2	3
l) Because of meals/meal programs? (EPH residents only)	1	2	1	2	3	1	2	3
m) To be nearer to people of your own age? (EPH residents only)	1	2	1	2	3	1	2	3
n) Because of nursing home next door (MLC residents only)?	1	2	1	2	3	1	2	3
o) Other (SPECIFY)	1	2	1	2	3	1	2	3

125

LIFE SATISFACTION SECTION

Now I would like you to consider your life as it is right now. Here are a number of key words or phrases which people use to identify various areas of their lives. (HAND RESPONDENT CARD #1). After you have read each key word or phrase, please consider how you would rate your own life, as it is right now, in terms of that descriptive word or phrase.

To assist you in giving your rating, we have designed a labeled scale which runs from "TERRIBLE" to "DELIGHTFUL" in seven equal steps. Each of these steps has a corresponding number.

When you have picked the level from the scale that comes closest to describing how you feel about the particular area of your life you have just read, please tell me which label and number you have picked. For example, is your HEALTH "dissatisfying", "satisfying", "very satisfying", etc.?

USE THE FOLLOWING SCALE FOR EACH QUESTION:

- 1 - Terrible
- 2 - Very Dissatisfying
- 3 - Dissatisfying
- 4 - Mixed
- 5 - Satisfying
- 6 - Very Satisfying
- 7 - Delightful
- 8 - No Opinion (this covers not applicable, can't remember, no comment, etc.)
- 9 - Missing

- | | | |
|----------------------|---|---|
| 28. HEALTH | The present state of your general, overall health (relatively free of common and chronic illnesses). | — |
| 29. FINANCES | Your income and assets (including investments, property, etc. | — |
| 30. FAMILY RELATIONS | Kind of contact and frequency of contact you have with your family members. This includes personal contact, phone calls, and letters. | — |
| 31. PAID EMPLOYMENT | Any work for wages, salaries or fees. | — |
| 32. FRIENDSHIPS | Kind of contact and frequency of contact you have with your friends. This includes personal contact, phone calls, and letters. | — |

FAMILY AND FRIENDS SECTION (cont'd)

42. Do you have any children? (IF YES) How many? _____ 3 --

(CODE ONLY THOSE WHO ARE LIVING AND OUTSIDE HOUSEHOLD)
(CODE NUMBER DIRECTLY, MISSING VALUES - 99, NO CHILDREN - 00)

(IF NO CHILDREN, GO TO Q. #46)

43. How close or far away is the nearest one?

- 1 Within walking distance
- 2 Not within walking distance but same city
- 3 Less than a day's journey (by car, bus) away
- 4 A day's journey away
- 5 More than a day's journey away
- 9 Missing

44. Of your children outside the household, how many do you see:

Number Seen

- 1 Every day _____ --
- 2 Once a week or more _____ --
- 3 A few times a month _____ --
- 4 Once a month _____ --
- 5 Less than once a month _____ --
- 9 Missing _____ --

45. No relationship is perfect. Is there anything about your relationship with your children which you consider a problem or causes you concern? Elaborate.

_____ --

_____ --

_____ --

(IF YES) How serious a problem is this?

- 1 Very serious
- 2 Somewhat serious
- 3 Not very serious
- 9 Missing

FAMILY AND FRIENDS SECTION (cont'd)

46. Do you have any brothers or sisters?
(IF YES) How many? _____

--

(CODE ONLY THOSE WHO ARE LIVING AND OUTSIDE HOUSEHOLD)
(CODE NUMBER DIRECTLY, MISSING VALUE - 99, NO SIBLINGS - 00)

(IF NO SIBLINGS, GO TO Q. #50)

47. How close or far away is the nearest one?

- 1 Within walking distance
- 2 Not within walking distance but same city
- 3 Less than a day's journey away (by car, bus)
- 4 A day's journey away
- 5 More than a day's journey away
- 9 Missing

-

48. Of your siblings outside the household, how many do you see:

Number Seen

- 1 Every day
- 2 Once a week or more
- 3 A few times a month
- 4 Once a month
- 5 Less than once a month
- 9 Missing

--
--
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49. Is there anything about your relationship with your siblings
which you consider a problem or causes you concern? Elaborate.

--
--
--

(IF YES) How serious a problem is this?

- 1 Very serious
- 2 Somewhat serious
- 3 Not very serious
- 9 Missing

-

FAMILY AND FRIENDS SECTION (cont'd)

50. Are either of your parents still living? (IF YES) Which one(s)?

- 0 Neither
- 1 Mother
- 2 Father
- 3 Both
- 9 Missing

(IF NO PARENTS, GO TO Q. #54)

51. How close or far away is the nearest one?

- 1 Same household
- 2 Same building
- 3 Within walking distance
- 4 Not within walking distance but same city
- 5 Less than a day's journey away (by car, bus)
- 6 A day's journey away
- 7 More than a day's journey away
- 9 Missing

52. Of your parents outside the household, how many do you see:

	<u>Number</u> <u>Seen</u>	
1 Every day	_____	--
2 Once a week or more	_____	--
3 A few times a month	_____	--
4 Once a month	_____	--
5 Less than once a month	_____	--
9 Missing	_____	--

53. Is there anything about this relationship (ie., with your parent(s)) which you consider a problem or causes you concern? Elaborate.

(IF YES) How serious a problem is this?

- 1 Very serious
- 2 Somewhat serious
- 3 Not very serious
- 9 Missing

FAMILY AND FRIENDS SECTION (cont'd)

54. Roughly speaking, about how many other living relatives in total do you have? Include aunts, uncles, cousins, nieces, nephews, grandchildren, great-grandchildren, second cousins, in-laws, who live outside the household. (RECORD NUMBER DIRECTLY.)

(IF NO OTHER RELATIVES, GO TO Q. #58)

55. How close or far away is the nearest one?

- 1 Within walking distance
- 2 Not within walking distance but same city
- 3 Less than a day's journey away (by car, bus)
- 4 A day's journey away
- 5 More than a day's journey away
- 9 Missing

56. Of your other living relatives outside the household, how many do you see:

	<u>Number</u> <u>Seen</u>	
1 Every day	_____	--
2 Once a week or more	_____	--
3 A few times a month	_____	--
4 Once a month	_____	--
5 Less than once a month	_____	--
9 Missing	_____	--

57. Is there anything about your relationship(s) with these other relatives which you consider a problem or causes you concern? Elaborate.

(IF YES) How serious a problem is this?

- 1 Very serious
- 2 Somewhat serious
- 3 Not very serious
- 9 Missing

FAMILY AND FRIENDS SECTION (cont'd)

58. Other than relatives, how many people outside the household do you consider close friends? That is, how many of your friends do you feel close to, confide in, etc.?

(RECORD NUMBER DIRECTLY) _____

(IF NO FRIENDS, GO TO Q. #62)

59. How close or far away is the nearest one?

- 1 Same building
- 2 Within walking distance
- 3 Not within walking distance but in same city
- 4 Less than a day's journey away (by car, bus)
- 5 A day's journey away
- 6 More than a day's journey away
- 9 Missing

60. Of your friends outside the household, how many do you see:

	<u>Number Seen</u>	
1 Every day	_____	--
2 Once a week or more	_____	--
3 A few times a month	_____	--
4 Once a month	_____	--
5 Less than once a month	_____	--
9 Missing	_____	--

61. Is there anything about your relationships with friends which you consider a problem or causes you concern? Elaborate.

(IF YES) How serious a problem is this?

- 1 Very serious
- 2 Somewhat serious
- 3 Not very serious
- 9 Missing

FAMILY AND FRIENDS SECTION (cont'd)

62. NEIGHBOURS: Other than relatives or friends, how many people do you consider neighbours?
(CODE DIRECTLY) _____

(IF NO NEIGHBOURS, GO TO Q. #66)

63. How close or far away is the nearest one?

- 1 Same building
- 2 Within walking distance
- 3 Not within walking distance but in same city
- 4 Less than a day's journey away (by car, bus)
- 5 A day's journey away
- 6 More than a day's journey away
- 9 Missing

64. Of your neighbours, how many do you see:

	<u>Number</u>	<u>Seen</u>	
1 Every day	_____		--
2 Once a week or more	_____		--
3 A few times a month	_____		--
4 Once a month	_____		--
5 Less than once a month	_____		--
9 Missing	_____		--

65. Is there anything about your relationships with your neighbours which you consider a problem or causes you concern? Elaborate.

(IF YES) How serious a problem is this?

- 1 Very serious
- 2 Somewhat serious
- 3 Not very serious
- 9 Missing

66. Thinking about people you see for a specific purpose (SUCH AS STOREKEEPERS, BUS DRIVERS, WAITERS, SALES PEOPLE, MAILMAN, BANKER, MEALS-ON-WHEELS, VOLUNTEERS, HOMEMAKER, ETC.) about how many would you say you see fairly regularly in a week?

(TRY TO PIN THE RESPONDENT DOWN TO A NUMBER EVEN IF ONLY APPROXIMATE.)

HEALTH STATUS SECTION

Now, I'd like to spend a bit of time talking about your health.

80. For your age, would you say, in general your health is:

- 1 Excellent (never prevents activities)
- 2 Good for your age (rarely prevents activities)
- 3 Fair for your age (occasionally prevents activities)
- 4 Poor for your age (very often prevents activities)
- 5 Bad for your age (health troubles of infirmity all the time - prevents most activities, or requires confinement to bed)
- 9 Missing

81. Now I have a list of health problems that people often have. I'll read them and you tell me if you have had any of them within the last year or otherwise still have after effects from having had them earlier.

(CODE: 1 - NO, 2 - YES, 9 - MISSING)

- a) Heart and circulation problems (HARDENING OF THE ARTERIES, LOW OR HIGH BLOOD PRESSURE, HEART TROUBLES, ANAEMIA, THROMBOSIS OR OTHER BLOOD DISEASES)
- b) Have had stroke
- c) Arthritis or rheumatism (BURSITIS, GOUT, JOINTS, BACK, ORTHOPAEDIC CONDITIONS)
- d) Palsy (PARKINSON'S DISEASE)
- e) Eye trouble not relieved by glasses (CATARACTS, GLAUCOMA)
- f) Ear trouble (HEARING LOSS)
- g) Dental problems (TEETH NEED CARE, DENTURES DON'T FIT)
- h) Respiratory or chest problems (ASTHMA, EMPHYSEMA, T.B., BREATHING PROBLEMS)
- i) Digestive/stomach problems (INCLUDING LOWER GASTRO-INTESTINAL PROBLEMS)
- j) Kidney trouble (INCLUDING BLADDER TROUBLES)
- k) Diabetes or other glandular problems (THYROID, PROSTATE, GOITER)

HEALTH STATUS SECTION (cont'd)

- l) Foot trouble -
- m) Nerve trouble (INCLUDING ALL MENTAL ILLNESS OR EMOTIONAL PROBLEMS) -
- n) Skin problems -
- o) Nervous system problems (EPILEPSY, SPINAL CONDITIONS) -
- p) Cancer/Tumor (NOTE: ENSURE THIS HAS NOT ALSO BEEN SPECIFIED ELSEWHERE) -
- q) Other (SPECIFY) (INCLUDING AMPUTATIONS) _____ -

82. About how many days have you spent in a hospital during the last twelve months?
 (CODE NUMBER OF DAYS DIRECTLY) _____ ---

83. About how many days during the past twelve months have you been sick in bed at home all or most of the day?
 (CODE NUMBER OF DAYS DIRECTLY) _____ ---

84. Last week or the week before, did you change or cut down on the usual things you do because of a sickness or injury, or other condition or problem with your health?

- a) Usual work
 - 1 No
 - 2 Yes
 - 9 Missing -
- b) Usual housekeeping
 - 1 No
 - 2 Yes
 - 9 Missing -

HEALTH STATUS SECTION (cont'd)

86. ACTIVITIES OF DAILY LIVING

Now I have some questions about your ability to carry on different activities. I am interested in your capability, not whether or not you actually do them.

INTERVIEWER:

The items concerning activities of daily living are divided into two groups. The first series of items reflects the client's capacity for performance of tasks needed to maintain independent household living such as caring for the home, shopping, and telephoning. The second series of items concerns the client's capacity to care for personal physical needs such as bathing and dressing.

Rate the client on his/her functional ability to perform the task within the current living arrangement. Consider the client strengths when appropriate. Be sure to note the client's ability to perform the task rather than his/her tendency to, in fact, do the task.

(Missing value - 9)

a) Can you use the telephone?

- 1 Yes, without help (including looking up numbers)
- 2 Yes, can dial if number is available, no phone, but client has easy access to phone and has memorized or has easy access to important numbers
- 3 Only answers phone, uses phone only with help, cannot read
- 4 Can't use phone at all
- 9 Missing

(If the client cannot look up numbers because of illiteracy only, score the client as 1.

If 2, 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

HEALTH STATUS SECTION (cont'd)

b) Are you able to shop for groceries?

- 1 Yes, without help; able to go to the stores alone, able to carry purchases home with or without a car
- 2 Yes, but need some help usually, can do regular shopping alone but may need assistance with carrying, transportation, or delivery to home
- 3 Always need help, can shop, but cannot go alone, has no transportation or cannot carry purchases
- 4 Cannot shop at all
- 9 Missing

(Shopping is defined as purchasing items for personal needs such as food, clothing, and medicine. Shopping does not have to include exceptional items, such as furniture. Shopping includes the actual purchasing and related activities such as the ability to use transportation facilities and carrying purchases.)

If 2, 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

NOTE TO INTERVIEWER: Relatives can be counted as resources for items c and d if, in the client's judgement, the resource is reliable and performs the task regularly.

c) Are you able to shop for regular clothing?

- 1 Yes, without help; able to go to the stores alone, able to carry purchases home with or without a car
- 2 Yes, but need some help usually, can do regular shopping alone but may need assistance with carrying, transportation, or delivery to home
- 3 Always need help, can shop, but cannot go alone, has no transportation or cannot carry purchases
- 4 Cannot shop at all
- 9 Missing

If 2, 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

HEALTH STATUS SECTION (cont'd)

d) Can you prepare your own meals? Do you have difficulty preparing your own meals?

- 1 Yes, plan and cook; can plan and prepare nutritional meals as needed for daily living
- 2 Can prepare simple things; could use help but can prepare simple, cooked meals
- 3 Only with help; unable to prepare simple meals; cannot cook, although may heat water on stove
- 4 Completely unable to prepare meals
- 9 Missing

(Determine if the client can prepare a nutritious, hot meal, whether or not they have the facilities to do so. Do not score a client as lacking independence without sufficient evidence of real impairment.)

If 2, 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

e) Can you do household tasks, chores?

- 1 Yes, without help; able to perform all necessary tasks, including heavy chores such as vacuuming, changing bedding
- 2 Able to perform all necessary tasks except heavy chores such as vacuuming, changing bedding, laundry
- 3 Able to perform only light housekeeping tasks such as dusting, some dishes, pulling covers up on bed
- 4 Cannot do housekeeping
- 9 Missing

If 2, 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

HEALTH STATUS SECTION (cont'd)

f) Can you dress and undress yourself?

- 1 Yes, without any help
- 2 May experience difficulty or pain; can button or zipper when necessary; assistance would make task easier
- 3 Can dress only with help; always needs help with buttons, zippers, fastenings, shoes; does not wear underclothing due to difficulty in dressing
- 4 Completely unable to dress and undress
- 9 Missing

(Watch for client who could dress with help, but has no help available; or the client who dresses only in robes or smocks which have no fastening. The entry reflects only the client's capability.)

If 2, 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

g) Do you need help eating?

- 1 No help needed
- 2 Minimal help required; can feed self using silverware, pick up glass; occasional spills, pain or shaking; may need help cutting food but can bring to mouth
- 3 Great deal of help required; can feed self but has difficulty using silverware; liquids or soups need special attention; can eat finger foods only
- 4 Completely dependent (tubes, I.V., hand fed)
- 9 Missing

(Also note here if a client uses dentures. If the client has dentures available, but does not use them in eating, score the client without them.)

If 2, 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

HEALTH STATUS SECTION (cont'd)

h) Can you take a bath or shower?

- 1 Yes, no help required; client can physically bathe and can wash his/her hair
- 2 Client can bathe; may need help preparing bath, may need help getting out of tub (grab bars may be needed); shampooing is difficult, bathing may be painful; assistance would be beneficial but not absolutely necessary
- 3 Always needs special equipment or assistance; can physically bathe, but cannot get in and out of tub alone
- 4 Completely unable to bath self
- 9 Missing

If 2, 3, 4 above, who (if anyone) helps?

Relation _____

Age _____

Sex _____

i) Do you need help walking OR are you able to?

- 1 No help required; can climb up and down stairs; able to manage on own both inside and outside
- 2 Some help with steep steps
- 3 Always need help but can walk with help
- 4 Cannot walk even with help
- 9 Missing

(If the client employs a walker or cane, etc., score the client with them.)

If 2, 3, 4 above, who (if anyone) helps?

Relation _____

Age _____

Sex _____

HEALTH STATUS SECTION (cont'd)

j) Do you need assistance with using the toilet?

- 1 No help required, fully continent
- 2 Some difficulty but can do it on own
- 3 Only with help, occasional accidents
- 4 Completely unable, totally incontinent
- 9 Missing

If 3, 4 above, who (if anyone) helps?

Relation _____
 Age _____
 Sex _____

CAREGIVER SECTION

87. Earlier, we spoke about the main person who helps out in time of need. Now, I would like to ask about particular types of assistance. I have a list. As I read it to you, could you tell me whether or not this person or anyone else (such as family or friends) is providing such assistance, whether or not this is done on a regular basis, for how long and how often they provide it?

(INTERVIEWER: DO NOT INCLUDE ASSISTANCE PROVIDED BY A FORMAL SERVICE SUCH AS HOME CARE, ETC.)

CAREGIVER SECTION (cont'd)

(a)	(b)	(c)	(d)
Who Assists?	Is This Help Regular or Sporadic?	About How Long Have Received Assistance	How Often Receive Assistance (code: hrs/week)
0 - no help		1. < 1 mo.	
1 - primary caregiver	1 - regular	2. 1-6 mos.	
2 - other informal caregivers	2 - sporadic	3. 7-12 mos.	
		4. > 1 year	
		9. Missing	

SIC ADL

walking, transfers	_____	_____	_____	_____
talking about the house	_____	_____	_____	_____
dressing	_____	_____	_____	_____
feeding, eating	_____	_____	_____	_____
washing/bathing/grooming	_____	_____	_____	_____
using toilet	_____	_____	_____	_____
going out of doors in good weather	_____	_____	_____	_____
going out of doors in any weather	_____	_____	_____	_____

INSTRUMENTAL ADL

housekeeping	_____	_____	_____	_____
household maintenance	_____	_____	_____	_____
transportation	_____	_____	_____	_____
meal preparation	_____	_____	_____	_____
grocery shopping	_____	_____	_____	_____
personal business affairs	_____	_____	_____	_____

OTHER

using the radio/television	_____	_____	_____	_____
using the telephone	_____	_____	_____	_____
trimming toenails	_____	_____	_____	_____
obtaining medication/treatment	_____	_____	_____	_____
receiving care	_____	_____	_____	_____
financial information/guidance	_____	_____	_____	_____
reading, writing	_____	_____	_____	_____
emotional support	_____	_____	_____	_____
keeping an eye on things	_____	_____	_____	_____
emergencies/crises	_____	_____	_____	_____
other (SPECIFY _____)	_____	_____	_____	_____

SERVICE UTILIZATION SECTION

89. The Manitoba government provides a service known as Home Care to individuals who need assistance in caring for themselves in their own homes when family and/or friends cannot provide the type or amount of care required. Examples of these services include nursing, therapy, social work, homemaking and arrangements of volunteer services. Are you currently using any services from home care or any other formal organization?

- 1 no
- 2 yes, currently and/or in past 6 months
- 9 missing

IF YES, CURRENTLY (UP TO AND INCLUDING THE PAST 6 MONTHS).

What services such as homemakers, bath help, meal preparation, and so on, do you receive?

Do you receive:

	Service Received? 1 - No 2 - Yes	Frequency of Service (record # of visits/week)	Hours of Service (record # hrs/visit)	Location of Service 1 - On-Site (in home/bldg.) 2 - Off Site (out of home/bldg.)	Organization Providing Service (i.e. home care, EPH, other (SPECIFY))
1) Visits from nurse (including V.O.N.)					
2) Exercises/physiotherapy		-	-		
3) Bath help/shampoo		-	-		
4) Medication supervised by health care professional		-	-		
5) OT/PT Services					
6) Foot Care		-	-		
7) Visit by Orderly					
8) Equipment		-	-		
9) Visit by Social Worker					
10) Homemaker/household tasks					
11) Homemaker/personal care					
12) Meal preparation		-	-		
13) Meals-on-wheels			-		
14) Companion/someone to come stay with you					
15) Regular "drop in" visitors/daily hello					
16) Adult Day Care					

	Service Received? 1 - No 2 - Yes	Frequency of Service (record # of visits/week)	Hours of Service (record # hrs/visit)	Location of Service 1 - On-Site (in home/bldg.) 2 - Off-Site (out of home/bldg.)	Organization Providing Service (ie. home care, EPH, other (SPECIFY))
<p>17. Social relief (family relief or respite)</p> <p>18. Other (SPECIFY)</p> <p>_____</p> <p>_____</p> <p><u>WHAT ABOUT THE FOLLOWING?:</u></p> <p>19. Transportation</p> <p>20. Home handyman (eg. yardwork)</p> <p>21. Housing counselling (eg. Tenants' Association)</p> <p>22. Care planning (helping to plan for your care)</p> <p>23. Entertainment/recreation</p> <p>24. Congregate meals</p> <p>25. Shopping facilities (store, _____)</p>					

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90. Have you used any of the following in the past six (6) months? If so, how often and where?

	Service Used? 1 - No 2 - Yes	Frequency of Use (record # of visits/month)	Location of Service 1 - On-Site 2 - Off-Site	Organization Providing Service (if any)	Cost (Leave Blank)
1. Emergency clinic					
2. Day hospital					
3. Dentist					
4. Chiropractor					
5. OT/PT					
6. Chiropodist/Podiatrist (foot care)					
7. Pharmacist					
8. Optician					
9. Nutritionist					
10. Public health nurse (not the nurse from home care)					
11. Minister/Priest/Rabbi or church visitor					
12. Psychologist					
13. Senior Centre					
14. Fitness Program					
15. Community health clinic					
16. Lawyer					
17. ... (unclear)					