Development of a Nursing Tool to Explore Living Environment Preferences of Older Persons

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To my dad, John Nyenhuis, in loving memory of a man who quietly and lovingly taught me to strive to be all that I can. I miss you.

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Abstract

The concept of living environment preferences of older persons is explored in this scholarly paper. A nursing conceptual framework to include environmental theory is proposed. The presented theoretical framework integrates elements of Imogene King's theory of nursing and M. Powell Lawton's theory of person - environment interaction. A living environment preference tool for older persons is developed from the theoretical framework and the research reviewed. The use of the Living Environment Preference Tool in the primary care setting is explored, with particular emphasis on the role of the Clinical Nurse Specialist in practice and education. Finally, the potential use of the Living Environment Preference Tool in research is addressed.

Chapter I

Introduction to the Problem

Introduction

The living environment has a profound effect on the life of an individual. Where one lives and with whom one lives is known to influence one's quality of life. An individual's living environment may or may not be an optimal fit. This may be particularly true for older persons - who often appear to have little choice in decisions about living environment as well as few options from which to choose.

In this paper the concept of living environment and the older person will be explored, with particular emphasis on preferences in living environment. Definitions of the concepts will be presented and the variables that influence living environments at the older age will be reviewed and discussed. The concepts will then be examined within the framework of Imogene King's theory of nursing and M. Powell Lawton's environmental docility hypothesis. A literature review will provide answers to the question raised in this paper.

The purpose of this paper is to develop a living environment preference tool for older persons. In order to do so, a nursing framework which allows for the study of person - environment fit must be provided. Imogene King's nursing theory will be used.

Background

The living environment of older persons has been a topic of great concern to social gerontologists. Since the 1960's, research focused on housing concerns has brought about varied federally funded housing options for older persons. Researchers have also explored the concept of relocation of the older person, typically of those who become a part of an age segregated community of one kind or another. Only recently has the importance of studying the living environment of the older person, in terms of their choice and preference, been considered. The interplay of physical and social environment with the characteristics of the older person is now being recognized as an important area of inquiry (Carp, 1985).

There is a paucity of research data on the living environment of most older Americans. The information that is available is primarily on groups of older persons who are either institutionalized or in retirement centers/housing. Older persons living in age segregated institutions or centers are easily accessible subjects (Rowles & Ohta, 1983). Interestingly, a vast number (35,797) of older persons live in their own homes, in apartments, in mobile homes, or in boarding houses/hotels (Bureau of the Census, 1989). This is a large group of people about whom we know little.

A problem exists in the difficulty of gathering valid data on the topic of the older person and his/her environment. The need for a holistic view of the older person-environment transaction has become apparent to social gerontologists. Yet there exists a dilemma between dealing with either fragmented research which explores only single aspects of the older person-environment transaction (necessary for methodological reasons) or, on the other hand, dealing with a conceptual framework which is so grandiose and complex that empirical research is impossible (Rowles & Ohta, 1983).

Other difficulties in gathering valid data involve aspects of past studies on the elderly and their living environment. Definitions and terms are interchanged and nonspecific in regards to living environment. For example, Grier (1977) uses the term living arrangement to imply setting (own apartment, nursing home, son's home), whereas Beland's (1987) use of the term living arrangement refers to with whom one lives (spouse, children, alone). Also, questions arise regarding the validity of the elderly's verbal evaluation of living environment - since the evaluation may be "in part a function of the options available" (Carp, 1985, p. 255). In addition, it has been found that objective assessments of living environments of the elderly provide data that are in conflict with the subjective evaluations by the

elderly themselves (Chen & Newman, 1987, Golant, 1982 & 1986). It seems evident that there is a need not only for more research on this topic, but also for a consistent conceptual framework that allows for appropriate data gathering on the subject of the older person and his/her living environment.

Statement of the Problem

What is living environment? This seems at first glance a simple concept. Living environment is simply the environment in which one lives. On further analysis, however, one will see that this concept is not so simply or easily defined.

Who is the older person? What characteristics are specific to this age group who live in the community? One may have pre-conceived ideas as to what an older person is, based upon one's experience. Yet it has been shown that there is great heterogenity among this age group and that age does not need to be the single characteristic that defines an older person.

The development of a conceptual framework which allows for the understanding of the older person and his/her living environment has been completed and is presented in Chapter II. Using the framework presented in Chapter II as a basis, an assessment tool will be developed in order to address the following question:

What do older persons in the community prefer in regard to their living environment?

Definition of the Concepts

Living Environment

According to Webster (1979), environment is defined as follows:

> 1: the circumstances, objects, or conditions by which one is surrounded; 2 a: the complex of climatic, edaphic, and biotic factors that act upon an organism or an ecological community and ultimately determine its form and survival; b: the aggregate of social and cultural conditions that influence the life of an individual or community. (p.378)

Such a definition gives one a basic idea of what the environment includes, yet it does not go into specifics. It is clearly evident, however, according to this definition, that environment influences the individual.

Since the main features of a systems model include the system and its environment, a definition of environment is provided in this body of literature. Hall and Fagen (1968) have defined environment as follows: "For a given system, the environment is the set of all objects a change in whose attributes affects the system, and also those objects whose attributes are changed by

the behavior of the system" (p. 83). Again, it is evident how influential the environment can be on a person. Implied within this definition is the interaction between person and environment.

In gerontological literature, there has been a variety of terms used that touch upon the concept of living environment. Many studies and discussions have focused on the living arrangements of the elderly (Beland, 1987, Glick, 1979, Grier, 1977, Hunter, Linn, Harris, & Pratt, 1979, Lawton, 1981, Magaziner, Cadigan, Hebel, & Parry, 1988, & Soldo, 1981). As gathered from these studies, the term living arrangement, in the purest sense of the term, has come to mean the numbers and types of people with whom an older person lives (Lawton, 1981). Some researchers (Grier, 1977 & Soldo, 1981) have used the term "living situation" interchangeably with the term "living arrangement". At times the two terms are used to mean the same thing: with whom one lives. At other times one or the other term is used to mean something different: where and with whom one lives. This makes it difficult and confusing to interpret the data appropriately.

Another concept that has received much attention in gerontological circles, one that again touches upon the concept of living environment, is housing. Issues ranging from housing assessments of the elderly to

housing preferences of the elderly have been studied (Brody, 1978; Carp, 1985; Chen & Newman, 1987; Golant, 1982, 1986; Hempel & Tucker, 1979; Mangum, 1982; Sherman, 1971; Soldo & Brotman, 1981). One of the realizations brought forth from these investigations has been the idea that housing could no longer be viewed in isolation from other aspects of the environment. Thus a broadened concept of housing has evolved.

Traditionally, housing has been defined as the physical components of a living unit (Carp, 1985). The structure itself as well as the various systems within the structure (heating, plumbing, electrical) are included in this definition (Chen & Newman, 1987). As the concept of housing expanded, "the terms "housing" or "housing environment" have come to encompass not only the dwelling and its lot, but also the social and physical aspects of the neighborhood and community" (Golant, 1986, p. 122).

Carp (1985) discusses the various terms and definitions used in the broadening concept of housing and explores the term "living environment" in relationship to a more expansive definition of housing. As listed by Carp (1985) the main elements of the living environment would include: 1) age and ownership of dwelling units, 2) physical condition (state of dilapidation) and availability of funds for maintenance

and repair, 3) location with regard to services needed by this age group, 4) proximity to recreational and commercial activities, 5) proximity to relatives and age peers, 6) accessibility and usability of transportation, 7) congeniality or threat in the surrounding environment, whether related to physical hazard (unrepaired streets and sidewalks, outdoor lighting) or person hazards (robberies, attacks, high pressure salesmen, neglect) (Havighurst, 1969). Living environment, then, includes not only the immediate physical aspects of housing, but certain community aspects that directly may affect the function of the older person. Missing, yet vaguely implied by proximity to relatives and age peers (#5 above), is the living arrangement factor, i.e. with whom one lives.

Each definition explored above provides either a global concept of environment or touches on a specific aspect of the environment. The concept of living environment used and explored by Carp (1985) shows a beginning emphasis on "the need for awareness of and coordination with what is going on in all elements of the transactional field of person-in-living-environment" (Carp, 1985, p. 246). A list of main elements included in a concept is important, certainly, to operationally define the concept, yet this does not define it in a conceptual manner. Therefore a need still exists to

define the concept of living environment.

For the purpose of this paper, the concept of living environment shall be defined by incorporating several of the concepts discussed in the preceding paragraphs. It is the feeling of this author that living environment should not only to be inclusive of housing aspects, but also should include living arrangement factors. Living environment, then, is defined in the following manner: **Living environment is the set of all circumstances and objects by which one is surrounded, a change in whose attributes affects the person and whose attributes are changed by the behavior of the person.** Living environment includes the following: 1) number and relatedness of persons living within the same dwelling, 2) age and ownership of dwelling, 3) physical condition and availability of funds for maintenance and repair, 4) location with regard to services needed, 5) proximity to recreational and commercial activities, 6) proximity to relatives and age peers, 7) accessibility and usability of transportation, and 8) congeniality or threat in the surrounding environment.

Preference

Preference is defined as "the preferring of one thing before another, the right or condition of having a

choice" (Webster, 1977, p. 750). Preference is the noun form of the verb prefer, which means "to hold in greater favor or esteem, to choose rather than" (Webster, 1977, p. 750), "to like better" (Webster, 1979, p. 471).

For the purpose of this paper, the above dictionary definition of preference will be used. This definition provides a clear direction for the tool development of living environment preferences of the older person. Later in this paper (Chapt. 3), the concepts of living environment and preferences will be linked by a review of literature specific to living environment preferences of older persons.

Older Person

The defining of "the older person" is not simply a matter of age. Certain characteristics and dimensions in defining the older person are important within the context of living environment (Carp, 1985).

Chronological age is the most popular way to define the older person. The elderly population has been divided into two distinct groups according to age. One group is the "young-old", ranging in age from 65 to 79. The other group is the "old-old" and include those elderly 80 and over (Glick, 1979). Carp (1985) adds an interesting dimension in his definition of the older person in regards to age. The older person is "one who

has reached the chronological age at which he becomes eligible for housing for the elderly or for services intended to enable him to remain elsewhere in the community" (Carp, 1985, p.246).

Another dimension in defining the older person is health status. Eighty percent of the aged population have at least one chronic health condition (Ebersole & Hess, 1985). In addition, increasing age means an inevitable decline in the effectiveness of the sensory organs. These two factors do not necessarily create a dependent state for the elderly person. These conditions may, however, produce changes in the way an older person functions within his environment. As Soldo and Brotman (1981) state: "The dimension of health most relevant to an analysis of living arrangements behavior is that which assesses the capacity of older persons to perform normal roles and activities required to maintain their own households" (pg. 44). This capacity of the older person to carry out what is necessary to maintain his/her household has come to be known as functional health. It is the functional health aspect of the older persons' health status, then, that seems to be the important variable in defining the older person in relationship to his living environment.

Also used in defining older persons is the state of retirement. Since financial income is drastically

reduced with retirement and because financial income is an important factor in the living environment of the elderly, it follows that "retirement may be a more useful index than time since birth in defining the vulnerable group" (Carp, 1985, pg. 246). Another aspect of retirement that is related to living environment is the acquisition of unlimited time at a period when there may be little funds left over with which to enjoy this extra time. The quality of the living environment of the older person takes on even greater importance under such circumstances.

Life events is another dimension used in defining the older person. Life events are significant incidents that occur in a person's life that may be positive or negative. The occurrence of these life events - whether negative or positive - is thought to involve stress and to precede illness. Since there is a tendency for many important life events to occur around the age of 50, it has been suggested (Carp, 1983) that it is at this chronological age that the problems of aging begin.

For the purpose of this paper, **the older person shall be defined by chronological age. Specifically, the older person is any person age 65 or over.** The reasons for using age alone as the defining point are twofold. First of all, health, retirement and life events are important variables in analyzing the older

person and his/her environment, yet these variables are more descriptive characteristics of the older person than they are definitional terms. For example, in the case of retirement, many people are retiring earlier in life as are many others working well beyond the traditional retirement age. Thus the definition of older persons in terms of retirement rather than age would create a younger and larger group with different needs in regards to living environment. Secondly, by using age alone to define the older person, the review of literature and research will not be limited by a restrictive definition of the older person.

Person-Environment Interaction

The interaction between person and environment was first explained in terms of the person-environment fit model advocated by French, Rodgers, and Cobb in 1974. Since that time several theoretical models have been developed to explain the interaction between the environment and the older person. One such model is the loss continuum model (Pastalan, 1982). The loss continuum concept maintains that personal competence is age-related and if other things are held constant, the older a person is the less competent he/she is likely to be. In other words, if the environment exerts the same kind of demands on a person without any change, the older

a person is the less able he/she will be able to deal with the demands.

Another theoretical perspective which extrinsically seems similar to the loss continuum model (but intrinsically is not) is Lawton's environmental docility hypothesis (Lawton, 1982). The environmental docility hypothesis suggests that an older person with a high level of physical and mental health remains relatively free from the affects of environmental stimuli that in the less competent individual could produce a negative outcome. In other words, the more competent older person is able to live a satisfying life in a variety of both favorable and unfavorable environments. However, the older person with lowered competence is less able to cope with the demands of even a marginally adequate environment.

A third model of person-environment fit is the congruence model (Kahana, 1982). According to the congruence model, people with certain types of needs are most likely to search for and be found in environments that are congruent with their needs. "A close fit between environmental characteristics and individual preferences and needs should contribute to a sense of wellbeing and adequate functioning of the elderly individual" (Kahana, 1982, pg. 99).

The models mentioned above are a few of the more

extensively discussed models of older person - environment interaction. An indepth discussion on M. Powell Lawton's environmental docility hypothesis and how it can be integrated with King's theory of nursing will be presented later in Chapter II.

Assumptions

The assumptions basic to this paper include:

1) Appropriate/adequate living environment is essential for the well-being of the elderly.

2) The human interaction with the environment is a transactional one.

3) Humankind and environment are seen as being separate entities.

4) The environment interacts with personal characteristics.

5) Personal characteristics interact with the environment.

6) Behavior is a result of the relationship between man and environment.

7) With age comes a decline in sensory and/or physical capabilities, the specificity of which is dependent on the individual.

Rationale for selection of topic

The topic of living environment and the older person is fast becoming a growing subfield within the field of gerontology. Various aspects of the older person's environment have been studied by scholars from different disciplines. Yet it has become apparent to the more prominent scholars in the field of aging and the environment that the research in this field is fragmented and lacks a sense of the total context. It is the feeling of many of these scholars that a more holistic theory of the older person-environment interaction needs to be developed in order to direct research appropriately.

As the elderly population grows in number and age, a greater need arises for the provision of living environments that suit the needs and preferences of this growing and diverse group. The living environment of an individual across his life span has utmost significance in the shaping and functioning of that individual. Yet we know so little and assume so much when it comes to the living environment of the older person. The fundamental reason for choosing this topic is to initiate a nursing focus on environment and the older person.

Significance of topic to nursing practice and theory

Nurses have, from the beginning, held the belief

that the environment of a person plays an important role in his/her health. Florence Nightingale had a deep regard for the environment of her patient, believing that certain physical elements external to the patient have an affect on the healing process and health. From this early and sometimes forgotten nursing model came the concepts of person, environment, health, and nursing. These four concepts have since become the basic concepts inherent in all models of nursing, and thus of central importance to nursing as a discipline.

In an overview of nursing models, Fitzpatrick and Whall (1989) note the shifts in emphasis placed on each of the four basic concepts found in nursing models. Nightingale's emphasis on the environment and health shifted in later models to an emphasis on nursing, and then to an emphasis on persons. "In contrast to Nightingale, in the development of later nursing models, the concept of environment is often less of a focus, or at least less explicitly stated" (Fitzpatrick & Whall, 1989, p. 24). The ways in which emphasis has shifted away from that of environment are explained as follows:

> At times a shift of emphasis has occurred when the concept of environment was subsumed under that of person, for example, in statements about holistic persons in interaction with environment the two

> concepts are often blended. At other times there is simply less attention paid to environment as a central concern of nursing. (Fitzpatrick & Whall, 1989, p. 24)

Although there are many implications to these shifts in emphasis, the implication most visible to this author is the definite lack of concept development for environment in nursing models. The significance of this scholarly endeavor to nursing theory is to attempt to remedy this lack.

The significance of this topic to nursing practice will be dealt with in full in a later chapter. However, a very interesting and notable idea presented by Frances M. Carp (1985) is worth mentioning at this time. She suggests the need for a living-environment counselor in assisting the older person with decisions about selection of living environments. The role is likened to that of a vocational or career counselor. The job of a person in this role would be to know all available living environment options and work with the older person in screening and choosing the living environment that best meets his/her needs and satisfies his/her preferences and values. A Clinical Nurse Specialist in a primary care setting would be a good candidate to fulfill this role and incorporate it into his/her practice.

Summary

In this first chapter, the concept of living environment was explored and explained, with a definition of living environment being formulated as a result of the exploration. A definition of the older person was also presented. In addition, a brief overview of some of the models for person - environment fit specific to the elderly was introduced. Finally, the importance of these concepts to nursing theory and practice was discussed.

In the next chapter, Imogene King's conceptual framework and theory for nursing will be introduced. The concepts important to this paper will be presented and explored. A model of person - environment interaction based on M. Powell Lawton's theory will also be explored and integrated into King's framework.

Chapter II

Conceptual Framework

Introduction

In considering the person-environment interaction in older persons, it is necessary to use a conceptual framework that will appropriately give shape and form to the ideas which are the focus of this paper. The conceptual model of Imogene M. King will serve as such a framework. King's open system model of nursing provides an excellent opportunity to explore facets of the person which may be important in studying person - environment interaction. In addition, King views the interactive process as important, from the point of supporting the concept of person-environment interaction to the point of providing a model of person-person interaction. In order to expand upon the concept of person-environment interaction within King's framework, the theories and concepts developed by M. Powell Lawton will be presented in this chapter as well.

In the following paragraphs, King's framework will be described. The concepts that are important to this paper will be reviewed in depth. The strengths and limitations of the framework will be explored, with specific implications related to person - environment interaction addressed. M. Powell Lawton's theory will then be introduced and an integration of both frameworks

will follow.

King's Conceptual Framework

The four concepts inherent in all nursing conceptual frameworks are nursing, health, person, and environment. King's definitions of these concepts are as follows:

Nursing. Nursing is "a process of action, reaction, and interaction whereby nurse and client share information about their perceptions in the nursing situation" (King, 1981, p. 2). The nursing situation is described as being the environment in which the nurse and client form a relationship for the purpose of dealing with health states of the client and adjusting to changes in the client's ability to function in his/her environment. King (1981) believes the goal of nursing to be "to help individuals maintain their health so they can function in their roles" (p. 3-4). One of the ways by which to accomplish this goal is for nurses to be aware of and concerned with the way that individuals interact with their environment so as to maintain health and to provide self-fulfillment.

Health. King defines health as "dynamic life experiences of a human being, which implies continuous adjustment to stressors in the internal and external environment through optimum use of ones's resources to achieve maximum potential for daily living" (1981, p. 5).

A more operational definition of health is presented as the ability to function in social roles.

Environment. King (1981) does not specifically define environment, although she alludes to a definition of environment in the following statement about communication: "Open systems, such as man interacting with environment, exhibit permeable boundaries permitting an exchange of matter, energy, and information" (p. 69). There are several instances in which King (1981) refers to the environment in terms of mans interaction with the environment, for example: "The artificial boundaries of nursing are individuals and groups interacting with the environment" (p. 1), "An understanding of the ways that human beings interact with their environment to maintain health is essential for nurses; ..." (p. 2), and "Nurses are concerned with human beings interacting with their environment in ways that lead to self-fulfillment and to maintenance of health" (p. 3). Interaction is defined as "a process of perception and communication between person and environment and between person and person, represented by verbal and nonverbal behaviors that are goal-directed" (King, 1981, p. 145).

Person. King (1981) viewed the individual as an open system exhibiting permeable boundaries permitting an exchange of matter, energy, and information. This "personal system", as King (1981) labeled the individual,

"is a unified, complex whole self who perceives, thinks, desires, imagines, decides, identifies goals, and selects means to achieve them" (p. 27). King (1981) identified specific concepts as relevant to understanding human beings as persons and these are listed as follows: perception, self, body image, growth and development, time, and space.

The four major concepts of the model presented provide a basic view of King's perspective on these concepts. Later in this chapter the concept of person, or personal system, will be reviewed in depth. In the following paragraphs, King's overall framework will be presented.

King's (1981) conceptual framework for nursing is comprised of three, interacting, open systems. These three systems are the foundation from which King builds the concepts inherent in her framework. These systems are (1) personal systems, (2) interpersonal systems, and (3) social systems. The focal system in King's framework, or the system which receives primary attention, is the interpersonal system. Individuals, or personal systems, are considered subsystems of the interpersonal system; whereas groups of individuals formed to maintain certain values, or social systems, are considered suprasystems of the interpersonal system.

A social system is "an organized boundary system of

social roles, behaviors, and practices developed to maintain values and the mechanisms to regulate the practices and rules" (King, 1981, p. 115). Social systems which influence people as they grow and develop include family, religious systems, and peer groups. King (1981) identifies the major concepts in a social system as (1) organization, (2) authority, (3) power, (4) status, and (5) decision making.

The interpersonal system is composed of two or more interacting individuals. As the number of individuals interacting increases, so does the complexity of the interaction. King (1981) identifies several concepts that are essential in understanding two or more persons interacting. These concepts include interaction, communication, transaction, role, and stress. Because of King's emphasis on the interpersonal system, specifically the nurse - patient dyad, the concepts listed above are developed in great depth and are later used as a basis for formulating a theory of goal attainment in nursing situations.

Within the interpersonal system, the concept of interaction is explored in detail as it relates to human interaction. King (1981) identifies interaction as a process that "represents a sequence of verbal and nonverbal behaviors that are goal-directed" (p. 60). As two people interact, they are at the same time perceiving

and making judgments about one another, taking some mental action, and reacting to each one's perceptions of the other. These behaviors, King (1981) emphasizes, cannot be directly observed. Once the unobservable behaviors take place, interaction occurs. This step in the process is observable and entails identification of mutual goals and the means to achieve the goals by the two interacting individuals. When the two interacting individuals agree on the means in which to implement the goals, they move towards the final step in the process of human interaction, which is called transaction.

The personal system in King's conceptual framework refers to each individual person. Each individual person is a separate and total system. "A personal system is a unified, complex whole, self who perceives, thinks, desires, imagines, decides, identifies goals and selects means to achieve them" (King, 1981, p. 27). Specific concepts that assist one in understanding human beings as personal systems include (1) perception, (2) self, (3) body image, (4) growth and development, (5) time, and (6) space.

The personal system is of particular significance since person is part of the person - environment fit concept that is being explored in this paper. Therefore in the following paragraphs the concepts that King presents in relation to the personal system will be

presented in more depth.

Perception is "a process of organizing, interpreting, and transforming information from sense data and memory. It is a process of human transactions with environment. It gives meaning to one's experience, represents one's image of reality and influences one's behavior" (King, 1981, p. 24). All persons perceive, but it cannot be assumed that each person in a situation perceives the events similarly. Perceptions are related to past experiences, concept of self, biological inheritance, educational background, and socioeconomic groups. Perceptions are also influenced by current interests, needs, and future goals. Behavior arises from one's perception.

The concept of self is defined by King (1981, p.27) using Jersild's (1952, pp. 9-10) definition. It is as follows:

> The self is a composite of thoughts and feeling which constitute a person's awareness of his individual existence, his conception of who and what he is. A person's self is the sum total of all he can call his. The self includes, among other things, a system of ideas, attitudes, values and commitments. The self is a person's total subjective environment. It is a distinctive center

> of experience and significance. The self constitutes a person's inner world as distinguished from the outer world consisting of all other people and things. The self is the individual as known to the individual. It is that to which we refer when we say "I".

King (1981) also mentions characteristics of self that help describe the nature of self. These characteristics include the following: self is a dynamic individual, an open system, and is goal-oriented.

Growth and development describe those processes that take place in an individual's life that assist him in moving from potential capacity for achievement to self-actualization (King, 1981). Changes occur in the cellular, molecular, and behavioral structure of an individual continuously throughout one's life. Growth and development involve giving pattern to these changes using age as the time measure between various stages of change. The manner in which a person grows and develops is influenced positively and negatively by other people and objects in the environment. As King (1981) states "growth and development are a function of genetic endowment, meaningful and satisfying experiences, and an environment conducive to helping individuals move toward maturity" (p. 31).

Body image is a person's perception of his own body,

influenced by other's reaction to his appearance (King, 1981). Body image is a personal perception acquired or earned in the process of growth and development. Body image changes as experiences and perception change.

Space is defined as "the physical area called territory and by the behavior of individuals occupying space" (King, 1981, p. 38). Space is universal and personal in that it exists everywhere and yet is unique to each person. A person's use of space is based on his perception in a situation - each situation changes the need for and the way one uses space. "Space determines the transactions between human beings and environment" (King, 1981, p. 37).

Time is defined as "the duration between the occurrence of one event and the occurrence of another event. It is a change from one state to another state" (King, 1981, p. 44). Time can only be defined in terms of the observer, for time is a sequence of events moving onward to the future and influenced by the past as uniquely experienced by each human being.

Strengths and Limitations of King's Model

King presents a conceptual framework for nursing which incorporates the characteristics of both a systems model and an interaction model. She prefaces her conceptual framework with the following statements:

> A basic assumption is made that the focus of nursing is the care of human beings. If the goal of nursing is concern for the health of individuals and the health care of groups, and if one accepts the premise that human beings are open systems interacting with environment, then a conceptual framework for nursing must be organized to incorporate these ideas. (King, 1981, p. 10).

The three interacting systems of personal system, interpersonal system, and social system "provides for the organization of open systems in a dynamic interacting framework" (King, 1981, p. 10). These three interacting systems are the basis from which King identifies and develops the concepts inherent in the framework. King presents a comprehensive explanation of the three interacting systems, providing a conceptual framework which is well suited as a guide in the study of the older person.

Despite King's frequent mention of the environment and her statement of the need to incorporate the idea of human beings interacting with the environment into a conceptual framework for nursing, King does little to expand upon these ideas. In fact, environment is not clearly defined in her framework. As Fawcett (1984) states in her evaluation of King's model "... King's discussion of environment was vague. She failed to

define this concept and to identify the particular parameters of the internal and external components. The further explication of this metaparadigm concept would provide much needed clarification" (p. 100).

And so, in King's (1981) own words, "an understanding of the ways that human beings interact with their environment to maintain health is essential for nurses" (p. 2), for "one of life's problems is the maintenance of a level of health that enables a person to perform activities of daily living in such a way that he leads a relatively useful, satisfying, productive, and happy life. This performance depends upon harmony and balance in each person's environment" (p. 4). It is clear that King places much emphasis on the environment. It is also clear that the concept of person-environment interaction needs to be developed within this framework if nurses are to follow through with King's goals of nursing and concept of health.

Concept of Person-environment Interaction

In order to understand more fully the concept of person-environment interaction, a model currently being explored by researchers will be presented. This model was originally presented at the Gerontological Society's May, 1973, conference titled "Environmental Research and

Aging". It is from the work of M. Powell Lawton that the following model and discussion are derived.

Environmental Docility Hypothesis. The environmental docility hypothesis was developed by M. Powell Lawton and uses as a base the ecological equation which states that behavior is a function of the person and the environment, that is B=f (P,E). In this equation the person is described in terms of competence and the environment in terms of environmental press. Competence is seen as a characteristic of the individual independent of factors outside the individual. Environmental press are stimuli in the external environment which have the potential to create a demand on an individual.

Competence(P) Lawton (1975, 1982) attempts to sort out the processes that are least dependent on the external environment in order that the purest representation of competence can be obtained. Processes that most clearly depict competence are (1) biological health, (2) sensory-perceptual capacity, (3) motor skills, (4) cognitive capacity, and (5) ego strength.

The above listed processes are briefly discussed and/or defined by Lawton (1975) as follow: (1) Biological health refers to the absence of disease states. It is

commonly documented by laboratory tests of biological functions, signs, symptoms, and medical diagnoses. (2) Sensory and perceptual capacities are described as including the processes of vision, audition, olfaction, gustation, somesthesis, and kinesthesis. (3) Motor skills are related to biological health and sensory-motor capacity. Measurements such as muscle strength and coordination would provide diagnostic data on this process. (4) Cognitive capacity is the presumed innate and relatively constant capacity of the individual to comprehend, process and deal with the external world. Finally, (5) ego strength is mentioned as a process representing competence since there are individual differences in psychological strength. Yet Lawton clearly states the problem in including the process of ego strength since measuring such a construct is dependent on behavior-in-context, thus making it unoperational as far as intra-personal qualities.

Noting that the term competence depicts a small part of all that might be included in the "P" part of the equation, Lawton explored other characteristics that might be included in defining the "P". Personal characteristics that are commonly thought of as non-evaluative are considered for possible inclusion in the "P" component. These personal characteristics are as follows: (1) needs, (2) traits, and (3) personality

style.

Needs and traits were dismissed by Lawton from the list of possible components of the "P" factor. Lawton saw needs as being an evaluative process at times, and in addition, stated the difficulty in measurement of this concept. Traits, he felt, had "enough of a static quality, an ambiguous evaluative reference, and a lack of clarity of assignment to intra-individual, as compared to transactional, processes to make it unsuitable for inclusion in the model" (Lawton, 1975, p. 17).

Personality style was excluded from the "P" component of the equation since it was described as being closely linked to extra-individual factors. In other words, Lawton felt that personality style was more an interaction between the person and his environment, not simply an innate characteristic of the person.

Environmental Press(E) In exploring the term environmental press, Lawton (1975, 1982) notes that there is a lack of environmental classification systems available for use. He draws upon his earlier work (Lawton, 1970) to suggest the following gross classification of the environment: (1) personal environment - the significant others constituting the major one-to-one social relationships of an individual (family members, friends, work associates), (2) suprapersonal environment - the characteristics of all

the people in physical proximity to an individual as described by this groups common form (for example, the predominant race or mean age of other residents in a person's neighborhood), (3) social environment - the norms, values, and institutions operating in the individual's subgroup, society, or culture, and (4) physical environment - defined as the non-personal, non-social residue, or in other words, the inanimate objects that surround a person.

It is also noted by Lawton that the few existing classifications of the environment are geared more to the social environment, with very little attention to the physical environment. Some investigators attempted to contrast environments by using higher order abstractions (ex. crowded vs. sparse, homogeneous vs. heterogeneous, supportive vs. demanding). Lawton was able to organize these higher order abstractions of the environment into levels of environmental definition. These levels are named and defined as follows: (1) the phenomenal physical environment - the unique idiosyncratic experience of a physical object by one individual (e.g. novel vs. familiar), (2) the consensual physical environment - while the environmental quality must be experienced by the individual, enough individuals experience the quality in a similar way so as to suggest a convergence on the "real object" (e.g. crowded vs. sparse), and (3) the

explicitly physical environment - qualities that may be measured in centimeters, grams, and seconds (e.g. natural vs. manmade).

The term "press", as stated earlier, is described as an environmental stimulus or context that has potential demand character for an individual. In other words, it refers to any environmental situation/stimuli - whether personal, suprapersonal, social, or physical - that has the potential for placing a demand and producing a reaction (behavior) of some kind in an individual. Press may be positive, negative, or neutral, depending upon the situation. Lack of heating fuel may be a negative press with the potential for producing physical activity (eg. doing jumping jacks to keep warm) beyond an older person's tolerance. A television set in the home of an older person may be a positive press, with the potential for producing turning on and watching behavior. In both these examples there is the possibility of neutral press as well - an empty heating fuel tank in August, a television set in the home of a person who cannot comprehend. However, the important point to remember is that these environmental stimuli have the potential of placing a demand on the individual and thereby be behavior-activating to some individuals. This characterizes environmental press.

(P x E) Lawton provides an additional interactional

term to the equation B = f (P,E). The interaction between personal and environmental qualities (P x E) is seen as a function of behavior as well, and is added to the equation in this way: B = f (P,E, PxE). Two concepts are added to account for the personal processing of information from the environment and to explain the PxE part of the equation. These concepts are personality style and environmental cognition. Personality style, looked upon by some as belonging to the individual rather than the environment, is described by Lawton as interactive rather than intrapersonal. Personality style is viewed in this manner since it represents a way of transforming unpatterned environmental stimuli into meaningful information that is consistent with the inner goals, wishes, past experience, and perceived competence of the individual (Lawton, 1975). Environmental cognition "refers to specific personalized environmental content" (Lawton, 1975, p. 34), or in other words it refers to how a person views his environment and translates meaning to it that is specific to him/herself. The simplest form of environmental cognition is environmental preference. In Lawton's discussion of environmental preference he points out the fact that the research done in this area is for the most part not based on theoretical concepts and therefore of little value to his presentation.

Behavior (B) The final concept to explore is behavior. Behavior is the dependent variable, or outcome of the equation B = f (P,E, PxE). Behavior may be "either outwardly observable motoric behavior or an inner affective response" (Lawton, 1975, p.26). Most knowledge regarding behavior has been derived from the analysis of overt behavior. However, different levels of affective response have been studied using such indexes as "morale", "life satisfaction", and "mood". Behavior is characterized as falling in the range of adaptive through non-adaptive. "Adaptiveness of behavior must be judged by ...the extent to which it meets both society's expectations and the individual's standards or requirements for goal fulfillment" (Lawton, 1975, p. 28). Observed behavior is counted or rated in order to measure adaptiveness. Examples such as measures of self-care ability and use of leisure time were cited. Behavior is also characterized in regards to affective response as positive or negative. The quality of affect can be rated by external observers or by self-report measures.

The above paragraphs describe as succinctly as possible Lawton's conceptual model of person-environment interaction. In the following paragraphs an integration of King's model and Lawton's model will be presented.

Integration of Concepts

The Person. Both King and Lawton provide an indepth discussion of the person and provide concepts relevant to their perspective of the person. In contrasting these concepts, one must remember that Lawton was attempting to define the person separate from environmental influences for the purpose of providing as pure a model as possible. On the other hand, King provides a systems view of the person which is all encompassing and includes (but does not separate out) the environment and the interaction of the person and his environment. Lawton's specificity can be used within King's framework, however, and in the following paragraphs this author will attempt to do so.

The processes that Lawton proposes that best and most clearly represent competence (the Person part of the person-environment interaction) are biological health, sensory-perceptual capacity, motor skills, cognitive capacity, and ego strength. Aside from ego strength, these processes seem to fall within King's concept of growth and development, which is a part of the personal system. King's concept of growth and development include both biological and behavioral aspects. The biological aspects relate to cellular and molecular changes as well as genetic endowment.

It is clear that Lawton's processes fit well into the biological aspect of growth and development: (1)

biological health being the absence of disease states (genetic endowment), (2) sensory and perceptual capacity being related to the senses (cellular & molecular), (3) motor skills being dependent upon biological health and sensory capacity, and (4) cognitive capacity being related to IQ (genetic endowment). Integration of these concepts is shown in Figure 1.

Lawton also includes ego strength as a process used to define competence. This concept is not operational in terms of intra-personal qualities, for measurement is dependent on behavior-in-context. However Lawton includes ego strength because of the possibility that there might be individual differences in psychological strength independent of external stimuli. The concept in King's framework that most appropriately includes ego strength as a component is the concept of self. The concept of self is presented within the construct of King's personal system and is defined as being "a person's inner world as distinguished from the outer world consisting of all other people and things" (King, 1981, p. 27). Figure 1 illustrates this.

Environment. Integration of the concept of environment is not possible since there is no conceptual definition of environment in King's model. It is possible, however, to interpret certain ideas about the environment. Looking back at Lawton's

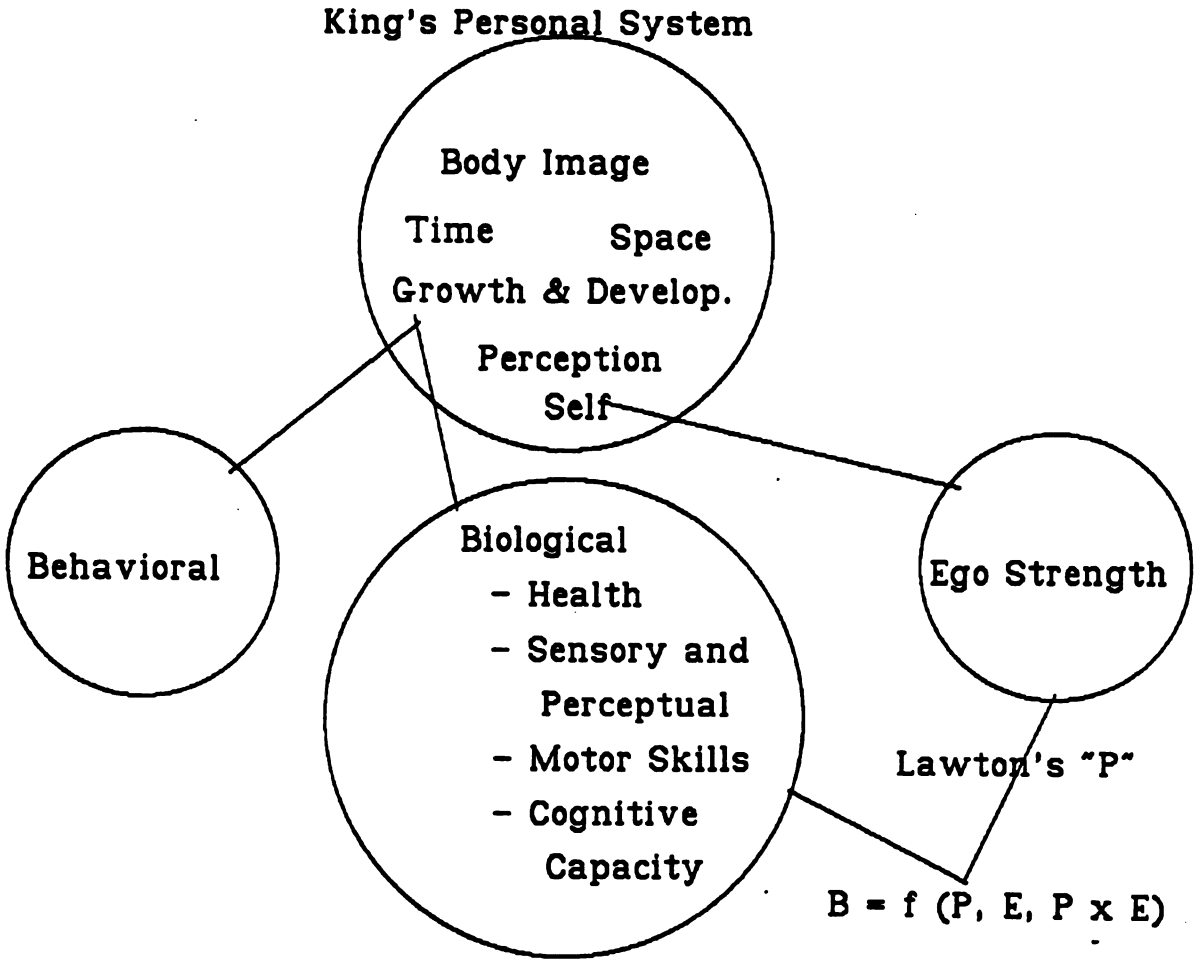

Figure 1. Integration of concepts - the person (P)

definition of the environment, one will see that he classifies the environment into four categories: personal, suprapersonal, social, and physical. With these classifications in mind, it appears that King's model does indeed have some aspects of the environment included, but not stated in those terms. King's social system correlates directly with Lawton's social environment, for both refer to the norms and values (of social organizations) that influence an individual. Lawton's suprapersonal environment is not included in King's social system because it refers to characteristics, it is randomly occurring, and it is not an organization or institution. King's interpersonal system includes elements of Lawton's personal environment, particularly in the instances when the interacting individuals are family, friends, or work associates. Figure 2 illustrates the integration of the concepts of environment.

King's model stresses what Lawton calls the personal environment. The focus, however, is on the interaction between the person(s) with whom an individual comes in contact rather than on the person(s) himself.

Person X Environment. Lawton identifies two concepts that are necessary to account for the personal processing of information from the environment.

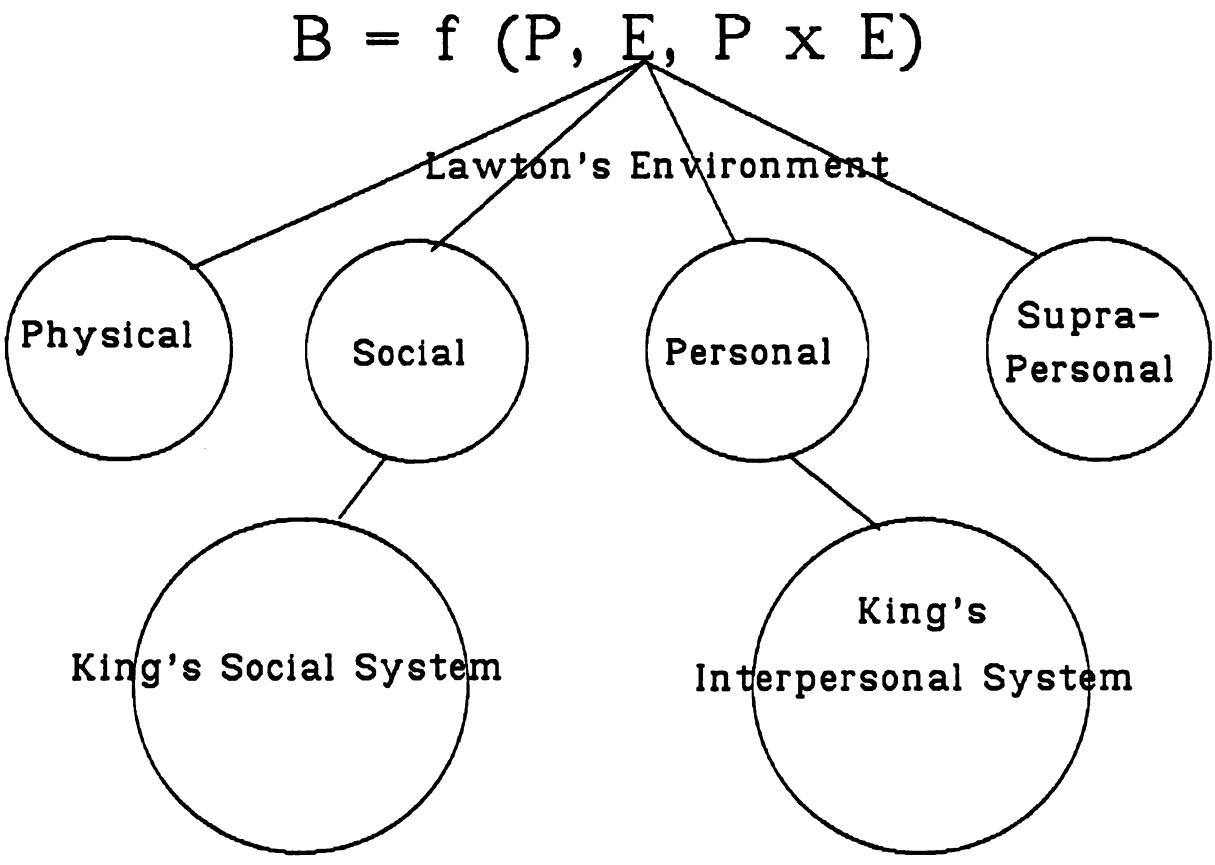

Figure 2. Integration of concepts - the environment (E)

Personality style is one of these concepts and refers to ways of converting unpatterned environmental stimuli into meaningful information consistent with the intrapsychic goals, wishes, past experience, and perceived competence of the individual. Environmental cognition is the other concept Lawton identifies. This concept refers to the internal representation of the environment an individual has. It is processed environmental content.

King's definition of perception seems to encompass the interactive processes identified by Lawton. In King's own words, perception is "a process of organizing, interpreting, and transforming information from sense data and memory. It is a process of human transactions with environment. It gives meaning to one's experience, represents one's image of reality, and influences one's behavior" (1981, p. 24). Perception, it seems, can be identified as the overall process of person-environment interaction, with personality style and environmental cognition as particular aspects of perception. Although King places the concept of perception within the personal system in her model, her definition is clearly an interactive process rather than purely personal. See Figure 3 for integration of these concepts.

Behavior. Lawton's conceptualization of behavior is provided in an earlier paragraph. Briefly, in review, he states that behavior can be outwardly observed (motoric

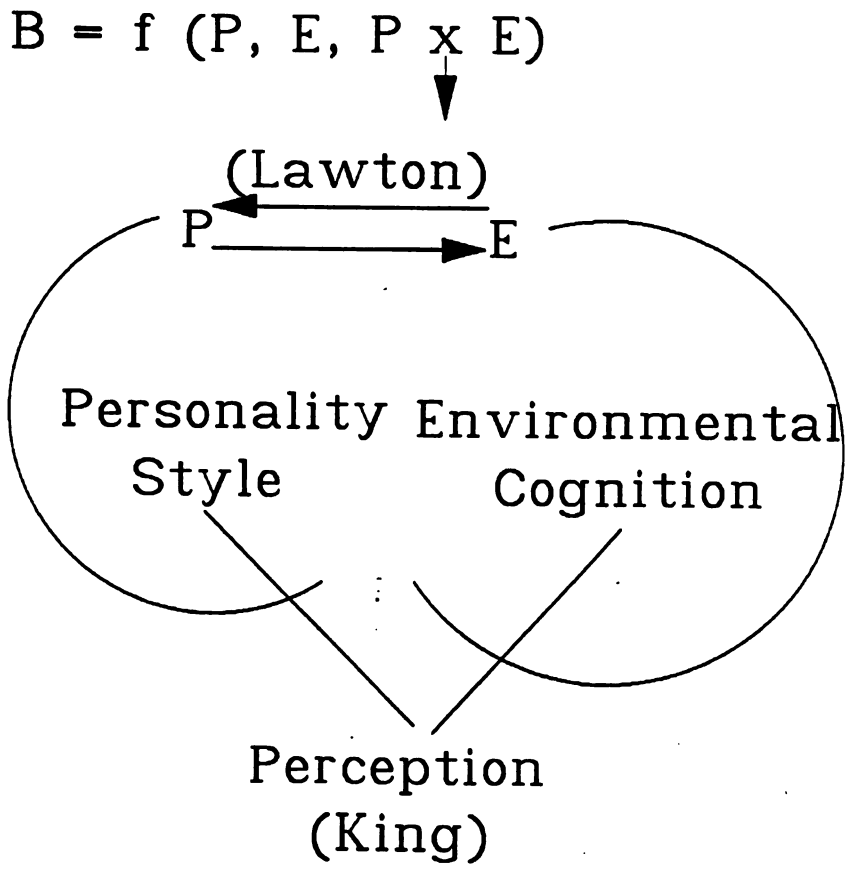

Figure 3. Integration of concepts - the person-environment interaction (P x E)

behavior) or is an inner affective response. Behavior is characterized as falling at or between a range of adaptive to non-adaptive. Adaptive behavior can be judged by the extent to which it meets both society's expectations and the individual's standards for goal fulfillment. Lawton's description of adaptive behavior sounds much like what King calls a transaction in her model. A transaction is defined as goal-directed human behavior. A transaction may or may not be adaptive, depending upon the extent to which it meets society's expectations.

Summary

King's Open Systems model of nursing compliments well the ideas and concepts presented in Lawton's model. The combination of these two models (See Figure 4) provides a basic framework for the study of person-environment interaction. The living environment preferences of older persons is viewed as a piece of the over-all picture, since environmental preference is a form of environmental cognition (refer to pg. 35). It is possible, therefore, to use this model as a guide in the study of living environment preferences of older persons.

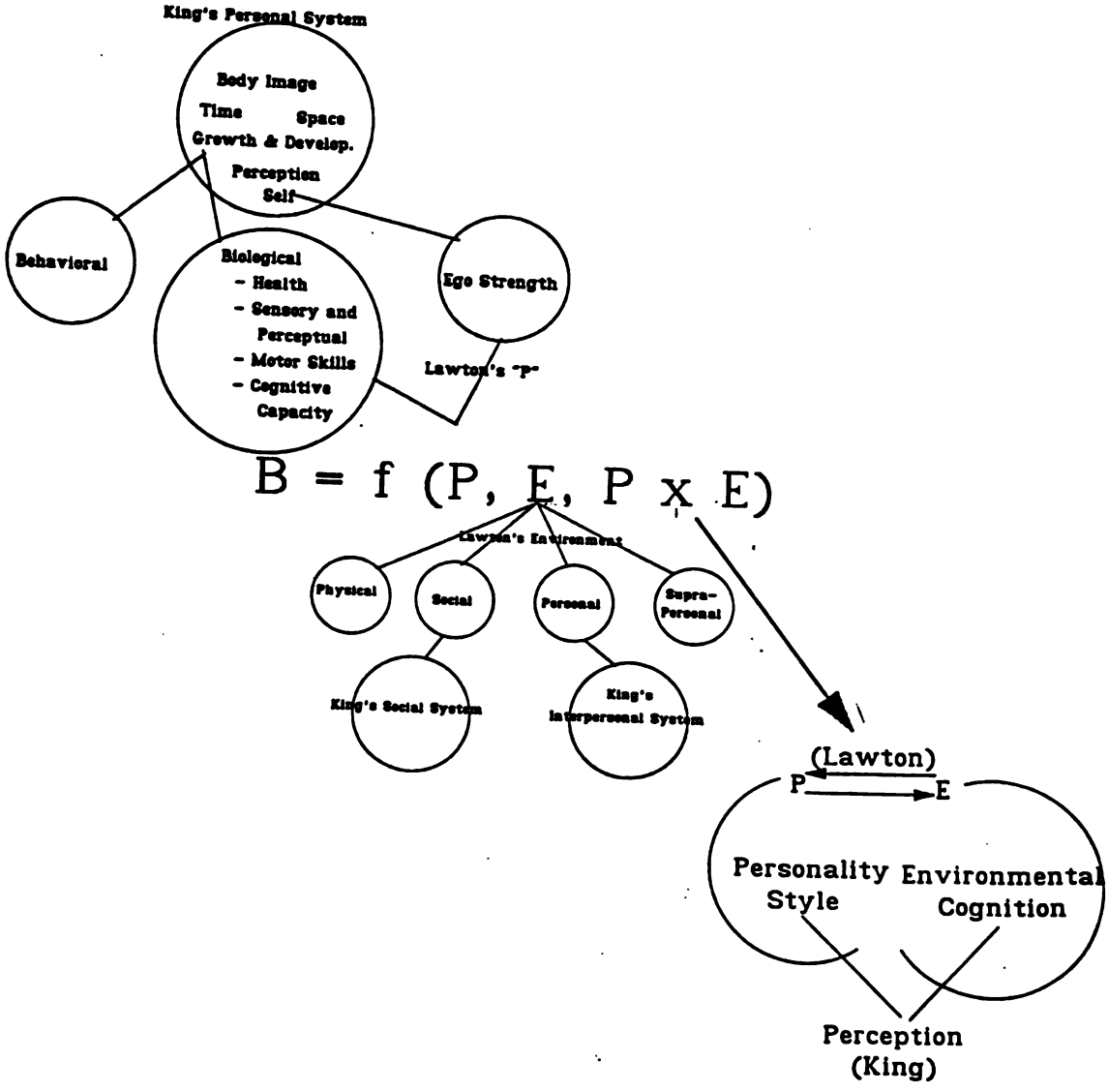

Figure 4. Integrated conceptual framework

Chapter III

Review of the Literature

Introduction

The primary purpose of this paper is the development of a preference assessment tool that addresses the question " what do older persons in the community prefer in regard to their living environment?". In order to proceed with tool development, a review of relevant literature is necessary. The focus of this chapter will be presentation of the research done on living environment preferences of the elderly. The research presented will be grouped into two main categories: (1) living arrangement preferences and (2) housing/setting preferences.

Living Arrangement Preferences

In an early study done on the older person and living arrangements (Grier, 1977), subjects were given a written description of a patient situation and then asked to make choices among three living situations for the patient. The subjects included 25 hospital nurses, 21 visiting nurses, and 16 older persons from a geriatric center. The living situation choices included: (1) patient's own apartment (ie, living alone), (2) the home of patient's son and his family, and (3) a nursing home. The purpose of the study was to examine the decision-making process and to compare the choices made between the nurses and the older persons.

The results showed that 43.75% of the older persons chose own apartment, 37.5% chose nursing home, and 18.75% chose son's home as the best living situation for the patient. Most of the visiting nurses chose own apartment (85.71%) as the best living situation for the patient, followed by 14.28% that chose nursing home. None of the visiting nurses chose son's home. The hospital nurses choices were as follows: 72.0% chose nursing home as the best living situation for the patient, while 20.0% chose own apartment and 8.0% chose son's home.

It is obvious from the results reported above that the older persons most often chose own apartment as the best living situation for the patient. Several observations can be made regarding this choice. First of all, it is impossible to ascertain from this choice whether living alone (living arrangement) or living in own apartment (housing/setting) was the primary preference behind the choice. Secondly, although the older persons were not choosing for themselves, it seems likely that making choices for others is inherently influenced by one's own preferences. Thus in a round about way Grier's study portrayed preferences of older persons.

Several studies (Coward, Cutler, & Schmidt, 1989, Lawton, 1981, & Soldo, 1981) have examined Census Bureau

data in relationship to current living arrangements of older persons. Lawton (1981) found from Census Bureau data that the most prevalent non-marital-pair living arrangement was to live alone, that men were more likely than women to live with unrelated individuals, and that the never-married were slightly more likely than the widowed to live in a family situation or with an unrelated individual and less likely than the widowed to live alone. From these data Lawton concluded that the conditions of sex and marital status determine to some extent the living arrangement of an older person.

Soldo (1981) found from Census Bureau data that the most common living arrangement for unmarried older women was to live alone and that living with relatives was not a widely used option for either the older male or the older female. Soldo concluded that living arrangements of older persons were not random occurrences but were the outcome of a complex process involving individual sociodemographic, psychological, economic, and health-related characteristics. The variables that Soldo specified as determinants of living arrangements of the older person included: age, sex, race, number of children, income, and functional health. Analysis showed that the effect of income was second only to that of functional health in accounting for patterns of living arrangements of older persons.

Coward, Cutler, and Schmidt (1989) gathered from Census Bureau data that 44.4% of older persons lived in married-couple-only households. Living alone was true for 29.5% of older persons - although the data was not specific as to whether the older persons in this group were never married, divorced, or widowed. The percentage of older persons, whether as married couples or alone, who lived with family was 24. The remaining older persons (2.2%) lived with non-related individuals, and again it was not clear as to whether they were single, divorced, or widowed.

Besides presenting statistics on living arrangements of older persons, Coward et. al. (1989) examined the variables of age, gender, and area of residence (urban vs. rural) in relationship to the living arrangements of older persons. He found, for example, that older persons living in married couple only households were more likely to be of the younger age group (65-69) and more likely to be living in a rural farm area. The persons who lived alone were more apt to be older, female, and residents of more urban settings. City dwellers were more than twice as likely as rural farm dwellers to live in nonkin-only households.

Although these studies based on Census Bureau data do not specifically identify or explore the concept of preference in living arrangements, the statistics do

indicate some of the trends in living arrangements of older adults. It is unknown whether these trends in living arrangements indicate preference or necessity. However, valuable insight into some of the variables that help determine living arrangements of older adults is provided.

A study of living arrangement preferences of older persons was done by Beland (1987) in the Canadian province of Quebec. The sample consisted of 961 noninstitutionalized people, 65 years of age and over, who lived in one of three different cities in Quebec. The variables used in the study included (1) actual living arrangements, (2) preferred living arrangements, (3) wishes to leave home for another setting, and (4) requests for an alternate setting. Actual living arrangements were measured by asking whether the older person lived alone, with spouse only, with children, with relatives, or with others. Preferred living arrangements were assessed by asking the following questions: (1) Right now, if you had to move, would you choose to go to live with (a) one of your children, (b) one of your relatives, (c) persons of your own age, (d) other persons, no matter what their age, or (e) would you prefer to live alone, or (f) with your spouse? (2) Right now,if you could choose the persons with whom you would like to live, would you choose to go to live with

(a) one of your children, (b) one of your relatives, (c) persons of your own age, (d) other persons, no matter what their age, or (e) would you prefer to live alone, or (f) with your spouse?

The vast majority (85.8%) of married people (n=457) were satisfied with their actual living arrangement, whether they lived with spouse only, with children, or with relatives. Of the married individuals who did prefer a different living arrangement - the most frequently preferred arrangement selection was to live with others.

Non-married older persons wanted to change their living arrangement almost as often as they wanted to maintain it. The following is a breakdown of the preferences in living arrangements among the non-married older persons in Beland's (1987) study:

(1) Of those currently living alone:

54.9% preferred their actual living arrangement

33.9% would prefer to live with others

8.2% would prefer to live with children

2.1% would prefer to live with relatives

(2) Of those currently living with children:

54.7% preferred their actual living arrangement

40.3% would prefer to live with others

5% would prefer to live with relatives

(3) Of those currently living with relatives:

53.6% preferred their actual living arrangement

42% would prefer to live with others

4.3% would prefer to live with children

(4) Of those currently living with others

52.4% preferred their actual living arrangement

20.6% would prefer to live alone

12.7% would prefer to live with spouse

12.7% would prefer to live with relatives

1.6% would prefer to live with children

It is evident that among the non-married older persons who wanted to change their living arrangement, the most preferred choice was that of living with others. It is interesting to note, however, that in each group just slightly over half of the group preferred their actual living arrangement.

It is important to recognize that the two questions asked to assess preferred living arrangements in Beland's (1987) study include within them the assumption that the individual would be moving if another living arrangement were preferred. Question (1) states "Right now, if you had to move, would you choose to go live with....?" Question (2) states "Right now, if you could choose the persons with whom you would like to live, would you choose to go to live with....?" The way in which these questions are stated, (calling attention to the

underlined areas done by this author), makes the choice of a change in living arrangements contingent upon a move. What about the older person who prefers to stay in the same setting but wants a different living arrangement?

In this same study, Beland (1987) introduced the variable of health status. With the desire to determine if there was an interaction between health status and living arrangement, three indicators of health status were used to operationalize the concept. The three indicators of health status used to test for interaction were: (1) a subjective assessment of health, (2) a count of the number of chronic illnesses from a list of 14 provided in the questionnaire, and (3) an indicator of the ability to perform 11 activities of daily living. An interaction between health status and living arrangement was found. A higher score on the activity of daily living scale was obtained by those older persons either living alone or living with spouse only. Also, the number of chronic illnesses was higher for those living alone or with a person other than spouse. It seems the person living with someone other than spouse might represent a population at risk and clue a practitioner to potential living environment problems.

Living arrangement preferences of older persons were examined by Connidis (1983) in a study of 400

non-institutionalized people aged 65 and over. Subjects who had children (n=310) were interviewed in their homes and were asked the following question in regards to living arrangement preference: If circumstances were to change and you had to choose between living with a child or in a facility for seniors, which would you prefer? After respondents chose one of the two alternatives, they were asked why. It was Connidis's purpose to provide qualitative data obtained by an open-ended question in order to better assess the choices made. The results indicate an overwhelming tendency to choose a facility for seniors rather than living with children. Interestingly, a higher percentage of women (85.7%) than men (74.2%) chose the facility for seniors, while proportionately more men (25.8%) then women (14.3%) chose living with a child. Connidis also found that over half of all those who chose the senior facility did so for negative reasons - ie. reasons that refer to burden, imposition, unfairness to children if the other choice was made. Only 19% of those choosing the senior facility did so for positive reasons - ie. reasons that focus on the advantages of living in a senior facility. From this, Connidis concluded that choices made cannot always be taken at face value and that a need exists to develop a battery of questions to deal with the complexities of determining which living

arrangements are truly preferred.

Housing Preferences

Sherman (1971) conducted a study which examined questions pertaining to the choice of housing by the well elderly. Groups of elderly (n=600) from six different types of housing (retirement hotel, rental village, apartment tower, purchase village, cooperative village, and life-care facility) were interviewed in order to determine why they moved to a particular site.

Of the reasons presented to the respondents for moving to some kind of retirement facility, the most frequently selected was "easy maintenance" - chosen by 73%. The other reasons, along with the percentage of respondents, were:

Health and personal needs cared for - 42%

Change in physical strength - 36%

Wish to be with own age group - 36%

The reasons presented to the respondents for choosing one particular site over other retirement housing, along with the percentage of respondents that chose each response, are:

Quality of dwelling unit - 68%

Nearness to facilities and services - 62%

Cost - 56%

Security - 53%

Climate - 48%

Recreation facilities - 45%

Children or relatives nearby - 35%

Friends or relatives here - 33%

Provision of meals (asked at relevant sites only) - 78%

The subjects were also asked to identify the one thing they liked the best about living at the particular site they chose. The features most often mentioned in regards to what the elderly liked the best (preference) in their particular setting include the following, in this order: (1) friends, (2) security and contentment, (3) quiet atmosphere, (4) convenient to shopping, church, and town, (5) comfortable, home-like accommodations, (6) privacy, (7) weather, and (8) independence.

Mangum (1982), in a review of housing and the elderly, found an interesting preference among older persons living in a retirement mobile home park. Approximately 88% of a group of elderly (n=194) preferred to live in a community where everyone was retired rather than one in which people worked. The reasons for preferring this type of setting included (1) the possibilities for association with others, (2) the mutual aid given between residents in time of illness, and (3) less disturbance from children and people going to work.

Beland (1984) conducted a study which examined the desire of elderly people to leave their homes for a different setting. The study sought to answer three questions: (1) to what extent do social isolation, functional capacity, and physical and mental condition explain the desire of elderly persons living in three urban areas to leave their own homes?, (2) does the intervention of professionals, agents in the community, and relatives influence the expression of these wishes?, and (3) do socio-demographic and housing variables have a relatively greater weight than other variables in explaining the housing choices of the persons interviewed? The sample consisted of 990 non-institutionalized older persons age 65 and over residing in urban areas of Quebec, Canada. The data collected from the sample included: (1) socio-demographic variables, (2) housing conditions, (3) state of physical and mental health, (4) functional incapacity, (5) means of social integration, (6) use of medical, hospital, and pharmaceutical services, (7) the responsibility for domestic tasks, (8) the help received from various social agents, (9) the wish to live with persons other than those sharing the home, and (10) the wish for a given type of dwelling as measured by (a) application for a different type of dwelling and (b) the expressed wish to live in present home, in senior housing, in an

intermediate care facility, or in a long-term care facility. Since the focus of this section is housing preferences, only the results which pertain to this concept will be reported from Beland's study (1984).

With the use of discriminant analysis, Beland (1984) was able to classify persons according to their choice of housing in terms of prediction variables. In other words, older persons who possessed certain characteristics (variables) were more likely to choose a certain type of housing. Beland (1984) found that the older persons who chose senior housing possessed the following characteristics: higher education, currently renting their dwelling, location on an upper floor, good memory capacity, friendship with persons of the same age, and short travel time to the nearest relative. In contrast, Beland (1984) found that the choice to be admitted to an institution was most often made by those elderly with the following characteristics: advanced age, widowhood, limited living space, long travel time to the home of the nearest relative, health that is subjectively viewed as poor, and use of a number of non-prescription drugs. Surprisingly, functional ability was not related to the desire to chose different housing.

A study mentioned earlier in the living arrangement section of the paper (Beland, 1987) is also pertinent in this section. In Beland's study (1987), a random sample

of 1004 non-institutionalized older persons age 65 and over were questioned as to their preference for congregate housing. The question was phrased in the following manner: would you like to live (a) in an apartment building reserved for persons over 65 years of age (senior housing), (b) in a home for elderly persons (intermediate care facility), or (c) in a specialized hospital for elderly persons who are ill (extended care facility)? Approximately 25% chose senior housing, 10% chose an intermediate care facility, and 8% chose a nursing home. The remaining 57 % of the sample preferred to remain in their own homes.

A closer look at the 43% that chose some form of congregate housing (intermediate care facility and nursing home were combined by Beland) shows some interesting results in regards to living arrangements. The following data demonstrate that the tendency to choose a different setting depends on whether or not an older person lives with other persons (not including spouse):

	Choice	
	Senior housing	Nursing home
Living Arrangement		
Live alone	32.5%	22.8%
Live with spouse only	31.6%	17.3%
Live with spouse & another person	15.3%	11.7%
Live with another person in own home	17.0%	23.0%
Live at another person's home	17.1%	14.7%

Beland also determined from his data that subjective health status and chronic illnesses predicted the wishes for alternate settings.

The preferences of older adults for physical and architectural features of congregate housing were examined in a study done by Brennan, Moos, and Lemke (1988). The purpose of the study was to compare the preferences of older persons already living in congregate housing with the preferences of those who were not. In addition, Brennan et al. (1988) wanted to examine whether sociodemographic and personal characteristics of older

individuals were related to their preferences. The sample consisted of 229 older persons with a mean age of 78.1 who lived in congregate apartments and 205 older persons with a mean age of 70.3 who lived in the community.

It was found that the two groups of older persons had similar preferences for specified physical features of congregate housing. Both groups chose safety features (such as well lighted steps and main entrance & non skid surfaces on steps and in bathrooms) as the most highly preferred physical feature of congregate housing. Prosthetic aids were also a highly preferred feature by both groups, although the community elderly rated certain items as more essential. For example, 74% of community residents but only 42% of congregate housing residents preferred wheelchair-accessible public telephones. Community accessibility (proximity and convenient access to community and services) was equally preferred by each group - 49% of each group rated this feature as very important or essential. Orientational aides were thought to be very important or essential by 48% of the congregate housing residents and by 47% of the community residents. Social-recreational aids were the lowest rated in importance by both groups - 34% of the congregate housing residents and 36% of the community residents rated this feature as very important or

essential.

There were only a few significant relationships between preferences and sociodemographic and personal characteristics of the older persons in the study (Brennan et al., 1988). Group membership, ie community residents vs. congregate apartment residents, was a significant predictor of preferences for prosthetic aides - community residents preferred more prosthetic aides than congregate apartment residents. Also, women and respondents who were more active tended to prefer more community accessibility. Women also tended to prefer more social-recreational resources than men did.

Lawton (1980) examined preferences in choice of dwelling with different groups of elderly community residents. With the first group, subjects (N=200) were asked to indicate whether 11 items on a checklist would be "important" or "not important" in choosing a place to live. The items rated important by the most people, along with the number of older persons that chose each as important are as follows: a nice neighborhood (196), proximity to someone who could help in time of need (190), privacy (189), a nice-looking structure (184), and proximity to transportation and shopping (183/182). Other items included on the checklist, along with the number of older person that chose each as important are: near a hospital or doctor (167), a place with no steps to

climb (152), near old friends (146), near relatives (132), and onsite meal service (70).

The second group of older persons Lawton (1980) interviewed was a subsample (N=99) of the same subjects mentioned in the previous paragraph. A different method of data collection was used and the interviews were conducted a year later. The subjects were asked to rank the following items from most important to least important in choosing a place to live: (1) near transportation services, shopping, and church , (2) near friends and relatives, (3) in a nice neighborhood, (4) near hospital, doctor, or people to help, and (5) in a place to be by yourself if you want to be (privacy). The item chosen most frequently as the most important consideration for choosing a place to live was " near transportation services, shopping, and church" - 33 of the 99 subjects ranked it as most important. The item "near friends and relatives" was ranked as most important by 29 of the 99 subjects. The remaining items and the number of subjects that ranked them as most important are as follows: in a nice neighborhood - 18; near hospital, doctor, or people to help - 20; and privacy - 8. The item ranked most frequently as least important was "privacy" - 58 of the 99 subjects ranked it least important in choosing a place to live.

A third and different group of older persons was

interviewed by Lawton (1980) for the same purpose - to examine preferences in choosing a place to live. Community residents (N=260) were given statements in which two considerations in choosing a place to live were compared and they were to choose which one they preferred. The considerations included in these statements were: (1) near transportation services, shopping, church, (2) near friends and relatives, (3) in a nice neighborhood, (4) near hospital, doctor, or people to help, and (5) a place to be by yourself if you want to be. Findings indicated that being in a nice neighborhood was the most important consideration and a place to be by oneself the least important consideration in choosing a place to live. The remaining considerations were chosen as follows in descending order: near hospital, doctor, or people to help; near transportation, shopping, church; and near friends and relatives.

Lawton (1980) also explored the preference for age segregated vs. age integrated living. A group of elderly community residents (N=264) were asked "If you were going to move, would you prefer to live in a place with only people over 62 years old or a place with people of all ages?" Results showed that 37% of the group preferred age segregation, 42% preferred age integrated living, and 21% had no preference one way or the other. A group of community residents who had applied for age

segregated housing (N=446) were asked the same question in Lawton's (1980) study. Results were as follows: 39% preferred age segregation, 21% preferred age integration, and 40% had no preference one way or the other. Perhaps some of those that applied for age segregated housing felt this was their only option, even though they preferred age integrated living.

Building type and apartment shape were two additional aspects of housing that were explored in Lawton's (1980) study. Elderly community residents were asked to express their preference for high-rise vs. low-rise buildings by answering the following question: would you prefer to live in a tall building with an elevator or in a 2-story garden apartment? The majority of the group preferred the 2-story garden apartment, ie. the low rise structure. Interestingly, of a group of subjects who had been accepted into high-rise apartments (but had not moved yet) and who were asked the same question, 32% expressed preference for the low-rise structure. One question that must be asked here, however, is whether or not structure in terms of height only is the true issue. "A 2-story garden apartment" sounds more appealing than "a tall building with an elevator". These two examples need to be weighted equally, ie, a tall building with elevator vs. a two-story with stairs.

A group of elderly tenants (n=137) living in a

public housing project whose design was untraditional - a cylindrical building with wedge-shaped apartments - were also interviewed in regards to preferences in building structure and apartment shape (Lawton, 1980). The subjects were asked to rank order in terms of preference the following: (1) building structure choices - cylindrical, low, high-rise, L-shape, and (2) apartment shape choices - square, wedge, L-shape, rectangular. Schematic drawings of each type were shown to the subjects and they were asked to rank the pictures in order of preference. The cylindrical building shape was the highest preferred, with low-rise, high-rise, and L-shaped following from high preference to lowest preference. The square shaped apartment was the most preferred apartment shape, with wedge shaped next, L-shaped third, and rectangular shaped the least preferred.

It is clear from these studies, both in living arrangement preferences and in housing preferences, that there is a wide variety of individual preference in living environment. In addition, it has been indicated by some researchers that certain personal variables can predict preferences in living environment. The research presented, however, looks at only divided portions of the living environment, and in many cases the research situations allow the older person only certain choices in

expressing a preference. What is needed is a tool that examines both the housing and living arrangement aspects of the living environment with the opportunity for the older person to express, without limitations, his/her preferences in each. The information and insights gleaned from the research examined will assist in developing such a tool.

Chapter IV

Methodology

Introduction

The focus of this paper is development of a tool to assess living environment preferences of the elderly. A living environment preference tool for the elderly does not exist at the present time. An overview of factors to consider in tool development and special considerations for the elderly population will be reviewed.

Factors to consider in tool development

Factors which must be considered in development of a tool include the purpose of data collection, available resources, and usability of a tool in the population of choice (Eyres, 1981). Different types of tools produce different types of information and therefore a choice must be made about the kind of information which is desired. Tool development should also be guided by the time, money, and amount of personnel needed to administer it.

Internal aspects of a tool are also important considerations in tool development. Instructions need to be clear and simple if the subjects are to follow through appropriately, the language of the tool should be understandable and free of topic-related jargon, and the time required by the respondents to complete the tool must be reasonable. Additionally, development of a tool which measures the construct of interest is of

fundamental importance.

Special considerations for elderly populations

In studies with the elderly, there are other important considerations in tool development. The validity of the tool will be enhanced if the development and testing are done with the elderly individuals. It has been found that some presentation formats may be better suited to older groups. For example, vertical presentation of options may be easier for older subjects to respond to than horizontally displayed options (Gueldner & Hanner, 1989).

Tools that require more than 15-25 minutes to complete have a poor response rate among the elderly (Sinnott et al, 1983). Some researchers have found it beneficial to administer tools to each subject separately, in a one-to-one interview style, thus avoiding the problems caused by physical limitations or limited education (Gueldner & Hanner, 1989).

Overview of principles of tool development

In the process of tool development, certain basic principles must be followed in order to assure a linkage between practice, research, and theory. The basic principles include development of tools based on real clinical practice questions and a conceptual framework derived from theory (Rew, Stuppy, & Becker, 1988). The

establishment of construct validity is of foremost importance in tool development. Following development of a tool, implications for nursing practice, nursing research, and nursing theory should be included in discussion of the instrument.

Process of tool development

The actual construction of a tool should proceed sequentially using the following steps as guidelines (Williamson, 1981).

(1) State the specific purpose of the tool

(2) Develop a personal data section in which information is collected regarding personal characteristics of the respondents

(3) Pretest the personal data section in order to make certain that it is clearly written

(4) Develop a list of items that are descriptive of the concept being studied, obtained through a literature review and by interviews with persons involved with the concept under study

(5) Classify the items into groupings according to the general category into which the items fit

(6) Expand the items already established into more specific, precise items

(7) Pretest all the items to assure clarity and appropriateness

(8) Create the tool from the items developed

(9) Administer the tool to a pretest group and to a group similar to the subject group

(10) Compare the responses of the two groups and thereby determine which of the items for each concept are the most reliable.

Operationalization

The steps described in the process of tool development were used to develop the Living Environment Preference Tool (LEPT). A detailed description of each step is presented.

(1) Specific purpose of the tool

The specific purpose of the tool is to provide a means by which the living environment preferences of older persons can be known and better understood.

(2) Development of personal data section of LEPT

The items included in the "Person" section of the LEPT were based upon the literature review on living environment preferences and King's (1981) definition of a personal system. The items selected for inclusion were age, sex, marital status, number of children, nearest relative, educational level, income, occupation, and subjective health status.

(3) Pretest of personal data section

The "Person" section of the LEPT was pretested by interviewing five older persons (See Appendix A). As a result of the pretest, several revisions were made for clarity and specificity.

For example, the item "number of children" was revised to read " number of living children" - since one older person reported having one child who was deceased. This is an important distinction.

The item " nearest relative" was not clear to some of the older persons interviewed. Two of them thought it meant with whom they were close emotionally. One person stated "I have a friend one and a half miles from here". This person has no relatives in the state of Michigan and it seemed important to her that she identify someone in close proximity to her, whether it was a relative or not. In order to make this item clearer, two steps were taken. First, two items were reordered: "distance to nearest relative" was placed before " nearest relative". Second, "nearest relative" was rephrased to state: "relationship of relative living nearest you".

The item "occupation" was clearly understood, however, several of the females who were interviewed stated that they had not been employed since before they were married. The option "quit working ___ years ago"

was added under the item "occupation".

(4,5) Development and classification of a list of items

A list of items descriptive of the concept of living environment preferences of older persons was derived from a review of the literature (See Appendix B). These items were divided into two main categories: living arrangement and housing/setting. In order to help identify items descriptive of living environment preferences that may be missing from the literature, five older persons were interviewed using a series of open-ended questions (See Appendix C).

All descriptive items mentioned in each interview were transcribed from a tape recording of the interviews. The tape recordings were reviewed twice for content. The transcribed items were categorized into two groups of items (See Appendix D): living arrangement preferences and housing/setting preferences. Housing/setting preferences were subgrouped using the following headings: physical features, neighborhood features, and general qualities.

(6) Expansion of the items

Some of the living environment preference items were expanded for use in the LEPT. In the living arrangement category, the item "relative" was not fully expanded upon in the literature. It was not clear from the review

which relatives were included. "Children" was a separate item, so it was not included in the item "relatives". More specific data is needed to better understand living environment preferences. The item "relative" was expanded to include: parent, nephew/niece, brother/sister, and cousin.

In the housing/setting category of the LEPT, preference items as identified in interview were added to the literature review items. Some of the items from the literature were restated for clarity and to avoid the use of jargon. For example, the age integrated and age segregated items were restated to: neighbors who are the same age and neighbors of all ages.

(7) Pretest all items

A pretest was done only on the "Person" section of the LEPT. Before the LEPT could be used for research purposes, however, a pretest of all items would be necessary.

(8) Creation of tool (See Appendix E for LEPT)

Before being complete, the "Person" section of the LEPT needed to be expanded. As identified in the literature (see Appendix F), there are certain characteristics and conditions that describe an older person and at times tend to predict their living environment. It was therefore important to add

these conditions and characteristics. Functional health, number of chronic illnesses, use of medical and hospital services, use of non-prescription drugs, and friendship with persons of the same age were added to the "Person" section of the LEPT.

Also, an important consideration in understanding living environment preferences of an older person is knowledge of who are the living relatives of the older person. This information is important because expressed preferences in living arrangements are dependent on who is available. For example, if an older person listed his living arrangement preferences as #1 to live with spouse, #2 to live alone, and #3 to live with unrelated person - it is unclear whether he/she opted not to live with relatives or whether there just were no relatives from which to choose. An item to identify living relatives was therefore added to the "Person" section of the LEPT.

The items in the "Environment" section of the LEPT were formulated as discussed above in steps 4, 5, and 6. In addition to preferred living environment, two other areas were addressed in the "Environment" section. Present and past environments were explored as well as the preferred environment. By incorporating into the tool a method by which to gain knowledge about past and present living environments - more insight may be obtained about preferences and how they change over time.

(9) Administer the tool to a pretest group and to a group similar to the subject group AND (10) Compare the responses

These steps were not taken. Before the tool is used in a research endeavor, however, it would be important to pretest it as described.

Human Subjects

As part of the tool development process, interviews of older persons were necessary in order to complete the content area of the item list, to help assure content validity, and to pretest the personal data section. Criteria for inclusion in the interviews consisted of (1) being 65 years of age or older, (2) living independently in the community, and (3) having a functional mental capacity. Five, non-institutionalized older persons that fit the criteria agreed to the interviews. Potential subjects were informed of the research project by an academic or professional associate. Those interested in participating provided their name and telephone number to be passed on to the researcher. The researcher then contacted potential subjects by telephone to explain the research and to answer questions of potential subjects.

Confidentiality was maintained by using assigned numbers to identify the subjects. Subject names were

not recorded as part of the interview nor was any association made between responses and subject names in the report of findings. Each subject verbally agreed to the tape recording of the interview. It was explained to each subject that their name would not be used during the interview and that in no way would the information on the tape be associated with them.

A written informed consent was obtained from each subject prior to the interview. The consent form was read aloud to each subject by the researcher. Any questions were answered at that time.

There was no risk to the subject by participating in the interview. Answering the questions posed by the researcher was the only requirement of the interview. The potential benefit to the subject was the knowledge that he/she had assisted in the research process. In addition, the subjects hopefully enjoyed the company of another person provided as a result of the interview. The benefits to society in general as a result of this work will be an increased understanding of the living environment preferences of older persons.

Evaluation

The reliability and validity of the tool must be evaluated before use in a research endeavor. Test-retest

reliability (Jacobson, 1988) is one form of reliability evaluation that would be appropriate for the Living Environment Preference Tool (LEPT). With this method of reliability testing, the LEPT would be administered to the same subjects at two different times and the scores correlated. The time interval between tests should not be so short that the subjects' recall of items could falsely inflate the reliability coefficient. Nor should the time be so long that one is studying the stability of the characteristic over time rather than the performance of the instrument. When the LEPT is evaluated in this manner, a coefficient of 0.60 to 0.70 would indicate an acceptable range of reliability for the exploratory use of a tool in the early stages of development.

The validity of the LEPT should be evaluated and established before its use. One important form of validity is content validity. Content validity (Jacobson, 1988) involves determining whether or not the test items adequately sample the content area. Judgments on content validity are based on consensus among a group of subject matter experts. Content validity is also established by consensus in the literature.

Another form of validity is construct validity. The concept being measured is seen as part of a network of associated concepts and meanings (a construct). The emphasis on meaning makes construct validity the form of

validity most directly concerned with the question of what a tool actually measures. The approach that should be used to most appropriately evaluate construct validity in the LEPT is factor analysis. Factor analysis would identify clusters (factors) of related items. The names (content) and the mathematical weights of the factors would then be used to define the concepts. Factor analysis would also help to identify whether a concept is unidimensional or multidimensional - whether one or several factors are needed to describe it. Evidence of the construct validity of a tool is cumulative. Each positive study results in greater confidence that a tool is a valid measure of a particular construct.

Since the purpose of this paper is the development of a tool and not the use of it in a research endeavor, the tests for reliability and validity were not done. Content validity, however, is assured by the review of literature and by the interviews done with elderly subjects.

Summary

The method of tool development was explored thoroughly in Chapter IV. The principles behind tool development were presented, including special considerations in the development of tools for use with older persons. The process of tool development was

outlined in a systematic manner. Following the information provided on tool development, a detailed description of the development of the Living Environment Preference Tool was presented. Finally, a discussion on how the LEPT should be evaluated for use in research was offered.

In Chapter V, descriptive information on the pretest sample will be presented. A discussion of the descriptive information will follow. Finally, the implications of the Living Environment Preference Tool for nursing research, nursing theory, and advanced practice will be discussed.

Chapter V

Results and Implications

Introduction

In the previous chapters of this paper the concept of living environment preferences of older persons was explored. A conceptual framework demonstrating person - environment interaction was presented and used as a basis for development of a living environment preference tool. A literature review and personal interviews with older persons helped to generate the items used in the creation of the tool.

In the fifth and final chapter of this paper, results of the pretest will be presented and discussed. The use of the LEPT will be examined as well as implications for nursing research, nursing theory, and advanced practice.

Descriptive results

The "Person" section of the LEPT was pretested on five older persons. The chart in Appendix G displays the personal data obtained from them during interview. This information is included in order to make observations and comparisons with the literature. In addition, living environment preference items obtained during the interviews can be seen in Appendix D.

Discussion of results (See Appendixes D & G)

The age of the respondents ranged from 66 to 84

years and their subjective assessment of health was either fair or good. The fact that all of the older persons interviewed were in reasonably good health may have contributed to the fact that when given the choice, most chose their current living arrangement and current housing. Four out of the five older persons did state that if their health status should worsen, they would choose different housing. The kinds of housing they mentioned as considered options were senior citizen apartments, retirement centers, and nursing homes. No one mentioned the option of living with relatives if health status worsened. In fact, two subjects (#2 & #5) were adamantly against such a living arrangement. Interestingly, these two subjects' nearest relatives lived further away than 25 miles.

One of the subjects (#2) did have a different choice in living arrangement than her current arrangement. She currently lived alone, but wanted a companion to live in her home with her. She was specific about the companion being someone her own age and sex. It is interesting to note that this subject is female, widowed, has no living children, has no relatives close to her, and is approaching 80 years of age. These are some of the variables that have been identified in the literature as

determinants of living arrangements (Beland, 1984, Coward, et. al., 1989, & Soldo, 1981).

One of the subjects (#1) also had a different choice in housing than his current place of residence. He preferred to be back at his previous place of residence. It should be noted that the decision for his current place of residence was made by himself and his family. In addition, his annual income is low (he may have just recently retired - age 66) and he is the only subject that mentioned financial suitability as a preference item. It seems that income and family influence were factors in this subject's choice of housing, although the current arrangement was not what he preferred.

In looking at the preference list in Appendix D and comparing the preferences expressed there with the personal data found in Appendix G, some interesting observations can be made. Subjects #1 and #5 mentioned privacy as a preference item and showed consistency in their preference by being the only two who listed living alone as their choice of living arrangement. The subject (#2) who mentioned familiarity as a preference item indicated her strong preference for this by demonstrating her choice to stay in her current housing despite the size of the house, the distance to her nearest relative, and her assessment of health status as fair. She chooses as well to invite an unrelated person to live with her in

her home in order to maintain her preference of familiarity.

Of the preference items mentioned in interview, the most frequently mentioned item was "good neighbors". This item was not directly mentioned in the literature, although it could be a descriptor of "congeniality in surrounding environment" (Carp, 1985). Since the term "congeniality in the surrounding environment" is rather vague and its meaning not clearly understood, it was not used in the LEPT. Instead, the items that could possibly be descriptors of "congeniality in surrounding environment", as mentioned by the interviewed older persons, were used. They included: good neighbors, good neighborhood, safe area, and pleasant & friendly neighborhood. The other more frequently mentioned preference items were "close to services needed" and "close to commercial activities". These preferences are well documented by the literature (Lawton, 1980 & Sherman, 1971).

In reviewing the effectiveness of the interviews to obtain preference items, certain observations need to be made. First of all, some of the questions were too general. It was the hope of the interviewer to elicit items without prompting so that the items would be solely from the older person. However, some of items generated

were non-specific and rather vague. The terms "nice" and "good" are examples. With some guidance and probing more descriptive preference items could have been obtained. The only case in which the interviewer was successful in gaining a more specific answer was the explanation of "good neighbors" obtained from several subjects. This explanation included: neighbors who watch out for each other and neighbors who help with outside chores. Perhaps a more detailed interview guide would have produced more detailed answers.

Another observation made was the fact that not one person interviewed had anything "bad" to say about the place in which they lived. The literature supports this phenomenon - most older person are hesitant and uncomfortable with expressing such negative ideas (Sherman, 1971). As a result of this observation, questions that pertained to least-liked features were deleted from the LEPT.

The preferences expressed in the interviews (See Appendix D) compare closely to what is found in the literature. Living arrangement preferences of those interviewed support Beland's (1987) findings. Beland (1987) found that most married people were satisfied with their living arrangements and that most older persons who live alone preferred that arrangement. Of those living alone who were not satisfied with that

arrangement, the most frequently chosen arrangement was to live with others (not relatives). One interesting point not brought out in the literature, but expressed in interview, was the specified preference for a living companion of the same sex.

Housing/setting preferences of those interviewed also compare closely to what is found in the literature. In fact, most of the items on the Interview Item List are mentioned by either Sherman (1971) or Lawton (1980). Both Sherman (1971) and Lawton (1980) found that living near needed services and commercial activities was highly preferred among older persons. This was a highly preferred item with those interviewed also. The items obtained in interview that were not found in the literature were: spacious and roomy, tri-level, good neighbors, and familiarity.

Implications for Nursing

Research

An over-all look at the contents of this paper will bring to one's attention the potential wealth of nursing research that could be generated from the conceptual framework. The LEPT is only one facet of the whole picture of person-environment interaction. In the following paragraphs, the research potential of the framework will be explored. Also, the use of the LEPT in

nursing research will be investigated.

Figure 4 (See pg. 51) provides a schematic representation of the conceptual framework used in this paper. The equation B = f(P, E, P x E) is central. The equation states that behavior is a function of the person, the environment, and the interaction between person and environment. Research on such behaviors as relocation, maintenance of health, or compliance vs noncompliance could take on new meaning when viewed from this perspective. Also, research could be done using only parts of the equation. For example, personality style could be investigated from the vantage point of the person, the environment, and their interaction. Other examples of environmental cognition besides preference could be explored. The potential for nursing research based on this equation and framework is endless.

The main purpose of this paper was the development of a living environment preference tool for older persons. This purpose has been accomplished and the LEPT is the result. The use of the LEPT in nursing research has great possibility. Not only is this tool a means by which to gather information on living environment preferences of older persons, it is also a possible means by which to explore how the interaction of person and environment results in particular preferences. It is

possible, too, that it can help determine certain predictors of living environment preferences.

A sample of community- based older persons who are 65 years of age or over and mentally functional could be obtained from a primary care setting or from a public health agency. The subjects could either be interviewed personally or the LEPT could be mailed to them. A pretest on a small initial sample would be necessary in order to determine psychometric properties and validate readability of the instrument. This would provide a means by which to evaluate the effectiveness and thoroughness of the LEPT. It would probably be wise to pretest the LEPT by administering it both in person and by mail. Revisions, additions, or deletions would follow. Once revised, the LEPT could be administered to a larger sample of older persons. The results could be analyzed for certain patterns in living environment preferences. The results could also be analyzed for determinants or predictors of living environment.

The conceptual framework presented in this paper can provide the structure for a variety of nursing research endeavors. With the particularly little attention paid to environment in nursing research, a whole new body of research could be initiated using the framework presented here. Behaviors of older persons could be examined in the context of person - environment

interaction. How changes in the person (eg. health, losses) or changes in the environment (eg. increased crime, long-time neighbors moving out) affect the person-environment interaction could be investigated. Personality style could be examined as to how personal and environmental conditions affect or do not affect it. The research possibilities are endless.

Theory

The connection this paper has to nursing theory is straightforward. The addition of the concepts of environment and person - environment interaction was made to King's open system model of nursing.

The four basic concepts of person, environment, health, and nursing are central to all nursing models. Since Florence Nightingale's time, however, there has been a slow shift of emphasis away from the concept of environment. In current nursing models the concept of environment is either blended with that of person or it is given little attention. With this in mind, the implication this paper has to nursing theory is clear. The concept of environment has been made a separate and important entity within the framework of King's open system model of nursing. In addition, the idea of

person and environment interaction has been explored.

Education

Nursing education, both on the undergraduate and graduate levels, needs to incorporate a more comprehensive look at the environment, the person-environment interaction, and the effects of such an interaction on behavior. Such a focus could be brought forth in nursing theory. In the clinical arena a more direct approach to environment could be established by incorporating an environmental assessment into the overall assessment of the client. Also, practicing nurses (and other healthcare providers) need to be educated as to the importance of expanding their assessments to include environmental factors.

Older persons need to be educated on the need to think about and plan early for potential living environment changes. Families of older persons also need to be educated on this. Knowing and understanding the older person's preferences and the factors that may affect those preferences would aid in any future decision-making about living environments. It would also help the older person and his family anticipate and prepare for potential problems.

Finally, educating policy-makers would be an important endeavor. Knowledge of the living environment

preferences of older persons could influence and guide housing policies.

Advanced Practice

The primary care setting is an ideal place for use of the LEPT. The Gerontological Clinical Nurse Specialist (GCNS)) in the primary care setting comes in contact with many community-based older persons. By incorporating the LEPT into their practice, the GCNS can provide an added dimension to their care and fulfill many of the roles inherent to their position.

As an assessor, the GCNS who uses the LEPT can collect data that assists in the identification of person-environment fit needs of his/her client. The data base provided by the LEPT helps the GCNS discover any conflicts the client may have with his environment.

As a client advocate, the GCNS who uses the LEPT can help his/her client identify what is important to him/her in their living environment. By doing so, the client will be better able to make decisions about future living environments. Use of the LEPT will initiate thoughts and concerns about the living environment before a crisis situation arises. Such activity would prepare the client to make appropriate decisions for him/herself. Also, the information gained from the LEPT can be used by the GCNS to inform families of the older person's preferences

in living environments.

As a collaborator, the GCNS who uses the LEPT can document important information regarding the living environment preferences of his/her clients. This information can be exchanged with other health care providers in order to gain more insight into an appropriate plan for the client. For example, the GCNS may collaborate with a social worker in order to provide a wide range of living environment options that fit the preferences of the client.

As a counselor, the GCNS who uses the LEPT can provide a supportive environment in which the client feels free to express his preferences and concerns. If decisions about living environment need to be made, the GCNS can assist his/her client in coping with alternatives that may not be the preferred or ideal.

As an educator, the GCNS who uses the LEPT in his/her practice can educate clients on the importance of anticipating and planning for the future in regards to living environment. Information on the important considerations and issues in choosing a living environment can be discussed with the client. The GCNS can also fulfill his/her role as educator by presenting workshops or seminars on living environment preferences to groups of older persons in the community. Use of the LEPT at the workshops could initiate discussion and

provide an opportunity to present the important issues in planning and choosing future living environments.

As a leader, the GCNS who uses the LEPT in his/her practice can gather valuable data as to the range of living environment preferences of older persons. This data can be disseminated among both health care and political systems to help direct planning and influence policy-making in regards to housing for older persons.

Summary

In the final chapter of this paper the descriptive results of the pretest were presented and discussed, along with suggestions for improvement. Use of the LEPT in advanced practiced was detailed, and implications for nursing research, theory, and education were discussed.

It is the hope of this author to encourage the use of the LEPT in nursing practice. With continued use the LEPT can be fine-tuned to become a valuable tool in the holistic assessment of the older client. In addition, its use will provide the much needed information on living environment preferences of the older person.

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Appendixes

Appendix A

Pretest of personal data*

Age: _____
(Please write in)

Sex: Male Female
(Please circle one)

Marital Status: (Please check one)

___Married
___Widowed
___Separated
___Divorced
___Single, never married

Number of Children: _____
(Please write in)

Nearest Relative: (Please check one)

___Son/Daughter
___Brother/Sister
___Nephew/Niece
___Cousin
___Parent

Distance to nearest relative: (Please check range)

___0-5 miles
___5-10 miles
___10-15 miles
___15-20 miles
___20-25 miles
___more than 25 miles

Education: (Please check highest level of education)

___Some grade school
___Completed grade school
___Some H.S.
___Completed H.S.
___Technical or vocational school
___Some college
___Completed college

Income: (Please check range of yearly personal income)

___Under $5,000
___$5,000 - $10,000
___$10,000 - $20,000
___$20,000 or more

Occupation:

___Retired
___Employed full-time
___Employed part-time

Health Status: (Please check one)

___Good
___Fair
___Poor

*Pretest accompanied questions (See Appendix C) as part of interview

Appendix B

Living environment preference list from the literature

Living Arrangement

Alone
Spouse
Child
Relative
Unrelated person
- Same age
- Younger

Housing/Setting

Cost
Age of dwelling
Physical condition of dwelling
Nearness to services needed
Nearness to commercial activities
Nearness to relatives
Nearness to friends
Nearness to age peers
Accessibility & usability of transportation
Congeniality in surrounding environment
Threat in surrounding environment
Ease of maintenance
Health/personal needs cared for
Security/Contentment
Climate
Privacy
Quiet atmosphere
Safety features
Prosthetic aides
Orientational aides
Nice neighborhood
Nearness to recreational activities
Near someone who could help in time of need
Nice looking structure
No steps
Age integrated
Age segregated
High rise building
Low rise building
Apartment shape
- square
- wedge
- L-shaped
- rectangular

Appendix C

Interview questions*

1. Please describe the place in which you now live.
2. What other people live here with you?
3. What things do you like best about the place you live now?
4. What things do you not like about the place you live now?
5. Who made the decision that you would live in the place where you are now?
6. In what kind of place did you live before this one?
7. In your past home, what other people lived with you?
8. Right now, if you could choose, with whom would you like most to live?
9. Right now, if you could choose, in what kind of place would you like most to live?

*Questions accompanied pretest (See Appendix A) as part of the interview

Appendix D

Living environment preference list from interviews

The items that describe living environment preferences as identified by older persons during interview are listed below. The items listed under Housing/Setting have been divided into three main categories: physical features, neighborhood features, and general qualities. The subjects who identified the items during the interview are listed in parenthesis after each item.

Living Arrangement

Alone (Subjects 1 & 5)

With Spouse (Subjects 3 & 4)

With same-aged, same sex companion (Subject 2)

Housing/Setting

Physical Features

Spacious & roomy (Subject 2 & 5)

Nice yard (Subject 2 & 4)

Ground floor (Subject 1)

Patio (Subject 1)

Tri-level (Subject 5)

Safety measures like spotlights, home-enclosed garage (Subject 5)

Neighborhood Features

Good neighbors (Subject 2, 3, 4, & 5)

Close to services needed (Subject 1, 3, & 4)

Close to commercial activities (Subject 1, 3, & 4)

Good neighborhood (Subject 1, 2, & 4)

Safe area (Subject 3, 4, & 5)

Close to family (Subject 1)

Pleasant & friendly neighborhood (Subject 3)

Nice location (Subject 3)

Quiet (Subject 5)

Outside maintenance services provided (Subject 5)

General Qualities

Privacy (Subject 1 & 5)

Independence (Subject 1)

Financially suitable (Subject 1)

Comfortable (Subject 1)

Contentment (Subject 2)

Familiarity (Subject 2)

Appendix E

Living Environment Preference Tool (LEPT)

PERSON

Age:_____
(Please write in)

Sex: Male Female
(Please circle one)

Marital Status: (Please check one)

___Married
___Widowed
___Separated
___Divorced
___Single, never married

Number of Living Children: _____
(Please write in)

Living Relatives: (Please check as many as apply)

___Parent
___Nephew
___Niece
___Brother
___Sister
___Cousin

Education: (Please check highest level of education)

___Some grade school
___Completed grade school
___Some high school
___Completed high school
___Technical or vocational school
___Some college
___Completed college

Occupation: (Please check one)

___Retired
___Quit working _____ years ago (Please fill in)
___Employed full-time
___Employed part-time

Income: (Please check range of yearly personal income)

___Under $5,000
___$5,000 - $9,999
___$10,000 - $19,999
___$20,000 or more

Distance to nearest relative: (Please check range)

___ 0 - 5 miles
___ 6 - 10 miles
___11 - 15 miles
___16 - 20 miles
___21 - 25 miles
___more than 25 miles

Relationship of relative living nearest you:
(Please check one)

___Son/daughter
___Brother/sister
___Nephew/niece
___Cousin
___Parent

Number of friends your same age _____
(Please fill in number)

Health Status: (Please check one)

___Good
___Fair
___Poor

Chronic Illnesses*: (Please check all that apply to you)

___Alcoholism
___Arthritis
___Cancer
___High blood pressure
___Heart trouble
___Impaired vision
___Hearing loss
___Insomnia
___Stroke
___Parkinson's disease
___Foot problems
___Breathing problems
___Diabetes
___Bladder/kidney problems

During the past six months*:
How many times have you visited a doctor?_____
How many times have you been hospitalized?_____

How many over-the-counter medications do you take?_____

Functional Health*: (Please circle Yes or No in answer to the following statements)

I am able to bathe without help. Yes No

I am able to dress & undress without help. Yes No

I am able to use the toilet without help. Yes No

I am able to walk without help. Yes No

I am able to eat without help. Yes No

I am able to use the telephone. Yes No

I am able to go shopping. Yes No

I am able to prepare my own meals. Yes No

I am able to do my own housework. Yes No

I am able to take my medicine on my own. Yes No

I am able to drive. Yes No

I am able to get needed transportation. Yes No

* Adapted with permission from R. Cairl, E. Pfeiffer, & D. Keller "Geriatric Assessment Testing and Evaluation System (GATES)"

ENVIRONMENT

Living Arrangement

Present

Right now, I live with: (Please check as many responses as is correct)

___Alone
___Husband/wife
___Parent
___Son/daughter
___Nephew/niece
___Brother/sister
___Cousin
___Unrelated person
If unrelated person was checked, is this person the same age as you, younger, or older?
(Please circle one)
Is this person male or female?

The number of people with whom I live is:_____
(not counting yourself)

Past

Before my present arrangement, I lived with:

_____
(Please fill in)

Preferred

The person(s) I would like most to live with is:
(Please number your first choice as 1, your second choice as 2, and your third choice as 3)

___Alone
___Husband/wife
___Parent
___Son/daughter
___Nephew/niece
___Brother/sister
___Cousin
___Unrelated person

If unrelated person chosen, would you rather live with:

Someone that is:
____ your own age
____ younger
____ older

Someone that is:
____ the same sex
____ the opposite sex

Housing/Setting

Present

Right now, I live in a: (Please check one)

___House
___Apartment
___Mobile home/trailer
___Boarding house
___Other Please state:

Right now, I (rent, own) my place of residence.
(Please circle one)

I live in the (country, city, suburbs).
(Please circle one)

I have applied to live elsewhere: Yes No
(Please circle)

If Yes circled, for what kind of place have you applied? _____

I have _____ rooms in my present residence.
(Please fill in number)

Past

Before this residence, I lived in a:
(Please check one)

___House
___Apartment
___Mobile home/trailer
___Boarding house
___Other Please state:

Preferred

Physical features

The place I would like most to live in is:
(Please number your first choice as 1, your second choice as 2, and third choice as 3)

___House

If house chosen: one-story or two-story?
(Please circle choice)

___Apartment

If apartment chosen: Would you want it in a high-rise building or a low-rise building?
(Please circle one)

What shape apartment would you like best: square, rectangular, wedge, or L-shaped?
(Please circle one)

___Mobile home/trailer
___Boarding house
___Other Please state:

What I would like most to have in and/or at my place of residence is:
(Please rank your first choice as 1, second choice as 2, third choice as 3, etc.)

___a nice looking structure
___a place in good condition
___a place that is spacious & roomy
___no steps to climb
___inside safety features (like non-skid surface in bathtub, toilet & tub handrails)
___outside safety features (like well-lighted yard, attached garage)
___a nice yard
___a patio

Neighborhood Features

What I would like most to have in my area of residence is:
(Please rank first choice as 1, second choice as 2, third choice as 3, etc.)

___near primary care providers (physician, nurse, or dentist)
___near health care facilities (clinic, hospital)
___near recreational facilities
___near stores
___near necessary services (bank, church, hair-care)
___near family
___near friends
___near transportation services
___a safe neighborhood
___a friendly neighborhood
___a nice neighborhood
___neighbors who are the same age
___neighbors of all ages
___neighbors who watch out for one another
___neighbors who help with outside chores
___a quiet neighborhood

General Qualities

What I would like the most to have in the place that I live is:
(Please rank first choice as 1, second choice as 2, third choice as 3, etc.)

___privacy
___comfort
___independence
___maintenance needs taken care of
___provision of meals
___security
___financially suitable
___a suitable climate
___contentment
___familiar things around

Is there anything not mentioned above that would describe what kind of things are important to you in where and with whom you live? (Please write in)

Date questionnaire completed_____

Appendix F

"Person" characteristics from the literature

Person

- Age
- Sex
- Marital Status
- Race
- Income
- Education
- Number of Children
- Distance to nearest relative
- Functional health - ADLs
- Subjective assessment of health
- Number of chronic illnesses
- Use of medical & hospital services
- Use of non-perscription drugs
- Mental capacity
- Rural vs urban living
- Application for different type of dwelling
- Currently rent or own
- Resides on upper floor
- Living space
- Friendship with persons of same age

Appendix G

Personal data from pretest

Subjects

	1	2	3	4	5
Age	66	78	84	82	77
Sex	Male	Female	Female	Male	Female
Marital Status	Widowed	Widowed	Married	Married	Widowed
Number of Children	3	1*	3	3	3
Nearest Relative	Daughter	Niece	Son	Son	Son
Distance in miles to nearest Relative	0-5	>25	5-10	5-10	>25
Education Completed	College	Some College	H.S	Vocational	College
Annual Income in $	5-10,000	20,000 or >	10-20,000	10-20,000	No answer
Occupation	Retired	Retired	Retired	Retired	Retired
Health Status	Good	Fair	Good	Fair	Good

*Deceased

	Subjects				
	1	2	3	4	5
Current Housing	Apart-ment	2-story house	Mobile home	Mobile home	Condo
Current L.A. *	Alone	Alone	Spouse	Spouse	Alone
Previous Housing	Apart-ment	Apart-ment	2-family house	2-family house	House
Previous L.A. *	Spouse	Spouse	Alone	Alone	Spouse
Choice of L.A.*	Alone	Companion	Spouse	Spouse	Alone
Choice of Housing	Previous housing	Same as current	Same as current	Same as current	Same as current
Whose Decision for Current Housing	Self & Family	Self & Spouse	Self & Spouse	Self & Spouse	Self

* L.A. = Living Arrangement

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

March 13, 1991

Ms. Ellen Fowler
2703 Geert Court
Lansing, MI 48910

RE: DEVELOPMENT OF A NURSING TOOL TO EXPLORE LIVING ENVIRONMENT PREFERENCES OF OLDER PERSONS, IRB#91-089

Dear Ms. Fowler:

The above project is exempt from full UCRIHS review. I have reviewed the proposed research protocol and find that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to March 5, 1992.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

David E. Wright, Ph.D.
Chair, UCRIHS

DEW/deo

cc: Dr. Sharon King