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I am submitting herewith a dissertation written by Linda Scott-Webber entitled "Panels as a Means of Separation for an Elderly Residence." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of philosophy, with a major in Human Ecology.



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PANELS AS A MEANS OF SEPARATION FOR AN ELDERLY RESIDENCE

**A Dissertation Presented for the degree of
Doctor of Philosophy**

The University of Tennessee, Knoxville

**Linda Scott-Webber
August, 1994**

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DEDICATION

~~This dissertation~~ is dedicated in memory of my dear sweet ~~father who showed me~~ that strength is gathered from within and one survives adversity by sheer determination. To both my parents for instilling within me a love of learning and the realization that an education can provide a key to personal success.

To my dearest husband without whom this dissertation would not have been possible. His continued love, encouragement and unending support have allowed this degree to become a realization. To my children: Sam, Mitchell, David, Hillary, and Marci for their love, support and encouragement. I thank you all.

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ABSTRACT

The purpose of this study was to determine whether or not, open-office landscape panels would be viewed as a construction alternative to typical walls, in terms of enclosure, by elderly females in residential settings. Ender's Activity of Daily Living Questionnaire (1983) was mailed to 250 female residents of assisted living facilities in Eastern Tennessee. One hundred and forty three of these self-reporting questionnaires were usable, resulting in a response rate of 57%. A questionnaire was designed and pretested by the researcher based on the information obtained in the pilot study, regarding panel enclosed environments. The questionnaire was presented to 60 subjects, stratified from the original group of respondents, as a focused interview. A 1" = 1'-0" scale model was used to view the three panel heights and three room settings queried. For purposes of this study, with respect to the activities of daily living (ADL), three skill levels (high, medium, and low) resulted from Ender's questionnaire. A oneway ANOVA was used to evaluate differences in scores between the ADL groups and the panel heights and room settings.

Results of the study indicate that there is general acceptance of all ADL groups on the ranking of the three panel heights and room settings. The findings of the study indicated that elderly females in this study accepted panels as a means of enclosure in these room settings but, preferred the taller panels.

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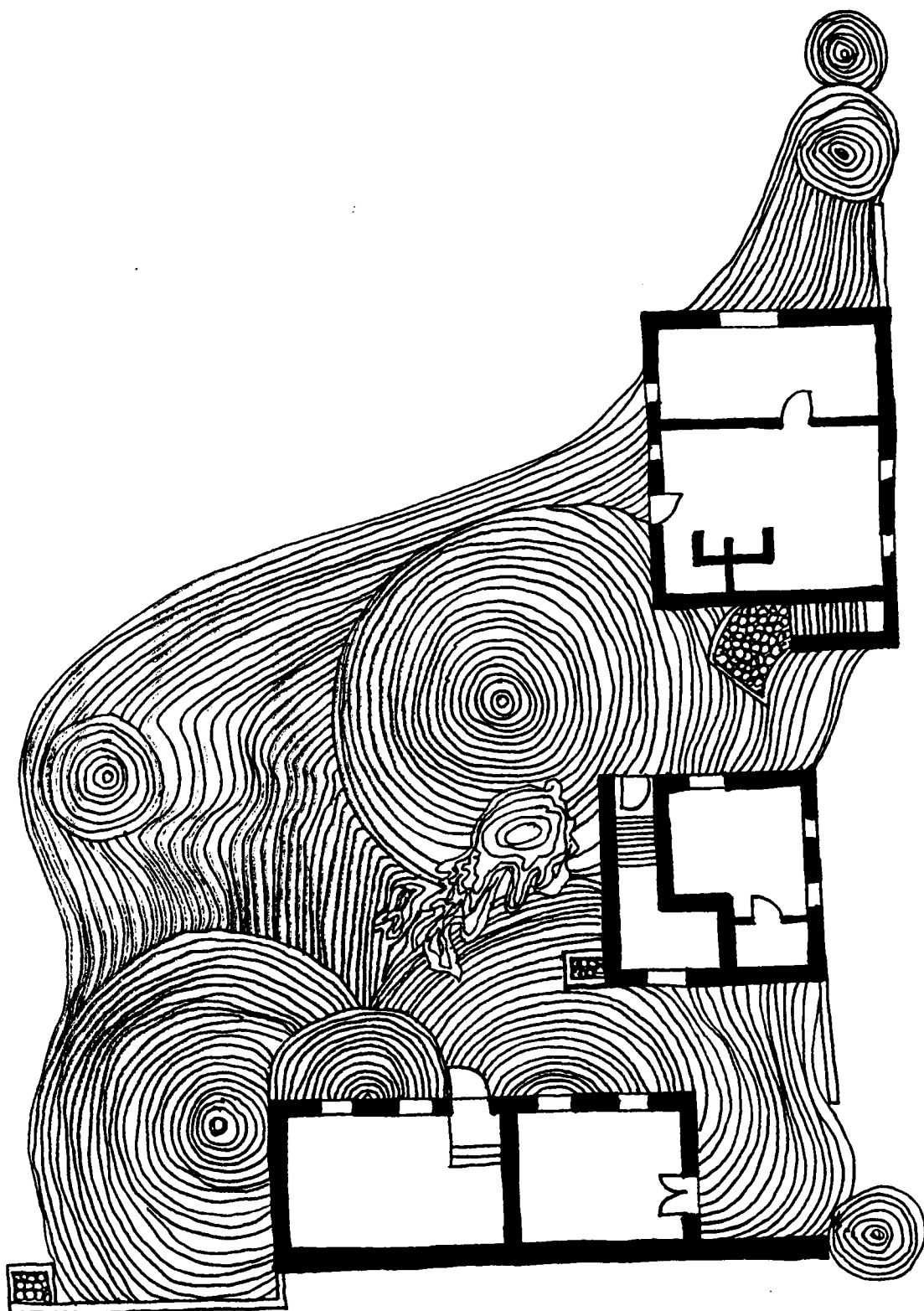
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CHAPTER I

INTRODUCTION

STATEMENT OF THE PROBLEM

Functionally impaired people 65 and older are often institutionalized due to a nationwide lack of appropriate shelter and services to accommodate their needs (Taeuber, 1992). As early as 1974, the Urban Institute in Washington, D. C. established national estimates indicating that 2.4 million persons aged 65 and older need not be institutionalized if given the proper shelter and services to support functional impairments (U. S. Congress, 1974, as stated in Belsky, 1990).

The elderly, in general, experience changes in their physical well being as they age. Many experience problems related to vision; hearing loss; memory loss; loss of a spouse; and loss of mobility, etc. (Belsky, 1990; Ferraro, 1990). These losses are indicative of the functional impairments that older Americans must endure.

These impairments relate to chronic diseases, disorders and minor losses in cognitive abilities (Ferraro, 1990; Belsky, 1990; Harris, 1990). This means that individuals are no longer able to cope within their present surroundings. An individual could have difficulties with activities including hygiene, meal preparation, dressing, and remembering to take medications. There may be difficulties maintaining a residence (inside and out). These activities are commonly referred to as "activities of daily living" or

ADL's (Canada Mortgage and Housing, 1989; Taeuber, 1992) (see Figure 1). A reduction in the functional abilities of these elderly can result in premature institutionalization (Lawton, 1980; Belsky, 1990; Ferraro, 1990).

This study centered around a type of elderly housing enclosure that could potentially help deter premature institutionalization of the elderly. The basis of the study was to use existing open-office landscape technology to develop modular elderly residential interior environments. The basic concepts of open-office planning that could pertain to elderly housing are: flexibility, modularity, and mobility. Questions pertaining to elderly housing became: (1) How could these concepts be transported into a type of living arrangement? and, (2) Which of these aspects could be translated into a housing alternative for the elderly who are in need of some assisted living?

A pilot study was the initial step in this research. Two 1" = 1'-0" scale models were used to simulate panel-enclosed environments in order to test an elderly sample who had limited or no exposure to open-office systems panels. Two different groups of elderly were studied: nursing home residents (NH; who resided in full-care facilities), and residents who still maintained an independent life style (IND; who resided independently in their own residence). The main objective of the study was to compare the acceptance levels of nursing home participants and participants maintaining independence with the open-office panels used as a substitute for walls as a means of enclosure. The sample was small and, therefore, only generalizable to that particular population.

General Accessibility		34	Clean bathtub/shower
1	Open/close doors	Using the toilet	
2	Lock/unlock doors	35	Sit down/get up
3	Operate light switches	36	Reach/use paper
4	Open/close curtains, windows	37	Flush toilet
5	Adjust the heating (air conditioning)	38	Clean toilet
6	Go from one room to another and move about in each room	Preparing Meals	
7	Get to the toilet	39	Turn faucets on/off
8	Walk up/down stair	40	Use small appliances
9	Use the elevator	41	Turn on/off appliances
10	Use the balcony, front porch	42	Open/close drawers/doors
Getting Up, Dressing and Tidying the Bedroom		43	Access refrig items
11	Move on/off bed	44	Use of oven
12	Take shoes, slippers, clothes out/put in closet	45	Items into cupboards
13	Take clothes off/put on	46	Carry food from place to place
14	Take shoes, slippers off/put on	47	Move on/off chair
15	Make bed, change sheets	48	Prepare foods
Bathing and Personal Hygiene at the basin		49	Open containers
16	Turn faucets on/off	50	Check cooking process
17	Regulates water temperature	51	Fill up/empty pots
18	Wash hands and face	52	Wash/dry dishes/counters
19	Wash body (basin)	53	Purchase/store groceries
20	Wash hair (basin)	54	Garbage disposal
21	Comb/do hair	Doing Laundry	
22	Brush teeth; dentures/use toothpaste, cleaner	55	Do hand washing
23	Shave; using razor/electric razor	56	Carry laundry basket
Taking a Shower		57	Fill/empty washer & dryer
24	Get in/out of shower stall/bathtub	58	Read/work controls
25	Turn shower controls on/off and adjust water temperature	59	Iron clothes
26	Wash/rinse body and hair	Cleaning the House	
27	Reach towel before stepping out	60	Dust
Taking a Bath		61	Use vacuum cleaner/broom
28	Get in/ out of bathtub	62	Wipe/wash floor
29	Sit down on/get up from bottom of tub	63	Wash windows
30	Put/pull plug in bathtub	Using the Telephone	
31	Turn faucets on/off	64	Answer phone
32	Turn faucets on/off	65	Dial a number
33	Reach towel before stepping out	Taking Medication	
		66	Take medication

Figure 1. Listing of ADL's. Canada Mortgage and Housing Corporation, 1989. Seniors' independence. A guide to home adaptations. Ottawa: The Government of Canada.

This study built on a pilot study to ascertain whether or not, the findings from the pilot study indicating general acceptance of panels as walls within a residential setting could be substantiated in a larger sample. This dissertation attempted to determine if acceptance of the residential enclosure was affected by the height of the panels, the room type, the activities of daily living, or a combination of these factors.

LITERATURE REVIEW

Gerontological Demographic Features

For the purpose of this study, some important basic demographic features considered with respect to population aging were: (1) growth in the size of the elderly population from 1900 to 2050; (2) changes in the relative number of older persons to other segments of the population; (3) increase in life expectancy (Ferraro, 1990), and (4) the relative ease of the aged persons to accomplish the activities of daily living necessary to maintain independence (Taeuber, 1992).

Growth

In 1900 only one in 25 Americans was elderly. By 1986 there was a radical shift--one in eight people had passed age 65, the typical age for retirement. In that year, the actual number of older adults had increased almost tenfold, from 3.1 million to 29.2 million (Belsky, 1990; U. S. Census, 1987). By the year 2000, nineteen percent of the population is projected to be over the age of 65

(see Figure 2).

It is important to understand that the United States is participating in a world-wide trend. It is projected that there will be two large waves increasing the aged population (1) in 2010 to 2030 the first wave of the "baby boomers" of post World War II will increase the population by a net increase of 1.3 million persons, and (2) the second wave, beginning about 2045 will be as a result of the children of these "baby boomers." The projected increase for 2050 will be 100 million (refer back to Figure 2) (Ferraro, 1990; Belsky, 1990).

Structural Aspects

"The 'age' of a population is defined in terms of the proportion of the elderly within that population (Ferraro, 1990, p. 21)." The United States began to define chronologically the elderly with the Social Security Act of 1935 and declared 65 as "elderly" (Ferraro, 1990; Belsky, 1990). As indicated earlier, a large proportion of the elderly will burgeon between 2010 and 2020. This indicates that by 2040 "nearly 1 in 5 of the elderly will be concentrated in the oldest ages (Ferraro, 1990, p. 23)."

Life Expectancy

Since the early 1970's, this country has experienced a major increase in life expectancy. Even at ages 65 and 85, and particularly for older women, these increased numbers have been substantial. From 1950 to 1985 life expectancy at 85 years of age increased by 24% for older women. It is projected to increase another 30% for

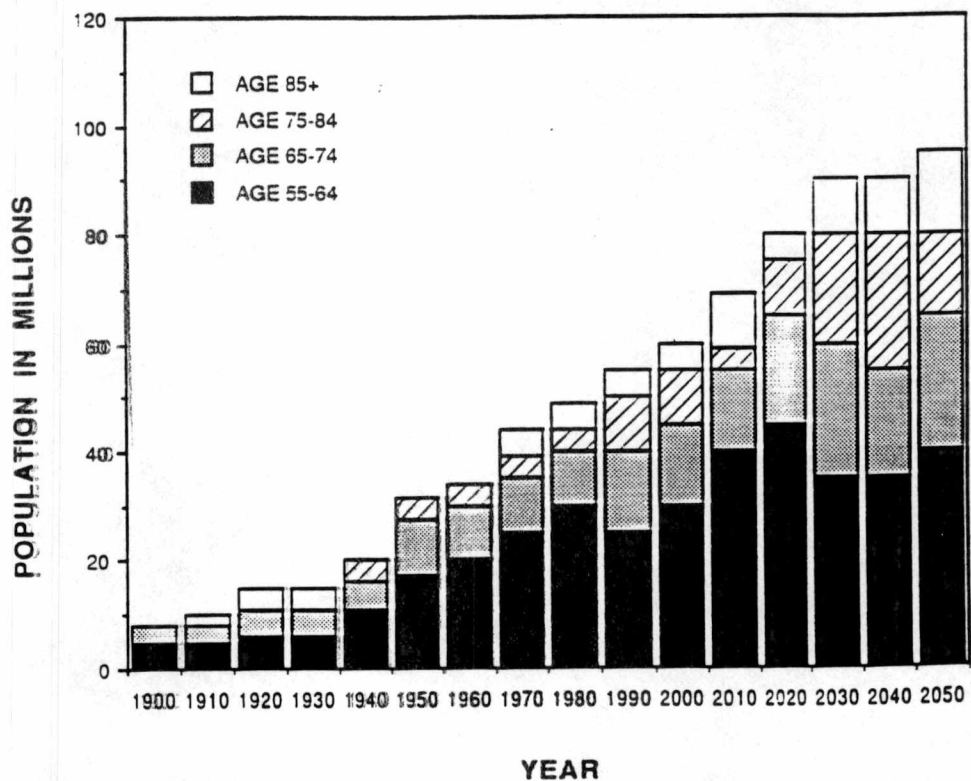


Figure 2. Aging Population Projections.
 From *The Psychology of Aging*, 2nd Ed., by Janet Belsky.
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 permission of Brooks/Cole Publishing Company,
 Pacific Grove, CA 93950.

the period of 1990 to 2040 (Ferraro, 1990). Statistics also indicate that one of the most important facts about the landscape of later life is that it is mainly female (Belsky, 1990; Ferraro, 1990). Currently, women will outlive men no matter what their ethnicity (Belsky, 1990).

As life expectancy continues to increase, issues arise about the quality of life of older people (Taeuber, 1992). As the aging population increases so does its probability of experiencing chronic diseases. Females over 65 develop more chronic diseases than males (Ferraro, 1990; Taeuber, 1992). Chronic diseases lead to functional impairments. These impairments decrease the ability of an elderly person to perform daily tasks. Difficulty in performing personal care tasks and home management tasks are frequently referred to as "functional limitations." These are measures of ability to live independently and are used as indicators of the need for health services.

The scale used to measure the ability to perform physical tasks related to personal care is called the Activities of Daily Living (ADL's) (Taeuber, 1992, p. 3-11) (refer back to Figure 1). This index measures the degree of independence in performing physical activities and include bathing, dressing, getting out of bed, continence, and feeding oneself. The extent of need for personal assistance with ADL's is an indication of need for health and social services. A study reported by Harpine, McNeil, and Lamas (1990, in Taeuber, 1992) indicated that 4.4 million elderly persons needed assistance with one or more activities. Three in five were 75 years or older, and women were more likely to need assistance than men

(Taeuber, 1992). This loss in abilities often leads to premature institutionalization. The ramifications of the pervasiveness of this older, functionally impaired female population could be widespread. One concern would be that future housing would need to be designed for a predominately female population.

Inadequacies of Housing for the Elderly

Current housing options available for the elderly could be categorized as follows: Homesharing (Varady, 1988), Fokus dwelling units (Raschko, 1991), group homes, accessory apartments, Elder Cottage Housing Opportunities (ECHO) Units, and home equity conversions (Malakoff, 1991). Each of these are discussed below.

A homesharing program provides allocated living residences for unrelated individuals. The living arrangements are family style. There are about 400 such programs nationwide (Rosenblum, 1989). The concern is that assistance in the residence is not extensive. The group housing facility consists of separate individuals living in one individual's home. This type of establishment offers some in-home assistance from other members in the home.

Fokus Dwelling Units provide different functional areas for disabled persons in a one-room living space. All of the furnishings for the kitchen and bathroom are free-standing. The user is allowed to design the interior components in these areas to suit their individual needs (Raschko, 1991).

Accessory apartments are established by converting excess space in a home into a rental apartment (Retsinas, J. & Retsinas, N., 1991). The apartment, although attached to a single family home,

has its own entrance, living, and cooking areas (Rosenblum, 1989).

ECHO housing consists of the purchase of a prefabricated elder cottage and placement it on a person's property (Rosenblum 1989; Malakoff, 1991). Some assistance is derived from ECHO housing as it is typically placed on the property of a family caregiver.

In home-equity conversions, the major governmental emphasis appears to be to encourage original older homeowners to subdivide their property somehow. This is to ease the shortage of government housing. Few elderly have used these options and the reason seems to be that most of the elderly who own homes do not want to take out an extension on their mortgage to facilitate large building expenses (Retsinas, J., & Retsinas, N., 1991).

The Elderly and Their Housing Future

New Definitions

There is a housing crisis and a need for a new definition of housing for the elderly. As early as 1974, The Urban Institute estimated that 1.1 million elderly needed a form of housing that would support functional impairments (U. S. Congress, 1974, as stated in Belsky, 1990). The U. S. Congress provided a definition of what that type of housing should be:

An assisted independent group living environment that offers the elderly who are functionally impaired or socially deprived, but in otherwise good health, the residential accommodation and supporting services they need to maintain or return to a semi-independent life style and prevent premature or unnecessary institutionalization as they grow older (U. S. Congress, 1974, as stated in Belsky, 1990).

This concept inspired a new type of residence as an alternative to nursing homes. The new housing was designed to accommodate

both individual residences and group-supporting services. The residences included a typical apartment-like room arrangement (entry, kitchen, bedroom, living space, and bathroom). The group services provided a dining area where one hot meal a day was served, a social area, and a space for minor health care administration such as giving medications. The residents paid a premium for this type of living arrangement and other services were charged a-la-carte. An environment of this type allowed the residents to maintain their own semi-independent life style. Unfortunately, these types of residences were designed for those who were able to afford it financially. Many older persons need this type of assisted living arrangement, but do not have the financial resources to make this a viable choice due to the increase in costs for assistance. The need for this type of shelter is projected to become one of the fastest growing needs in the next century (Malkin, 1992).

Even without family support, many older people experiencing declining competencies try to maintain an independent life style because of their perceived fear of nursing homes. Older people try to avoid entering a nursing home in order to maintain their right to make decisions. As Belsky (1990) stated:

While gerontologists almost unanimously agree that providing as much autonomy as possible to disabled older people is important, even the most humane institution necessarily limits choices in the most basic areas of life. Decisions we take for granted, such as where to live, when to get up, or what meals to prepare are not an option to people living in long-term care facilities (nursing homes) (p. 108).

Family members play a significant role in keeping older persons out of long-term care facilities. Usually, these admissions

are as a last resort. Physical and life stresses and recent hospitalization are some criteria for entry. When the primary caregiver dies, and this type of individualized care ends, there is often no alternative but to place the elder person needing assistance in a nursing home. Primarily, older citizens fear nursing homes as a type of living accommodation, because it is perceived as the last place to live before death (Raschko, 1991; Belsky, 1990; Harris, 1991).

Patterns of Use

In order to maintain independence many elderly have developed patterns of usage of items in their homes. These patterns seem to support their changing needs. The patterns for household living have been described by Sandra Howell in her book, Designing for Aging: Patterns of Use (1980):

If the goal of elderly and congregated housing is to support independence and prevent premature institutionalization, the initial programming and design must build-in adaptation and flexibility. This may mean that living units have to be spatially inter-changeable, extendable or retractable, or that the allocation of residential and non-residential spaces requires new definition. It also may mean that spaces considered in an original occupancy cycle as adequate for management and services should provide ambiguities in functional intention that may later be adapted to alternative service use (p. 8).

Concepts such as "built-in adaptation, flexibility, and living units that are spatially inter-changeable, extendable or retractable" could be introduced for future housing alternatives for the elderly (Howell, 1980). A system encompassing these aspects could also be important to the continuation of the elderly's ability to live independently and could compensate for this population's diminishing capacities.

A similar concept has been examined by the Fokus Society at the University of Goteborg, Sweden. They studied two areas in the living space that contained numerous daily activities--the kitchen and bathroom. The Fokus study targeted the disabled and placed all components of these areas on vertical adjustable tracks to allow for accommodating individuals needs. Their product description was as follows:

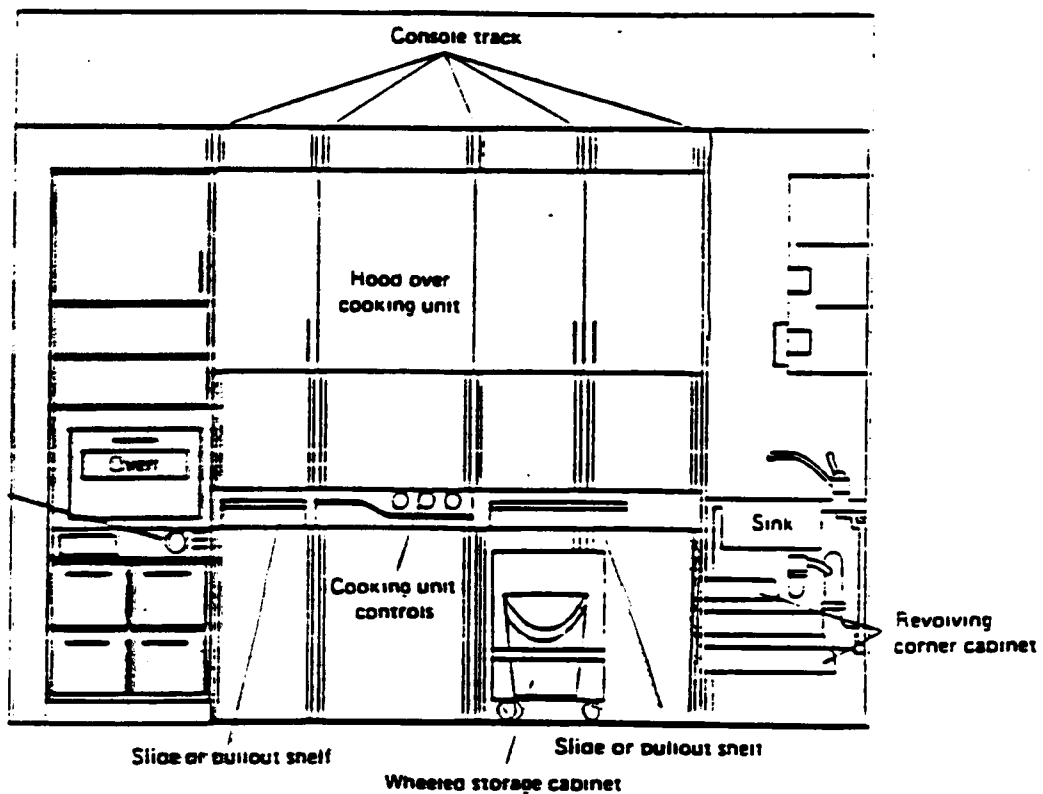
All unit fittings are free-standing, movable, and adjustable, allowing for flexibility so that the users can design the interior to suit their needs. Vertical adjustments on a console-track system for all kitchen and bathroom fittings allows for the adaptation of height for each component in the kitchen and bath (Raschko, 1991, p. 13) (see Figure 3).

These features were incorporated into apartments for severely disabled individuals. This was to demonstrate to others that disability did not necessarily lead to dependency (Raschko, 1991).

A New Paradigm

The philosophy of trying to apply a system of movable, adaptable parts to assist individuals that are differently-abled (Leibrock, 1989) has developed into actual products for some areas of the home. The Fokus Society developed a system of pieces that worked to create a response for individual needs but these features are only for the two areas of the residence as mentioned earlier (Raschko, 1991). The emphasis on adaptability designed for individual needs opens the door for exploring an entire modular environment.

A manufactured system currently exists that includes concepts and a philosophy that parallels that of Howell and the



Fokus kitchen elevation showing cook top and over areas. Note the positions of the slide-out shelves underneath the countertop. (Source: Brattberg, S. O., *FOKUS Housing Units for Severely Disabled*)

Figure 3. Fokus Housing Kitchen. Raschko, B. (1991): Housing Interiors For The Disabled & Elderly. Permission granted by Van Nostrand Reinhold.

Fokus Society but in a different context. This technology is called open-office landscape systems. The open-office manufacturing techniques incorporate flexibility, modularity, and mobility, and could be adapted for the living spaces that meet the changing needs of the elderly. The features of landscape technology are defined as:

- **Flexibility:** Individual panels (representing differing heights and widths) and components (representing cabinets, storage compartments, etc.) can be placed in almost any linking **sequence** (panels supporting components). Panels could rotate **on a flexible hinge** to 180° to provide flexibility in room **definition**. Components could be placed on 1" vertical **increments** located on the panels.
- **Modularity:** Selection of a unit of measure and then all of the other **units** are multiples of that unit (ex., a kitchen/sink/cabinet area).
- **Mobility:** Spaces once designed could be spatially reconfigured within **the same square footage** (ex., kitchen unit lowered to **facilitate** a wheelchair user; an entire residential unit moved). **Each horizontal component** could be attached to a panel (wall) **at one-inch** vertical increments. This assists the creation of **spaces** designed to fit the human factors required for each individual task.

Open-office landscape provided an alternative to viewing the design of the office environment in the sixties and seventies. This system of office planning developed in Germany was called "*Burolandschaft*," which literally means "office landscape," emphasizing open offices with free flowing furniture groupings

(Propst, 1966, p. 303). The claim was made that office landscape increased flexibility of the overall space and allowed for more staff to be located in the same square footage as conventional offices setup with bull-pen arrangements. Office landscape added a more integrated work space for the individual worker. It increased mobility within the space. Offices could be easily moved or changed. These types of workspaces provided for more acoustic privacy in which to work (as compared to the open bull-pen atmosphere prevalent at the time), as the partitions dividing the space had sound absorbing properties. It also provided more views for the worker to the outside world (Propst, 1966).

As early as 1966, Robert Propst noted that the "furniture and wall function could no longer be isolated functionally (p. 303)." Research revealed that the traditional desk, chair, and credenza pattern was not fitting the actual pattern of work. Concepts emerged to integrate combinations of free-standing equipment and walls that could be manipulated to fit the dynamics of the flow of work.

Critical human factors and limited space problems that relate to elderly residing in nursing homes were presented by Joseph Koncelik in his book, Aging and the Product Environment (1982). The product described was named the Geriatrics Personal Furnishings System. This system developed the following concept: "The concept of panel division and the use of the panels for support structures for furnishings became the basis for all room design and component development (p. 58)." Professor Koncelik further indicated that there would be a continued need to break down the notion of rigid

building construction. Flexibility would be a necessary component in developing the systems-building approach. He felt that open-office landscaping as a concept would be a beginning of changes that would affect all commercial building construction (Koncelik, 1982). The open-office landscape system has increased the mobility in the work-space while allowing offices to be conveniently moved or changed. It has provided the ability to personally adapt the materials to allow for an individualized approach to the tasks to be accomplished.

The objective of this dissertation study was to test this same premise of flexibility, modularity, and mobility in a different context, to provide residential design alternatives for dividing space for the elderly population. To date, alternative means incorporating flexibility, modularity, and mobility have not been adequately explored for the residential environments designed for the elderly population.

Building Standardization

Most designs for buildings are based on standardization techniques. This occurs in the manufacturing side of the business as well as standards that are created for typical room sizes in different types of facilities. Two issues to consider are: (1) Can one use these expressed concerns to design an environment that remains flexible for life's constant changes? and, (2) Which of these concerns can be expressed architecturally in pre-built components? Open-plan panels and components are based on standardization techniques. The modularity and flexibility of these pieces allows for individuals to modify their space based on their specific needs.

Interior Designers' Role in the Process.

As a profession, interior designers have been typically concerned with creating aesthetically pleasing and functional living environments. To accomplish this, it is important to understand the needs of the aging population from their point-of-view. It will not be enough to design for the status quo. The elderly are typically more frail and gradually require more assistance to manage their daily living activities.

Theories Involving the Elderly and Their Environment

The elderly may experience basic needs for physical and psychological survival that differ from younger adults, as their physical environment, economic resources and, physical stamina are reduced. The person living in an environment must make the adaptations necessary in order to "fit" the environment, rather than having the environment adjust to accommodate the person (French, Roger, & Cobb, 1974).

Person-environment fit in residential settings for the elderly is critically important to enhance well-being. Sensory abilities diminish with age and multiple handicaps are a fact after a certain age. These handicaps may occur gradually. "If the environment can be adapted to compensate for sensory losses, the individual's feelings of well-being can be maintained longer (Malkin, 1992, p. 426)."

Two theories in gerontological environmental research are "Environmental Press" (Lawton & Nahemow, 1973) and the concept of "Environmental Docility Hypothesis" (Lawton, 1980). The concept of

"Environmental Press" explains that people who have a high level of competence will tolerate a greater level of constriction (or strain) without experiencing stress and discomfort (Lawton & Nahemow, 1973). The elderly, however, who are having increasing difficulties with their activities of daily living are experiencing an adverse environmental press. Their competence in performing tasks has decreased. These older persons tend to develop chronic diseases that lead to functional impairments. Their environment is too challenging for their present capacities. The projected number of people 65+ who will experience problems with activities of daily living (ADL's) will be 16.1 million by the year 2030, an increase of 168% since 1964, approximately a 1:5 ratio (Ferraro, 1990).

Statistics indicate that 12% of females 65-74 and 30% of those who are 75+ need assistance in daily living. Those females who need this assistance typically live in households with income levels lower than the national average (Taeuber, 1992). It is this segment of the population that often is placed within an institutional setting (nursing home) prematurely.

This early entry into nursing homes means a loss of independence and autonomy. Life in a nursing home can create psychological problems and hasten physical decline (Belsky, 1990; Lawton, 1980). Nursing home residents receive skilled nursing care 24 hours per day. Lawton's "Environmental Docility Hypothesis" (1980) indicates that residents become docile due to too much care and inadequate challenges. Lawton's hypothesis (1980) was built upon H. A. Murray's "Alpha and Beta Presses" (1938). They suggested that the less competent the individual, the greater the impact of the

environment upon that person. The concept of environmental press deals with individual competencies and the demand character of the physical environment--i.e., the higher the level of competence, the greater the level of press tolerated without experiencing stress and discomfort.

Several other studies have evolved from these basic theoretical beginnings and are important to mention. Environments may be used as prosthetic devices. People may use these devices to facilitate adapting to their changing physical limitations (i.e., eye glasses, hearing aids, wheelchairs, etc.) (Lindsley, 1964).

In order to prolong independence for the elderly, it would be important to ensure that the environment was supportive and that the elderly are able to stay out of the hospital bed for as long as possible at the end of life. A typical cycle of living would be one that begins and ends with the home--the size of the bed--a crib at the beginning of life and a hospital bed at the end of life (Pastalan, 1975).

There is no currently agreed upon manner in which to conceptualize the environment (Lawton, 1986). Barbara Cooper and Betty Hasselkus in their article, "Independent Living and the Physical Environment: Aspects That Matter to Residents," (1992) looked at the relationship of the elderly to their environment. Cooper and Hasselkus conducted field interviews with seven disabled clients for the purpose of developing design guidelines for apartments suitable for independent living. Their objective was to develop a concept to understand the needs of the elderly from an occupational therapist's perspective. Their major concern was to

understand how disabled elderly cope with the Activities of Daily Living (ADL's) (Canada Mortgage and Housing, 1989). A definition of ADL's as provided by the Canada Mortgage and Housing Corporation states: "A number of tasks that people undertake, daily or regularly, and that are essential to their physical autonomy" (p. V, 1989) (refer back to Figure 1). Cooper and Hasselkus' conceptual model is called the "Model of Environmental Control" (MEC) (1992) (see Figure 4). Data from their study reflect concerns about control, safety/security, accessibility/mobility, function, privacy, and flexibility. Cooper and Hasselkus (1992) conducted field interviews with seven disabled clients for the purpose of developing design guidelines for apartments suitable for independent living. Their model was based upon the "Independent Living Paradigm" (Crewe, Zola, & Associates, 1983). Underlying this paradigm are the following concepts: (1) a person has the right to live in the least restrictive environment; (2) a person has the right to autonomy; and (3) a person has the right to support for competency in daily tasks (Crewe, Zola, & Associates, 1983).

The central construct for viewing the environment by Cooper and Hasselkus subjects was control, and all other variables were subsumed under this construct (1992) (refer back to Figure 4). Several researchers over the years have been working on understanding the role of behavior and man and his environment. Researchers have looked at the different variables as outlined in the Model of Environmental Control (MEC) model (Cooper & Hasselkus, 1992). These historical models give some support to the control construct of the Cooper and Hasselkus model (Altman, Lawton,

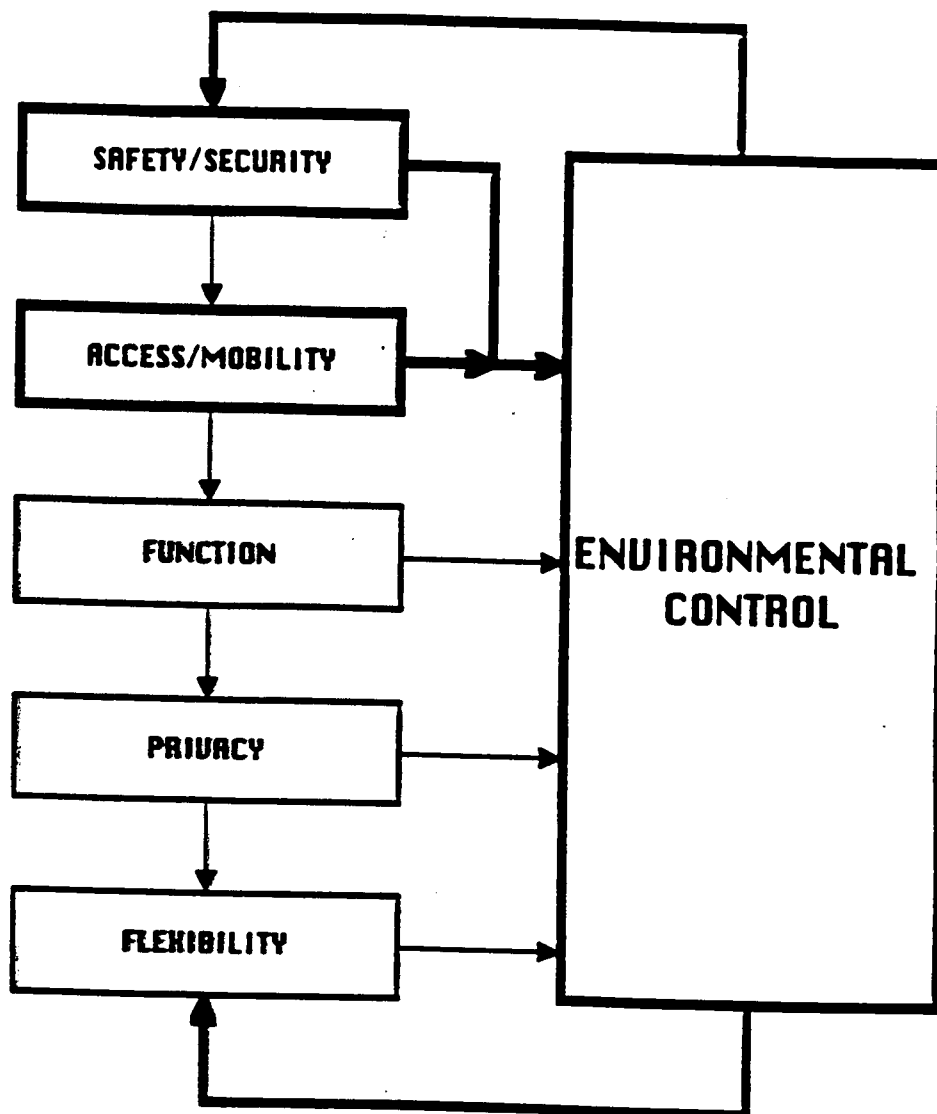


Figure 4. Model of Environmental Control.
Cooper, B. & Hasselkus, B. (1992). Independent living and the physical environment. Aspects that matter to residents. Canadian Journal of Occupational Therapy, 59, 1, pp. 6-15.

Wohlwill, 1984). According to Cooper and Hasselkus (1992) control indicates that a person has the ability to manipulate aspects of his/her living arrangement that are considered to be both relevant and important.

Pilot Study

Considering the fragility of the older population thorough testing of new technology is needed. To begin this process, a pilot study was designed to test the concepts of acceptability of panels as "walls", or dividers of space. The study simulated the concept of using panels as in the open-office environment by using a scale model (1"=1'-0"). A simulation was needed due to the non-existence of this type of total modular environment. The advantage of a simulation study was to gain an insight on the perceptions of elders on this type of living accommodation without endangering the fragility of the sample, or incurring unfounded expense. The study was able to introduce the idea of panels instead of walls; panels lower than full-height; flexibility of panels; and having open areas between residents (neighbors). Specifically, this study examined through the use of scale models whether or not, an elderly sample would accept open-office panel systems in a residential setting.

A pilot study was the first step of this research. Two 1"=1'-0" scale models were used to simulate panel enclosed environments in order to test an elderly sample who had limited or no exposure to open-office systems furnishings. Two different groups of elderly were studied: nursing home residents (NH) and residents who still maintain an independent life style (IND).

The objective was to determine the differences between the nursing home residents and independent residents acceptance of open-office panels as a substitute for walls in their residences.

Methodology

Considering the vulnerability of the older population, it was necessary to test thoroughly any new environmental concepts. The study was designed to focus on four aspects of a modular environment--in particular, panels as opposed to structural walls, differing panel heights (panels that do not go to the ceiling), panel flexibility and, open panels between "neighbors". This study was considered the first step in determining whether or not a group of people who have had little or no experience with open-office planning would accept this type of living space.

To begin the process, the pilot study used two 1"=1'-0" scale models to simulate the concept of using panels (as in the open-office environment) instead of walls. The literature supports the use of a simulation as a valid data gathering instrument in two ways: (1) a simulation could be a means of studying environments that currently do not exist (Rubin & Elder, 1980), and (2) this size of scale model (1"=1'-0") would be the best way to study full-scale environments, so that participants could best relate to the actual sizes of elements presented in the model (De Long, 1977). This scale proved to be especially important with this elderly group. These elderly tended to have diminished visual acuity and a model at the more typical 1/4", 1/2" or even 3/8" scale would have been too small for them to perceive the details or relate the spaces to actual

scale. The advantage of a simulation study was to gain an insight into whether or not two groups of elderly would accept this type of living accommodation without incurring unfounded risk to the participants or unfounded expenses.

The objectives were to evaluate the differences in two groups of elderly as to their acceptance of "open-office landscape" panels as a residential solution, in particular: (1) the use of panel systems instead of structural walls as spatial dividers within a living unit, (2) the concept of a panel system instead of structural walls as spatial dividers between neighboring residential units, and (3) the flexible placement of panels to reconfigure residential spaces to meet changing life span needs.

The models consisted of spatial and furniture arrangements in residential units based on information provided by Sandra Howell (1980) on HUD housing units. Initially three one-inch scale models were tested. The three models varied in square footage, from 570 to 420 to 320 square feet. These models were pre-tested on five nursing home residents (2 males and 3 females--all white) and four independent elderly (2 males and 2 females--all white).

As a result of the pretest, the data collection instrument was revised and only two scale models were used for the study, because of the fatiguing factor of the nursing home residents. The two sizes that were used in the pilot were the 420 and 320 square foot spaces. These sizes reflected the typical HUD (Housing for Urban Development) layouts in this geographic area. The 420 square foot model was called the "large model" and the 320 square foot one was called the "small model" (see Figures 5 and 6). The first convenience

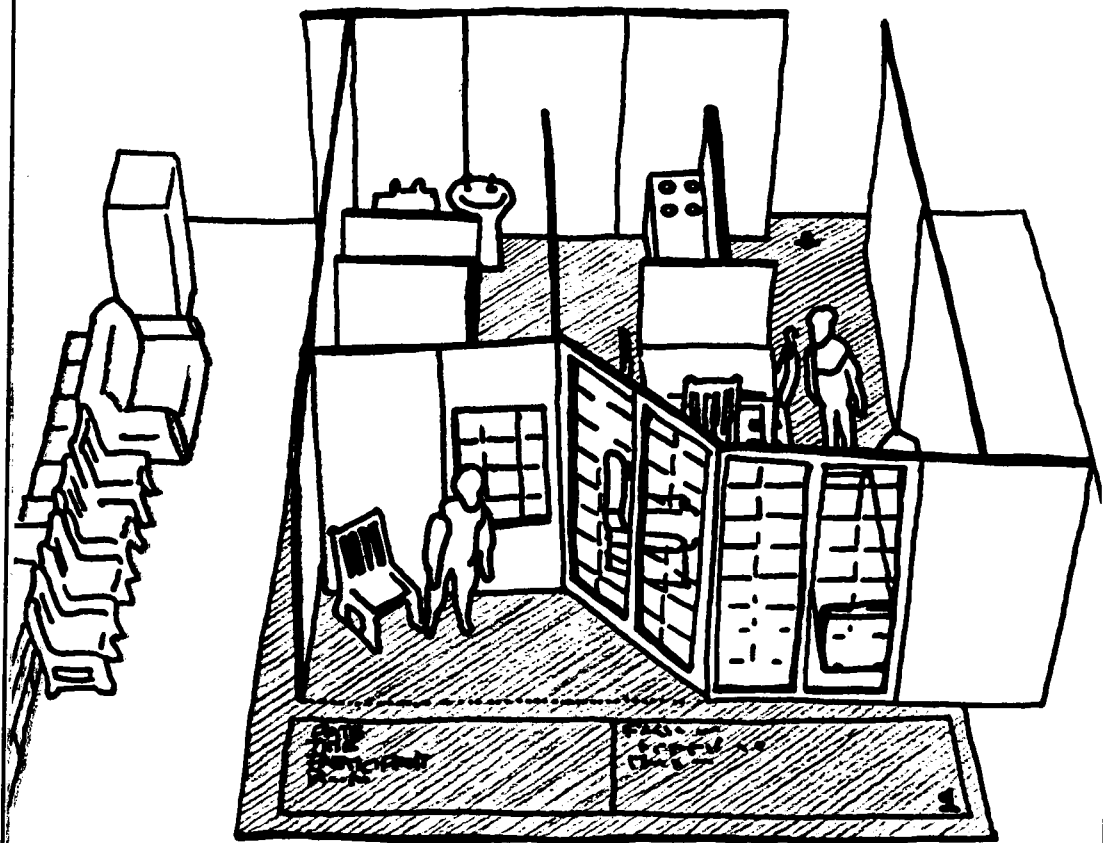


Figure 5. Large Model.
1" = 1'-0" scale model set-up for "Large Model" at 420 sq. ft.

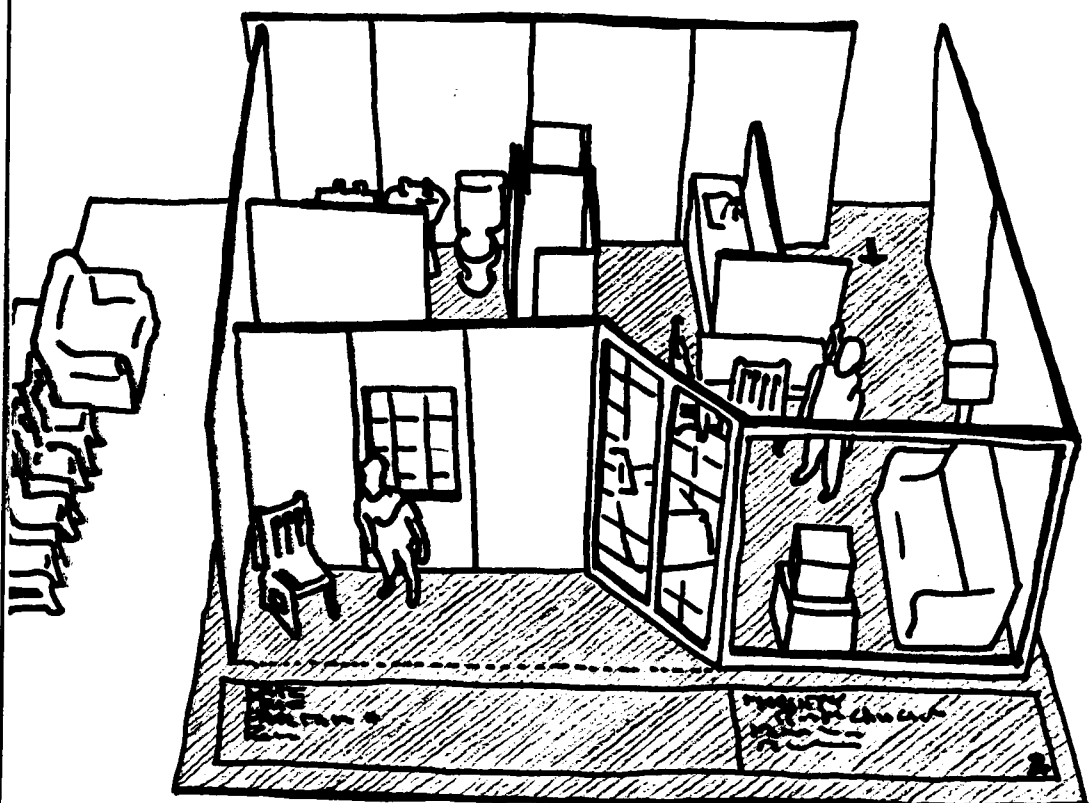


Figure 6. Small Model.
1" = 1'-0" scale model set-up for "Small Model" at 320 sq. ft.

sample consisted of one group of seven elderly women (all white) who lived independently in an apartment complex. All of these participants were ambulatory. The second group consisted of nine people residing in a nursing home--six female and three male (all white). Six of the nursing home participants were non-ambulatory (3 females and 3 males).

In all cases the following sequence was performed for the study:

- 1) A 1"=1'-0" scaled blueprint representing the large model was placed atop a 2" thick, 30" x 30" styrofoam board. The blueprint had a title block at one end to indicate the model size, name of participant, time, date, and researcher's name.
- 2) The precut cardboard panels (walls) represented the typical heights and widths that are manufactured by open-office companies. These panels had toothpicks glued into the base of each one to facilitate location and insertion into the styrofoam. Full height panels were then placed into their appropriate positions (as indicated on the blueprint) for the first scenario representing a full height condition (or panels going all the way to the ceiling).
- 3) All furnishings were either purchased or fabricated for the one-inch scale scenarios. Furnishings were then placed into the model according to Howell's notations (1980).
- 4) The participants used scaled porcelain model figures as representatives of themselves as they "moved" through the spaces--female figures for female participants and male figures for male participants. They either "walked through" (if

the participants were ambulatory) or the figures were "moved through" (if the participants were in a wheelchair). For this situation the model figure was placed in a chair. If the participant was physically able, he or she took the figure through the spaces themselves; if not, the researcher performed this function according to the directions of the participant.

- 5) The entire process (just outlined) was explained to the participants prior to beginning the study.
- 6) The large model (completely set-up) was presented to the participant first, in all cases. A large piece of clear acrylic was placed over the top of the model to indicate where the ceiling would be in relation to the wall height. Once the process began (with a particular panel height), the acrylic "ceiling" was removed. In each scenario the participant was encouraged to "walk" or "move" through the model starting from the entryway. The initial question began "Can you tell me what this space seems like to you?"
- 7) The participant could move or change anything that they wished. Extra pieces including walls and furnishings were placed beside the working model in case the participant wanted to add pieces.
- 8) The second scenario began with the researcher changing the interior panels from full height panels (8'-6") to 80" (6'-7") high panels. The acrylic "ceiling" was again placed on top of the perimeter walls of the model that were at the full height condition. This was to illustrate that there was no connection

between the interior 80" panels and the ceiling.

- 9) In the third scenario the researcher changed the interior panels from an 80" panel height to a 62" panel height. The "ceiling" was again placed atop the model to illustrate the differences in panel heights (62" vs. the 102" full height perimeter panels).
- 10) In the fourth scenario the researcher lowered one section of an interior dividing wall that would separate one resident from another. This was changed from the full height panel to 80" high panel. The "ceiling" was placed on the full height perimeter panels and straddled both residences to demonstrate that this panel would not connect to the ceiling. Another model figure was placed into the hypothetical "neighbor's" space.
- 11) The questions asked throughout the process were all open-ended such as, "What would your opinion be of having flexible panels in this space or walls that could be relocated to suit yourself?" Care was taken in the phrasing of the questions so as not to lead the participant to a certain response (Marshall & Rossman, 1989).
- 12) The entire process was repeated for the small model. The responses from the participants were video-and audio-taped. The audio-tapes were then transcribed. The information was categorized and given a symbol that related to the height of panels (F, 80", 62") and the questions being asked (<>= neighbor to neighbor) (McAuley, 1987; Marshall & Rossman, 1989). The videos provided an important tool for

reviewing and verifying the recorded information especially when the voices of the participants were too soft to record (McAuley, 1987).

One of the categories that this research focused on was the areas related to the panels. The participants made spatial configuration changes within the unit with the panels. In addition, the researcher made changes to the panels and asked for a response to those changes from the participants. Changes that the researcher made included: (1) panels changed from 102" full height panels to 80" panels and from 80" panels to 62" panels in both model sizes, and (2) changes in the dividing wall between residents from 102" full height panels to 80" panels ("neighbor to neighbor").

The information collected passed the redundancy factor, which was a criterion used to determine how many participants were needed in this qualitative study (McCracken, 1988). The reason that this type of detailed interview methodology was used was to try to develop a richer set of data within which to explore the concept of panel height acceptability (McCracken, 1988).

Analysis of Pilot Study

As mentioned previously, the objectives were to evaluate the differences in two groups of elderly as to their acceptance of "open-office landscape" panels as a residential enclosure solution. The statistical analysis that was conducted used a three factor ANOVA with repeated measures. The sample size was considered too small to allow for any meaningful statistical analysis (see Tables 1 and 2). Therefore, descriptive statistics were reviewed in order to

TABLE 1: **A SUMMARY OF COMPARISONS BETWEEN
DIFFERENT CONDITIONS UNDER WHICH
PARTICIPANTS MADE CHANGES TO THE
PANELS: PILOT STUDY**

SOURCE	DF	SS	M	F	df F	Pr>F
GROUP	1	5.31	5.31	0.32	1,2	0.63
SIZE	1	0.77	0.77	0.61	1,2	0.52
GROUP*SIZE	1	2.71	2.71	2.19	1,2	0.28
HEIGHT	2	16.31	8.21	1.09	2,4	0.42
GROUP*HEIGHT	2	6.41	3.21	0.43	2,4	0.68

Note: N = 9 nursing home participants (3 males and 6 females) and,
7 independents (all female). All participants were Causasian.
ANOVA Statistical analysis conducted

TABLE 2: THE CONDITIONS UNDER WHICH THE RESEARCHER MADE CHANGES TO THE PANELS: PILOT STUDY

	SOURCE	STATISTIC	DF	VALUE	PROB.
MODEL SIZE					
LARGE MODEL					
	FULL HT TO 80"	CHI SQUARE	1	0.04	0.84
	80" TO 62"	CHI SQUARE	1	0.33	0.57
	NE TO NE	CHI SQUARE	1	0.09	0.77
SMALL MODEL					
	FULL HT TO 80"	CHI SQUARE	1	0.16	0.69
	80" TO 62"	CHI SQUARE	1	0.54	0.46
	NE TO NE	CHI SQUARE	1	2.29	0.13

Note: N = 9 nursing home participants (3 males and 6 females) and, 7 independents (all female). All participants were Caucasian.

NE = Neighbor to neighbor condition

Chi square analysis conducted

evaluate the data.

A descriptive analysis as reviewed in the line graph (see Figure 7) indicated that, given a larger sample, relationships between these two factors (group and size of model) seem to indicate a difference. When the size of the model was large, the number of independent group changes was greater than that of the nursing home group. In the smaller model, the reverse was true (a possible interaction). The nursing home group made more changes than the independent group. In viewing the line graph the nursing home group's changes appeared to be rather a flat slope while the independent group indicated a greater activity in the amount of changes in the large model vs. the small one.

In viewing the line graph for the heights analysis (see Figure 8), the descriptive statistics indicated a possible interaction between the heights and the changes. At the full height condition the independent group made more changes than the nursing home group. At the 80" height just the reverse happened, the nursing home group made more changes than the independent group. Both groups displayed many more changes at the 62" height than at either the 80" or the full height. A fatigue factor could have been in effect here. The next set of analyses used a two-by-two contingency table. This was to determine the responses from the participants regarding the researcher's changes to the panels. One question explored was "Is acceptance to the changes related to group membership?"

Both groups approved of the change to an 80" height more than they disapproved. In both the large and small model the independent group rejected this change more than the nursing home group (refer

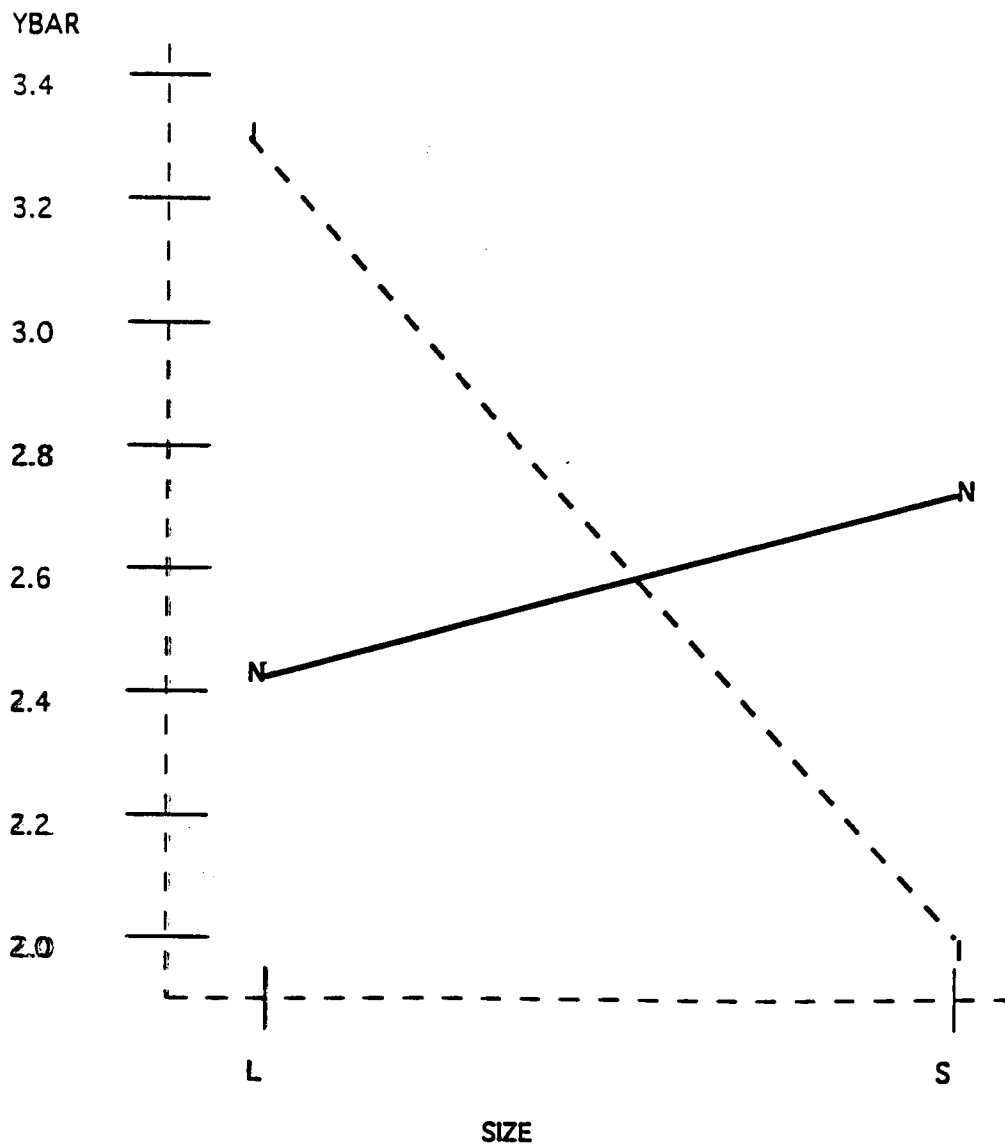


Figure 7. Line Graph of Size Times Group Interaction. YBAR is the changes. Shows the mean value of the dependent variable (changes) for all of the unique value combinations of size and group. N = Nursing Home; I = Independent.

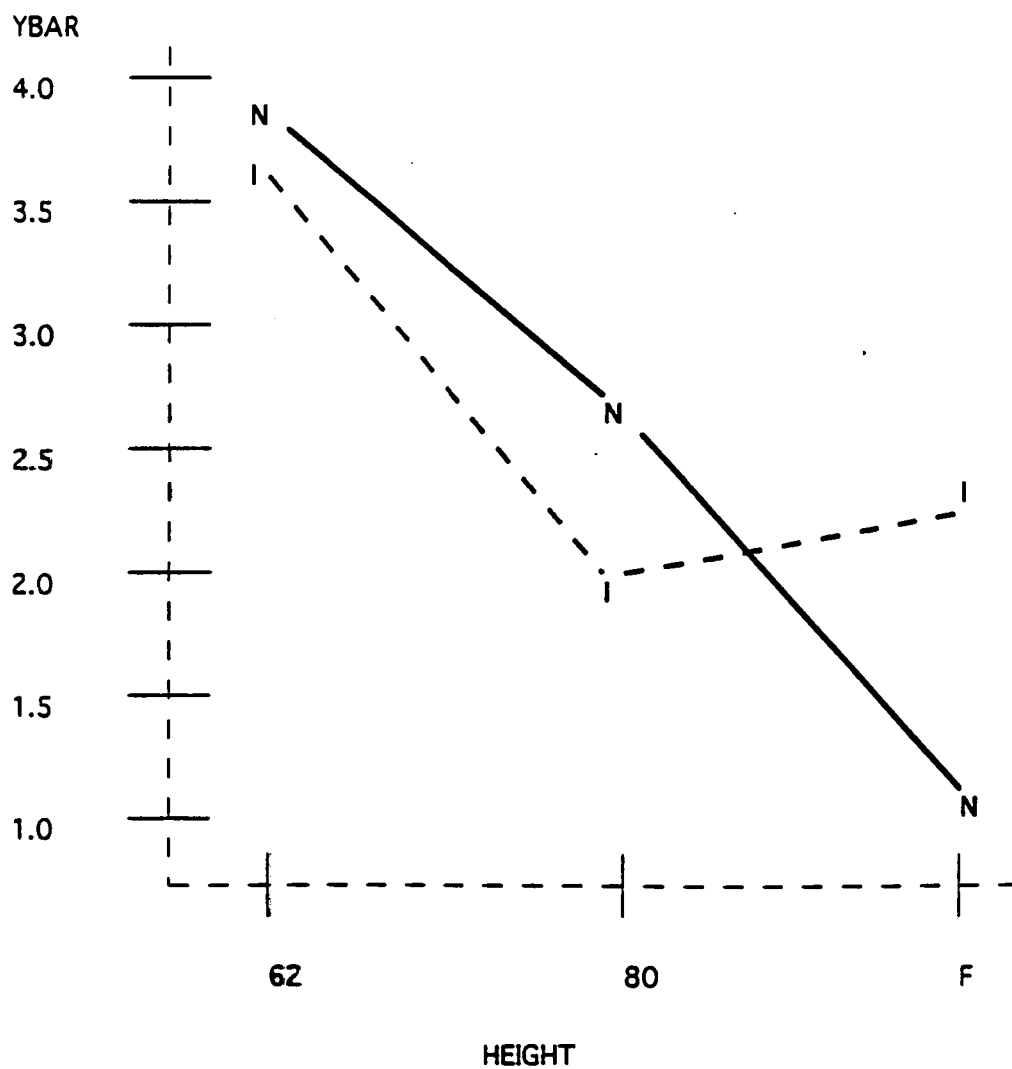


Figure 8. Line Graph of Height Times Changes Interaction. YBAR is the changes. Shows the mean value of the dependent variable (changes) for all of the unique value combinations of size and group. N = Nursing Home; I = Independent.

back to Figure 8).

Two other analyses were interesting: (1) the concept of the use of panels to separate individual residential units, and (2) the notion of panels as a flexible means to arrange spaces. In the neighbor-to-neighbor scenario (panels were lower than full height as a division between neighbors). There was acceptance of panels as a flexible means of arranging spaces by both the NH and IND. This descriptive statistic indicates that in the large model it did not matter which group the participants were in; they approved of the situation equally. In the small model, however, there did seem to be a moderate group difference at $p = 0.13$. The nursing home group's acceptance of lower than full height panels as a means of division was twice as great as the independent group.

Discussion

The pilot study investigated whether or not an elderly sample could accept open-office type panels in a residential setting. This was considered important since most elderly have not had any experience with working in lower than a full height wall system. The pilot reviewed several conditions: (1) conditions under which participants made changes to the respective models (full height, 80", and 62"), and (2) conditions under which the researcher made changes to the models (full height to 80", 80" to 62", "neighbor" to "neighbor", and flexibility of panels).

Changes participants made comparing the large model to the small model under all conditions collectively

With respect to the first observation, "When the size of the model was large, the number of changes made by the independent group was greater than changes made by the nursing home group." It appeared that the nursing home participants were more accepting of the status-quo. This could mean several things: (1) Lawton's "Environmental Docility Hypothesis" (1980) could be revealing itself here. The nursing home participants could be complacent to any changes due to the fact that they have so little influence over their own lives and therefore have become docile, or (2) it could suggest that as one gentleman suggested, "Anything is better than this (nursing home) as a place to live." This would indicate that any change would be a welcome one no matter what the appearance might be. In either case, it was evident that the independent participants were not shy in making changes to the large model. These changes may suggest a perceived need to arrange spaces to reflect a patterning of use for themselves. This seems to support the information discussed by Sandra Howell (1980).

The second part of this scenario used the small model. A plot of the data indicated that there could be a potential trend in changes made in that the activity that the nursing home group displayed was not much different in the small model than in the large model (although slightly higher). Perhaps this further indicates a docile attitude. The independent group, although quite active in rearrangement of the large model, made fewer changes in the small scale model. The nursing home group made even fewer changes in

the small model than the independent group. There could be a fatigue factor, but one would assume that this would be seen in the nursing home participants sooner than in the independent participants. This lower amount of activity in the small model by the independent group could be perhaps summarized by one participant, "Given the size of the space, I just don't see any other way." This comment could indicate a sense of frustration in dealing with a small space.

In viewing the data by heights vs. groups in both models

In plotting the data the nursing home group made only a few changes in the full height scenario, a few more changes in the 80" scenario, and even more changes in the 62" scenario. The trajectory goes from low to high (refer back to Figure 8). The independent group, as mentioned previously, made more changes in the full height situation than did the nursing home people. However, at the 80" height the reverse was true. Both groups tended to make almost the same amount of changes at the 62" height. In comparison to the full height or the 80" height, there appeared to be greater dissatisfaction from both groups of the 62" scenario. This could mean that 80" was the maximum that participants would allow a panel or wall height to be lowered without discomfort. It could also suggest that somewhere between 80" and 62" may be a height that would be accepted by participants. 62" conditions could provide a minimum of protection with a maximum visibility.

Conditions under which the researcher made changes to the panels

When the full height panel was changed to an 80" panel both

groups approved of the change almost equally. This suggests that in terms of an interior division of space, an 80" height would be an acceptable alternative to full height walls to the sample groups of the study.

In reviewing the next scenario (80" to 62"), there was a difference in the reaction of the groups. In both the large and small model, the independent group rejected this change more often than the nursing home group. From the independent participants' perspective 62" was "almost the same height as I am and that wouldn't allow me any privacy." This could reflect a concern about privacy issues with respect to this height. The nursing home group had six people who were either in wheel chairs or bedridden. From this perspective, perhaps 62" height still provided them with enough height and privacy so this was not an issue. It may also suggest that any panel is better than a cubicle curtain as a means for division of spaces. Or again, the acceptance might be related to the docility hypothesis.

All participants in this study liked the idea of having flexible panels. One participant described her feelings towards it this way, "I think that would come in mighty handy. I'm always changing things anyway and this would just make it easier."

The independent group and the nursing home group viewed the 80" panel as a separation between residential units favorably in the large model. Neither group felt that they would be uncomfortable in this scenario. As mentioned previously, however, there was a tendency toward a statistically significant group difference in the small model. It is difficult to understand why the nursing home

participants would accept 80" in the small model two to one over the independent group. Why would 80" not be accepted in both size models? One possible answer may be because the independent group did not respond favorably to the small model to begin with and therefore felt that the "neighbor" was too close. The opposite may be true for the nursing home group. Many of these people live with a cubicle curtain as a means of dividing spaces, so an 80" panel would represent a more solid divisional tool. This information could be alluding to the concepts proposed by Crew, Zola & Associates (1983) with respect to independence. Perhaps the nursing home residents perceived the panels as allowing them more autonomy, or it could be that this sample has simply agreed to anything--docility.

This study provided the first step to allow for further research with respect to modular environments. There were several interesting findings in this pilot study: (1) it seems possible, on the basis of the results of this study, that people (in need of some care) would consider the panels as a means of enclosure, (2) there seemed to be a difference in acceptance of lower panels by those who were non-ambulatory. This could mean that persons who are permanently in this condition view heights relatively (from their perspective). If future studies bear this out, it could change the way we plan for elderly in the future--full structural walls versus open-plan interiors. It may suggest that people are willing to give up some ideas about "home" in return for more flexibility and control over their own individual spaces.

Limitations of the Pilot Study

The pilot study did not include a large sample size. A convenience sample of sixteen participants was used. The sample was all white, predominately female, between the ages of 65 and 82. This makes generalizing information beyond the sixteen participants problematic.

The study neither randomized the population nor the approach to the model sequence. In addition, some of the lowering of response rates could be due to fatigue on the part of the participants.

Future Research

Even though the results of this study cannot be generalized to other than the groups studied, the results seem to suggest that panels potentially represent an acceptable form of enclosure for people in institutional residences. A larger sample would be required to further test this hypothesis. Eighty-inches may or may not be the lowest height panel that people will accept. Since the size of the model did not substantially influence the nursing home population, it would be important to try to ascertain if in fact a docility pattern is affecting responses from the nursing home residents.

This paper focused on the issues related to the panel conditions described in the pilot study. The study pointed out questions or areas that would need further analysis. A preliminary review of the data suggests that there could be a possible control element that participants are feeling. This was similar to that expressed by the participants in the Cooper and Hasselkus study

(1992), in that they seemed to view the possibility of changing walls (panels) to suit their needs as a welcome control over their own surroundings. This could stem from the Crewe, Zola & Associates (1983) theory of independence. Another possible analysis may be conducted to try to ascertain if there is a quantifiable reason why the participants in wheelchairs accepted lower panel heights than those who were upright. The study provides some answers to questions about general acceptability of the elderly to panels as walls. It is encouraging enough to warrant further study.

The pilot study's evaluation needed to be further substantiated through a larger population that compared the typical full height partition (or ceiling attached to the walls) to the open-panel condition. This would help to answer the following questions:

- (1) Would panel height have any effect on the participants' acceptance within the enclosed environment?
- (2) Would room type have any effect on acceptance within a panel enclosed environment?
- (3) Would a range of assessment of the ability to perform activities of daily living have any affect upon the participants' acceptance?
- (4) Would the participants demographics affect their acceptance?
- (5) Would the interactions of these various factors effect the participants' satisfaction?

The answers to these questions could provide the basis for the testing of particular arrangements of space and furnishings within these open-home systems. It was important to try to remember that

new types of environments for vulnerable populations should be tested on a step-by-step basis.

Rationale for Dissertation

Research has been conducted regarding the demand character of the environment upon the elderly and how that "press" enables or disables the individual (Lawton & Nahemow, 1973). Such data suggest that the elderly are susceptible to adverse environments; environments that emit a strain or cause the person to become too dependent. No data suggest, however, what those specific lines are that contribute to an elderly person's feeling of too much or too little "press."

Studies also suggest that environments may be used as prosthetic devices (Lindsley, 1964; Raschko, 1991). The data have primarily been collected by using very disabled individuals. This information seems to suggest that an environment that is flexible and allows the individual to manipulate the pieces to customize it to have a better fit, may promote the means to enable and, therefore, more independence. Studies have reviewed the constructs that perhaps underline the aspects that promote independent living. Some of this information points to control of the person's environment as an indicator of independence (Crewe, Zola & Associates, 1983; Cooper & Hasselkus, 1992).

A pilot study (study 1) was conducted to determine if an elderly population in need of some assistance would accept panelled/flexible walls as a means of enclosure. This study (study 2) was designed to investigate whether or not, a perceived

contentment with a "spatially inter-changeable, extendable, and retractable" (Howell, 1980) environment was due in some part to the participants' self assessment of their activities of daily living in relation to the panel heights and room types in the residential setting.

Research Questions

- (1) Would different wall/panel heights relate to the participants satisfaction within the enclosed environment?
- (2) Would room setting relate to acceptance within a panel enclosed environment?
- (3) Would a range of the assessment of the ability to perform activities of daily living relate to the participants' acceptance?
- (4) Would the interactions of these various factors relate to the participants' acceptance?

Hypotheses

All of the following hypotheses were associated with the dependent variable "Panel Enclosure Acceptance" as described by the "Room Setting Sensitivity Scale". The following were the hypotheses tested for the primary model:

- H₁: The panel height had no effect on the dependent variable (Panel Enclosure Acceptance).
- H₂: The room setting had no effect on the dependent variable (Panel Enclosure Acceptance).

H3: The panel height and room setting interaction had no effect on the dependent variable (Panel Enclosure Acceptance).

H4: ADL's had no effect on the dependent variable (Panel Enclosure Acceptance).

H5: ADL/panel height interaction had no effect on the dependent variable.

H6: ADL/room setting interaction had no effect on the dependent variable.

Descriptive statistics were used to describe the characteristics of this population in terms of their demographics and self-esteem.

Significance of the Dissertation Study

The study indicated whether or not elderly females age 65 and older, who had a range of abilities with respect to the activities of daily living, viewed acceptance of a panel-type of residential enclosure similarly. Findings suggest that given a particular relationship between the ability range and the acceptance of this type of enclosure, initial predictors could be established for those persons needing a more prosthetic environment.

This study further extends previous knowledge about acceptance of panel enclosed environments and suggests a linkage between ability levels of personal care and the willingness to view new environments as a provider for further assistance in maintaining personal independence.

CHAPTER II

METHODOLOGY

SAMPLE

The population, from which this sample was drawn, consisted of female individuals who resided in congregate or assisted housing facilities as provided by the Agency on Aging for East Tennessee. These females were in the age group--65+ (Belsky, 1990). Age was a fixed factor in this study to lessen the possibility of colinearity--between age and the activities of daily living (Huck, Cormier, & Bounds, 1974). All females in this group who were rated by the staff as physically and mentally able to complete the interview, the scale model study, and who had been residents within the facility for at least three months prior to the interview period were eligible to participate in the study (McAuley, 1987). The females in this age cohort often experience a variety of difficulties with ADL's (Taeuber, 1992) and some require assistance with these activities.

Sixty counties comprise the region of East Tennessee that extends from highway 65 (a North/South route) in the West to the North Carolina border in the East. Twenty-five of these counties have assisted living facilities according to the Area Agency on Aging. All fifty-six facilities in this area were contacted initially by letter (see Appendix F). The letter was set up according to Dillman's Mail and Telephone Surveys: The Total Design Method (1978) concept. Of those replying from the first mailing, several of

the facilities indicated one of the following responses:

- (1) It did not fit the assisted living facility definition as described by this study (16 were assisted monetarily - HUD, not assisting in any physical support);
- (2) It fit the criteria, but residents were not cognate enough to participate in the survey (8 were Alzheimer's units);
- (3) The facility fit the criteria for assisted living, but administrators declined to have their residents participate (8 did not want their residents to be bothered);
- (4) The facility met the criteria and administrators were willing to have their residents participate in the research (16); and
- (5) No response (8, either mail was returned; no longer in business, or no answer to personal contact).

A second letter was sent out to those facilities not responding (see Appendix F) approximately ten days to two weeks after the first letter. A similar set of responses was reported. All of the remaining facilities that had not answered were telephoned. Of those personally contacted almost all agreed to have their residents participate. Of the original fifty-six organizations contacted, sixteen facilities agreed to take part.

Each facility administrator provided this researcher with the number of residents meeting the research criteria and a floor plan of the typical facilities. The Ender's Checklist (1983), as revised, was then prepared with a copy of the informed consent document attached, and request for demographic information. The (1983) typeface of the checklist was enlarged to meet an elderly person's vision requirements, and the format changed to reflect Dillman's (1978)

recommendations for a mailed self-accounting survey (see Appendix D). A list of each facility was entered into a log book. The coding process was as follows:

- (1) Each facility was given an alphabetic prefix.
- (2) Each participant was given a number.
- (3) The combination of alphabetic letter and individual number created a confidential individualized participant numbering system (ex: A0101, A0102; A = facility and 0101 = participant).

This system uniquely identified each person within the population of interest. The coding was to: "(1) contain a unique identifier for each member of the population; (2) include no duplicates; and (3) have no non-population members (McAuley, 1987, p. 126)." It was necessary to create this type of coding system as sixty of these same individuals later in the study were randomly sampled for the scale model study using a stratified sampling method (Kerlinger, 1986; Kinnear & Taylor, 1991).

Names of every resident meeting the target criteria were included. Records were reviewed by staff to cull persons not meeting the criterion for length of stay. Staff who were knowledgeable about each resident's status were consulted to determine who would be considered physically and mentally able to complete the interview and scale model survey. These criteria provided the sampling frame that physically represented the population under study (McAuley, 1987, p. 126).

All subjects fitting the above criteria were sent the assessment of activities of daily living questionnaire. Along with

the questionnaire all participants were asked to sign an informed consent form as required by The University of Tennessee, Knoxville Human Subjects Committee. The assessment instrument, "The Center for Independent Living Skills Checklist" (Enders, 1983) (see Appendix D), was mailed to the full population and was then evaluated by this researcher.

The information was evaluated to allow for subjects to be placed in a range of abilities (from low to high) with respect to activities of daily living. A minimum of sixty participants were required for the study--twenty females for each cell in the experiment: (1) ADL high, (2) ADL medium, and (3) ADL low.

The majority of these females were white (87%). They ranged in age from 65 to 96 years with the majority fitting into the span between 85 and 96 years of age (54%). The figures also indicated that these females had been working women (85%) and were well educated for their cohort (48% had at least some college education or completed a degree). Income levels reported indicated 22% at \$3,000.00 or less and 16% at \$10,000.00 - \$13,000.00 as a high.

The selection of participants for the study from the sampling frame was established through stratified random sampling (Kerlinger, 1986; Kinnear & Taylor, 1991). In "stratified sampling, the population is divided into strata, such as men and women, black and white, and the like, from which random samples are drawn (Kerlinger, 1986, p. 120)." This type of method insured that each member of the frame had the same chance of being selected for the scale model study and assured that differences between the sample and the population would be randomly distributed (McAuley, 1987;

Huck, Cormier, & Bounds, 1974). The principles of stratified sampling helped to limit selection biases that might have reduced the external validity of the findings. Every effort was made to cover the entire sample because cases that were not included could be different from cases that were included, and these differences could have influenced the results (McAuley, 1987) (see Figure 9).

INSTRUMENTS

The Agency on Aging provided a listing of health care facilities for seniors. This listing of congregate and/or assisted living facilities was used to request interior plans of these respective environments. These plans were compared to ascertain similarities in patterns of characteristics. These characteristics were viewed in terms of type of units, physical relationships, and proportions. The type of units were: (1) One-bedroom, or (2) Two beds in one bedroom. The physical relationships consisted of: (1) "Contiguous-Open--the two spaces should be next to one another with no walls or other barriers separating them; (2) Contiguous-Connecting--the two spaces should be next to one another, separated by a wall and connected with a doorway or other type of opening; (3) Contiguous-Closed--the two spaces should be next to one another but separated by a wall with no openings. The connecting between the two spaces should be through a common hallway; (4) Separated by Location--the spaces should have maximum distance between them in the building due to conflicts between their contained activities; and (5) Neutral-

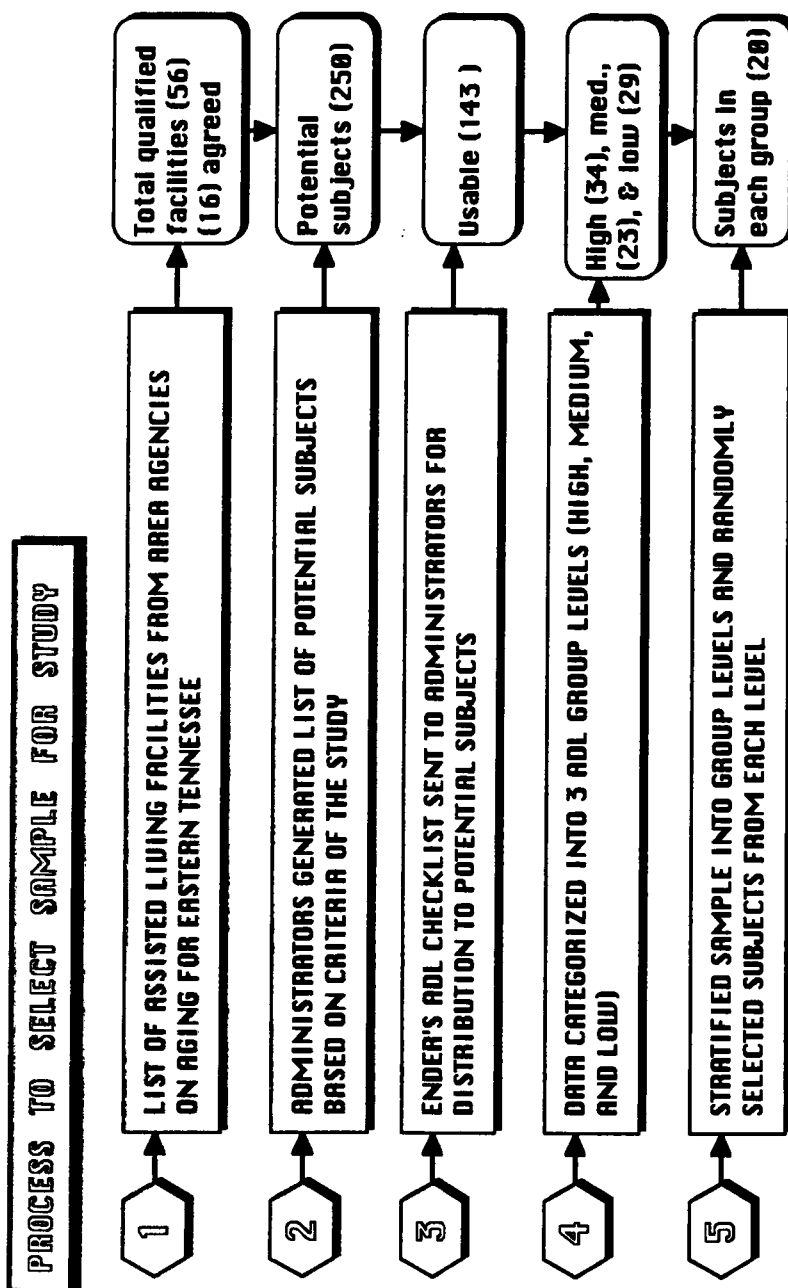


Figure 9: Process to Select Sample for Study

no preferred physical relationships between the two spaces. (White, E., 1986, p. 43) (see Appendix A)." The relative proportions include: (1) Size-large; (2) Size-medium; (3) Size-small; and (4) Size-smallest.

A matrix was developed to quantify each of the floor plans (31) and a scale developed to indicate a range in features from very similar to very dissimilar. The composite (similar to dissimilar) was used for the floor plate of this study (see Appendix B). This was an important process in determining the base floor plan for this study.

It was necessary to establish a plan that would be familiar to the population under study. This research was not designed to study what the floor plan should be, but rather, to use that which was already familiar and to maintain content validity.

This floor plate then became the base for the 1" = 1'-0" scale model that was used for the study (see Figure 10). The 1" = 1'-0" scale model (previously tested in the pilot study) was used as a tool to simulate typical housing for the elderly in Eastern Tennessee (Rubin & Elder, 1980; De Long, 1977).

Pretesting Procedure

The pilot study provided a rich source of qualitative data and a valuable insight into simulation as a form of research for an elderly population. Current research design changed to a quasi-experiment with new measures used and, therefore, it was necessary to pretest the interview questions in conjunction with the scale model procedures. A convenience sample of four females who fit the

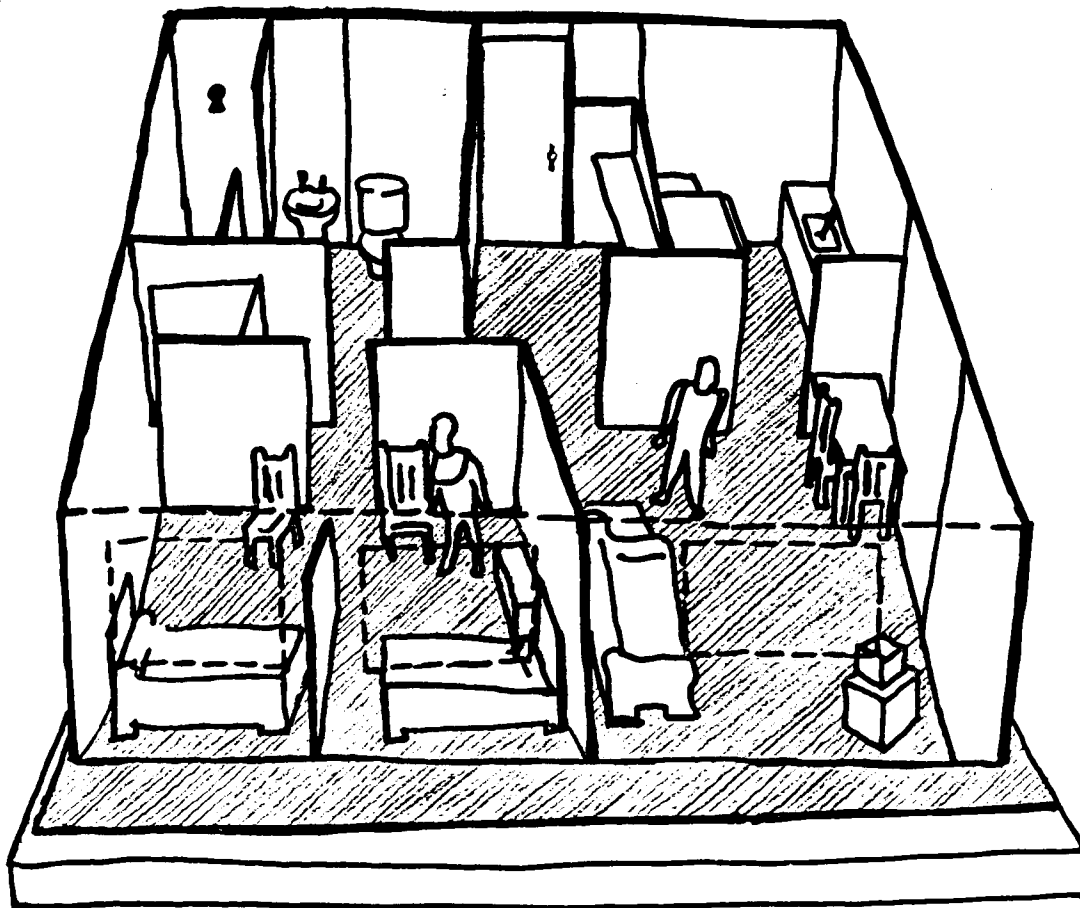


Figure 10: Model for Dissertation Study. 1" = 1'-0" scale.

criteria of this sample frame was used to test the new instrument (Room Setting Sensitivity Scale). These individuals were not a part of the final study. The pretesting helped to uncover deficiencies in the measuring device and misunderstandings of interpretation of the information as presented to this sample (Touliatos & Compton, 1988). Corrections were then made to the final instrument.

Training of an assistant interviewer was done prior to the collection of data. Two sessions were tape recorded for each, one for this researcher and one for the assistant. Subjects used were not those in this study. An independent source was used to review the tapes, report any discrepancies between interviewers and subsequent corrections were made. As the data collection method used in the study was an interview questionnaire, it was relatively simple for the interviewers to maintain consistency in each interview session.

Procedure

The Center for Independent Living Skills Checklist (Enders, 1977) was used to assess the activities of daily living skills (ADL's) of the participants. This questionnaire reviewed a list of activities that are generally considered essential for people who choose to remain independent. This tool assessed the abilities of the participant (with respect to the ADL's); and a range of these skills--high, medium, or low--was determined mathematically.

Demographic information collected included the age, income, level of education, and race of the participants (see Appendix H). A "Room Setting Sensitivity Scale" (see Appendix J) was used to

ascertain the acceptability of "Panel Enclosure Acceptance". Self-esteem characteristics were determined by the use of a personality inventory (Rosenberg, 1965). Panel heights studied were: 80", 72", and 62", using a full height condition as a base line. Room areas studied were: Bed-to-bed; bed-to-sitting; and sitting-to-kitchenette as determined by the composite matrix (see Appendix A). The bathroom full-height walls were used as a base line measure. The 1" = 1'-0" scale model used as the simulation tool allowed the participants to "visualize" the panel height/room type arrangement (Rubin & Elder, 1980; De Long, 1977).

The Self-esteem Profile

The Rosenberg Self-esteem Scale (1965) abbreviated version was administered (see Appendix J - last section). Certain items were recoded into the computer so that, for all items, an answer of five meant more self-esteem, while an answer of one equalled a low self-esteem. A new variable (RBURG) was calculated to be the mean of the nine items in this scale. To test the null hypothesis that there would be no difference in the self-esteem scores among the three ADL groups, a oneway ANOVA was performed (see Appendix N).

There was a general trend that indicated that the lower the ADL skill level, the lower the self-esteem. This was not enough to show significance, and therefore, we failed to reject the null [$F(2,57) = 2.17$]. A stronger self-esteem did seem to be held by those persons who were more proficient in ADL's. There was not much of a difference between those in the low or medium groups. This would suggest that for the participants in this study, the ability to

perform tasks involved in daily living tended to influence how they felt about themselves, but this factor was not statistically significant.

Procedures for Interview/Scale-Models

The participants were chosen from a stratified random sample in each of the three ADL groups (high, medium, and low). One person at a time was presented with the simulation study (1"=1'-0") and, the "Room Setting Sensitivity Scale Questionnaire" (see Figure 11). Differences in this procedure from the pilot study are italicized.

1. *Each participant was exposed to each treatment combination in random order (random room settings and random panel heights).*
2. A 1" = 1'-0" scaled blueprint representing the typical base plan for congregate/assisted living facilities as indicated by the composite of the plans supplied by the list from the Agency on Aging was used as the base plan. The blueprint was placed atop a 2" thick, 30" x 30" styrofoam board. The blueprint had a title block at one end to indicate the participant's code number, place, time, date, and researcher's name. *The floor plan consisted of a bed-to-bed, bed-to-sitting, and sitting-to-kitchenette situations.*
3. The precut cardboard panels (walls) represented the typical heights and widths that are currently manufactured by open-office companies. These panels had toothpicks glued into the base of each to facilitate location and insertion into the styrofoam.
4. All furnishings were either purchased or fabricated for the one

PROCEDURE FOR SCALE-MODEL INTERVIEW

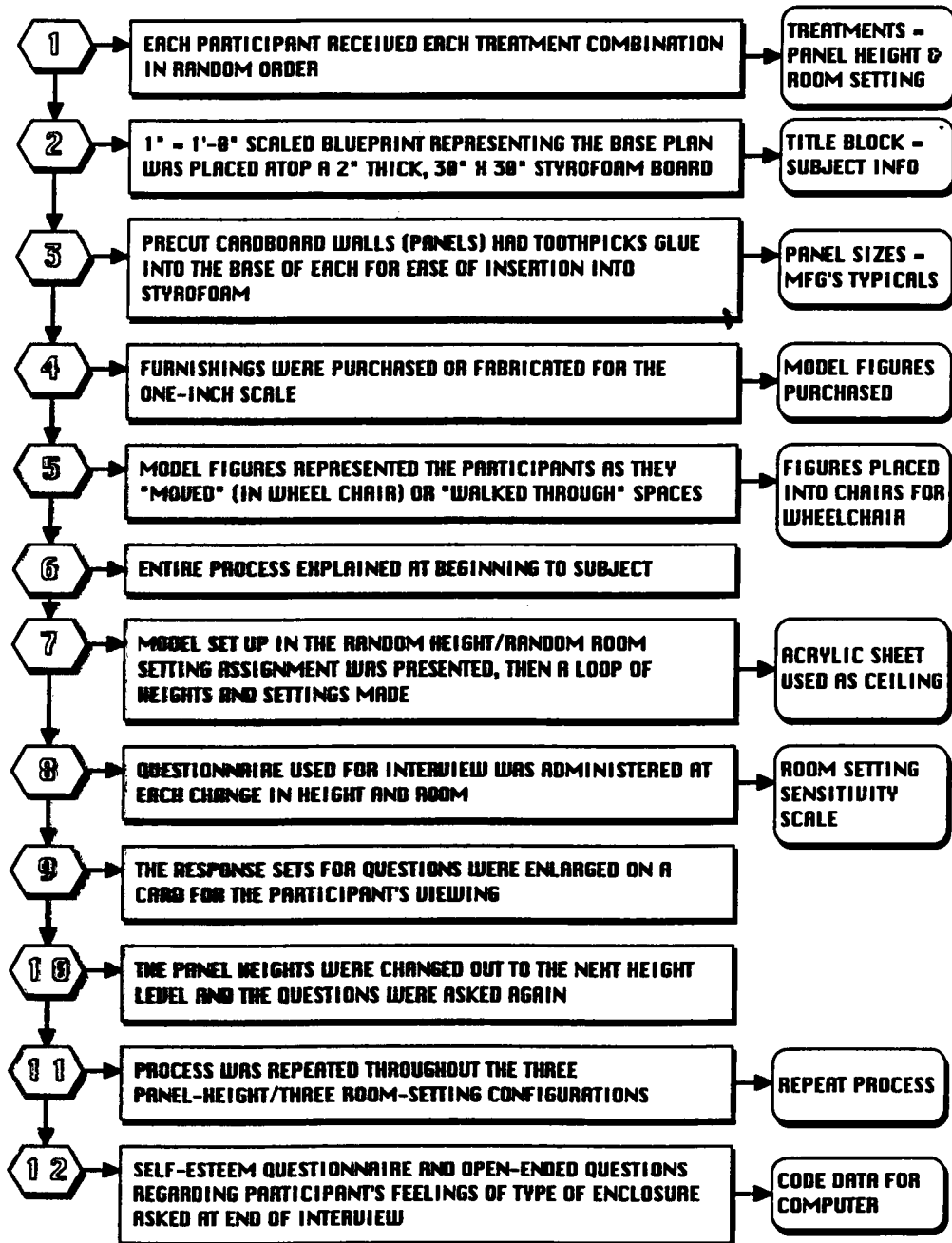


Figure 11. Scale Model Interview Procedure.

inch scale scenarios. *Furnishings were then placed into the model according to the typical base plan.*

5. The researcher used scaled porcelain model figures to represent the participants as they "moved" through the spaces. The researcher or participant either "walked through" (if the participants were ambulatory) or the figures were "moved through" (if the participants were in a wheelchair--non-ambulatory). For this situation the model figure was placed in a chair.
6. The entire process was explained to the participant prior to the beginning of the study.
7. A card was attached to each participant's number that indicated the panel height and room setting random order to be utilized. The model (completely set-up) in the random height/random room setting assignment was then presented first, then a loop of the heights/rooms was made (For example: if the random height assignment was 72" to start, then the next height was 62", then 80", etc.; if a random room setting became the bed-to-bed situation, then the next setting might have been the sitting-to-kitchenette, etc.). A large piece of acrylic was placed over the top of the model to indicate where the "normal" ceiling (8'-6") would be in relation to the panels.
8. The "Room Setting Sensitivity Scale Questionnaire" for the interview indicating the preference of this enclosure was administered at each change in height and room setting.
9. The response sets for questions were enlarged on a card for

the participant's viewing.

10. The panel heights were changed out to the next height level and the questions were asked again.
11. This process was repeated throughout the three wall-height/three room-setting configurations.
12. *The self-esteem questionnaire was administered.*
13. The final step in the process was to ask open-ended questions about the participant's feelings of this type of enclosure and the reasons for some of their choices.

Design and Analysis

This study utilized a mixed-model analysis of variance design. The primary model had only one dependent variable (Panel Enclosure Acceptance) and subjects were measured across all levels of the independent variables (panel heights and room settings). This study had one between-subjects factor (ADL's) and two within-subjects factors (panel height and room type) (see Appendix K).

An effort was made in the design of the research to allow for this researcher to exercise experimental control, that is, the extent to which rival hypotheses or extraneous variables would be controlled or ruled out. The control of the experiment was associated with the following: (1) The random assignments of individual subjects to comparison groups, (2) the extent to which this researcher was able to manipulate the independent variables (panel heights and room settings), (3) the time when the observations or measurements of the dependent variable occurred, and (4) which groups were measured (Huck, Cormier, & Bounds,

1974).

The ANOVA procedure allowed this researcher to answer several questions: (1) Was there a significant main effect for the between-subjects factor? (2) Was there a significant main effect for the within-subjects factors? and (3) Was there a significant interaction between the two factors (Huck, Cormier, Bounds, 1974, p. 107)?

The descriptive data used cross-tabulation tables to show the relationship of demographics and self-esteem with ADL's and acceptance. This provided a means to determine the characteristics of the participants within these different categories.

CHAPTER III

ANALYSIS

General

The instruments used for evaluation were the Ender's Activities of Daily Living (ADL) Checklist Questionnaire and the Room Setting Sensitivity (RSS) Scale. These were analyzed by using a oneway ANOVA and Tukey's HSD Post Hoc Test for the ADL's and Pearson's Product-Moment Correlation Technique with Cronbach's Alpha for the RSS Scale respectfully. An analysis of variance was used to test the hypotheses generated by this research. These statistical tests were used in order to respond to the questions raised by this study. The Statistical Package for the Social Sciences program (SPSS for the Macintosh) (Nie, et al, 1975) was used to obtain descriptive and statistical analyses of these data.

INSTRUMENTS

Ender's Activities of Daily Living Checklist Questionnaire

To determine the levels of skill groups (regarding the activities of daily living) from the five point, 70 question questionnaire (Enders, 1985), a scale was developed and the ability of each member of this sample was scored and placed along a continuum. The lowest score possible was 70 (indicating the lowest skill level) and the highest possible score was 350 (indicating the highest skill level - needing zero assistance). The score of 100

represented the lowest score indicated by any of the participants in this study when a frequency was computed and 300 was the highest score. Group levels were calculated by using the lowest 20%, the middle 20%, and the highest 20% (low; medium; high) scores. This resulted in 29 points between the low to medium level, 17 points between the medium and high, and 62 points between the low and high levels. For definition, low = least able and required the most assistance (high scores for assistance); medium = the middle level and required some assistance; and the high = the most able and required very little assistance (lowest scores for assistance). This procedure was used to minimize overlapping of skills and provided for a clearer indication of skill levels. Of the 86 qualified (group levels) participants, twenty were assigned to each of the three groups by using a stratified random sample design.

Enders' Checklist (1983) reviewed a total of 70 daily tasks. For each of the 70 items, the ADL groups were specifically asked to check whether or not, they needed personal (P) or equipment (E) assistance. This information was not used in the classification of the ADL groups, thus, to further support the reality of the three ADL groups and to support the validity of these groups, they were compared on the following three variables:

- (1) TOTP = total number of daily activities in which a subject reported needing assistance from another person to accomplish a task (high score = great need for assistance);
- (2) TOTE = total number of daily activities in which a subject reported needing assistance from a piece of equipment; and
- (3) TOTPE = TOTP + TOTE.

A oneway analysis of variance procedure was used to compare the means of TOTP, TOTE, and TOTPE among the ADL groups (low, medium, and high). This procedure was used to see whether or not the "differences between group means were large enough to assume that the corresponding population means were different" (Huck, Cormier & Bounds, 1974, p. 49).

Significant differences were found for all three dependent measures (see Appendix O). In the TOTP, TOTE, and TOTPE, the F ratios were as follows: $F(2, 57) = 23.6, p < .05$; $F(2, 57) = 5.8, p < .05$; $F(2, 57) = 35.84, p < .05$ respectfully. This indicated that the three ADL groups required different levels of assistance.

In order to locate which ADL groups contributed to these significant differences, the Tukey's HSD Post Hoc Test was used. Tukey's HSD Test was used as it is typically considered one of the most conservative of the comparison procedures (Huck, Cormier & Bounds, 1974).

For TOTP and TOTPE, each of these groups of subjects differed significantly from each other at the 0.05 level. In the test for TOTE, on the other hand, the medium group was not significantly different from the high group. These results indicated that at this very basic level of needing assistance these ADL groups were different.

Room Setting Sensitivity Scale

The Room Setting Sensitivity (RSS) Scale measured the respondent's acceptance of a panel enclosed environment (the dependent variable) (see Appendix J). This ten-item scale consisted of five pairs of environmental factors (two items per factor). They

were:

- (1) "no smells/smelly", and "odorless/odor"
- (2) "stuffy//fresh air", and "stale/well-vented"
- (3) "private/public", and "protected/exposed"
- (4) "noisy/quiet", and "disturbing/restful"
- (5) "moveable/fastened", and "fixed/adjustable."

The five pairs of environmental factors were based on the range of perceptions of the human senses and behavioral information (Rubin & Elder, 1980). The sensory questions reviewed the sense of smell (olfactory), and air quality. The behavioral aspects reviewed privacy (both visual and audio), and control (referred to as the ability to relocate spatial items according to one's own initiative). These items were paired to determine if the subjects viewed the environmental factors (as queried in the RSS Scale) the same across all treatments (panel heights and room settings) in a consistent manner.

To get an overall sensitivity score, certain factors (i. e., "odorless/odor") were recoded into the computer so that, all items were moving in the same direction. This meant that all items moved from a less positive (one) to a positive (six) direction. The mean of the ten items was calculated. For purposes of definition, sensitivity, for this study, represents the level of concern expressed by the subjects, as measured by the RSS Scale questionnaire while viewing the scale model.

Pearson's Product-Moment Correlation technique was used to measure the strength of the linear relationship between each of the scale items and the scale mean, and between each of the above

mentioned environmental factor pairs (Huck, Cormier, & Bounds, 1974). Appendix P indicates the correlation coefficients between the Room Setting Sensitivity Scale Items and the Scale Means. Appendix Q displays the correlation coefficients between items measuring similar dimensions. The matrices of correlation coefficients for the Room Setting Sensitivity Scale items indicating all of the environmental factor correlations was tabulated in Appendix L.

For purposes of definition of this research model: the two within-subjects factors were comparing (1) the heights of panels (8, 7, or 6 = the 80", 72", or 62"); and (2) the settings were either BB = ~~bed-to-bed~~, BS = ~~bedroom-to-sitting~~, or SK = ~~sitting-to-kitchenette~~.

At the 80" panel height, the correlations between the pairs of environmental factors in all of the room settings were significant at the 0.05 level (refer back to Appendix Q) except for the "noisy/quiet" factor—in the setting, sitting-to-kitchenette. The respondents disagreed in this condition. The setting was not restful when it was quiet. One person commented, "There is always some clatter when someone is in the kitchen." Subjects indicated that noises may still come through a panel enclosed setting. All ten of the environmental factors at this height and all settings had significant positive correlations with the scale mean. These overall strong correlations support the claim of internal consistency for this RSS Scale.

When the panel height was 72", the pairs of environmental factors in all settings were significant at the .05 level (refer to

Appendix Q). All ten of the environmental factors at this height and all room settings had significant positive correlations with the scale mean. These overall strong correlations support the claim of internal consistency for this RSS Scale.

At the panel height of 62", in each of the settings all of the environmental factors were significantly related at the .05 level, except the factor referring to "stale/well vented." This factor showed no significant relationship to the other factors (refer back to Appendix Q). All ten of the environmental factors at this height and all settings had significant positive correlations with the scale mean except the "stale/well-vented" factor. This factor showed no significance with the scale mean for any of the room settings at this height.

In the 62" high panel, the "stale/well-vented" factor was not significantly related to any factors. A possible explanation could be that the subjects felt that once the panel became that short, the perception was that it was always well vented. This may not have meant that there was a satisfaction with this situation, but it still "appeared" to be well vented. Due to the lack of significance of other factors with this factor, it was deemed appropriate to remove it from the mean in the 62" high panel as it appeared to be just noise. The "stale/well-vented" environmental factor failed to contribute to the scale's consistency since the concept was irrelevant when the panel was lowered to the 62" height.

Room Setting Sensitivity Scale Summation

Within each of the panel heights and room setting situations,

all of the environmental variables correlated positively with the overall mean score (at the 0.05 level of significance) with one exception (62" high panel; "stale/well-vented"). This result implies that all of the variables were working in concert to calculate the scale mean and this indicates internal consistency for the Room Setting Sensitivity Scale as a tool to measure the dependent variable (panel enclosure acceptance).

The Cronbach's Alpha was used to test the reliability of the RSS Scale instrument.

A test must be reliable to be useful. But is not enough for a test to be reliable; it must also be valid. That is, the instrument must measure what it is intended to measure (Norusis, 1990, p. 463). One of the most commonly used reliability coefficients is Cronbach's alpha. Alpha is based on the internal consistency of a test. That is, it is based on the average correlation of items within a test, if the items are standardized to a standard deviation of 1; or on the average covariance among items on a scale, if the items are not standardized. We assume that the items on a scale are positively correlated with each other because they are measuring, to a certain extent, a common entity. If items are not positively correlated with each other, we have no reason to believe that they are correlated with other possible items we may have selected. In this case, we do not expect to see a positive relationship between this test and similar tests (Norusis, 1990, p. 455).

The acceptance of the environmental factors in the three room settings (bed-to-bed; bedroom-to-sitting; and sitting-to-kitchenette) averaged 0.70 percent. In the social sciences, achieving a 0.70 reliability score as a bench mark for the first time a scale is used is generally agreed upon as a good rule of thumb for indicating that this tool is an acceptable measuring device. This, however, does not suggest that the tool does not need further refinement (see Appendix R).

This tool was deemed to be an acceptable measure for

determining this dependent variable.

A limitation with this population might be noted: The persons in this sample (females over the age of 65) were not familiar, in general, with the concept of open-office landscape systems as a means of enclosure. Perhaps more explanation regarding a panelled environment would clarify some misconceptions regarding this type of environment. For example, the interviewer explained at the beginning of the interview that the panels in this simulated environment would be able to be moved or relocated at the wishes of the resident. The dimension "fixed/adjustable" and "moveable/fastened", however, did not always carry the same perception with every respondent. Some subjects were afraid that the panels "might fall over," therefore, they wanted the "walls" fixed for safety reasons. Some subjects felt that "once I got things the way I like them, then I would want them (the panels) fixed." Perhaps this pair of environmental factors should be reviewed only in a full-scale environment that could more fully illustrate what the intent would be in a panelled enclosure.

This population was located in Eastern Tennessee. Perhaps if this research had been conducted in a more cosmopolitan area, results may have differed. The subjects in this study had little knowledge of open-office systems furnishings. Elderly in a more metro location may have worked in these types of enclosures, and therefore, may have viewed the panelled enclosure for residential uses differently.

With further refinement, this scale appears to be a tool that could develop even more reliability. The RSS Scale, for purposes of

the current study, was deemed to be an acceptable measure for determining the acceptance of panel enclosure.

HYPOTHESES

General

The dependent variable equals the Room Setting Sensitivity Scale. The independent variables consisted of one between-subjects factor (ADL Group) and two within-subjects factors (panel heights and room settings). An analysis of variance was used to test for the sensitivity scale mean differences among respondents for each of these main effects and their potential interactions. The SAS statistical package was used to implement this ANOVA. Please refer to ANOVA Results Table 3 and the cell means in Table 4 in the subsequent discussion of the hypotheses.

Examination of Hypothesis 1 Relating to Panel Heights

H₁: The panel height had no effect on panel enclosure acceptance by the respondents.

An analysis revealed that responses were affected significantly as a function of panel height, $F(2,57) = 37.60$, $p < .05$, with no interaction effects. By referring to Table 4, as one would expect, the taller the panel the higher the RSS score, i.e., the more the subject accepted the enclosure. To ascertain where the significant differences were in perceptions of employment of this panel height, main effect single degree of freedom contrasts were performed as a post hoc analysis. All but the 80" vs. 72" contrasts

TABLE 3: A SUMMARY OF RESULTS FOR ADL GROUP, PANEL HEIGHT, AND ROOM SETTINGS

SOURCE	WILKS' LAMBDA	F	DF
MAIN HYPOTHESES			
ADLGRP	-	0.24	(2,57)
SETTING	0.68	13.19*	(2,56)
PANEL HEIGHT	0.43	37.69*	(2,56)
INTERACTIONS			
PH*ADLGRP	0.95	0.75	(4,112)
SETTING*PH	0.96	0.53	(4,54)
SET*PH*ADLGRP	0.86	1.06	(8,108)

* = Significant at the 0.05 level

Note: ADLGRP = ADL group; PH = panel height; SET = setting

Note: Wilk's Lambda only performed on repeated measures

Note: Between-subjects factor = ADL group

Within-subjects factors = panel height & room setting

ANOVA Statistical analysis conducted

TABLE 4: ROOM SETTING SENSITIVITY SCALE
DIFFERENCES IN THE MEAN BETWEEN
THE ADL GROUP, PANEL HEIGHT,
AND ROOM SETTING

MAIN HYPOTHESES			
ADL GROUPS			
	LOW	MEDIUM	HIGH
Mean (SD)	4.20 (0.91)	4.08 (0.86)	4.19 (0.89)
SETTINGS			
	BB	BS	SK
Mean (SD)	4.24 (0.84)	4.21 (0.88)	4.02 (0.93)
PANEL HEIGHT			
	80"	72"	62"
Mean (SD)	4.50 (0.74)	4.35 (0.77)	3.62 (0.89)

were significantly different. The contrasts indicated the following: 62" vs. 80" = $F(1,57) = 64.29$, $p. < .05$; 62" vs. 72" = $F(1,57) = 66.37$, $p. < .05$; and 72" vs. 80" = $F(1, 57) = 3.57$, n.s. The means for this main effect were in the expected direction (62" was less acceptable and 80" was most acceptable). There appeared to be little distinction between the 72" and 80" panels and, both were significantly different from the 62" panels.

Discussion of Hypothesis 1 Relating to Panel Heights

A review of the results suggests that the respondents viewed the 62" panel as their least desirable height of enclosure in all settings. This height of panel appeared to be too low to provide a level of comfort in these settings according to the subjects participating in this study. For example, "If I could see over it, (panel) it wouldn't be of much use, would it?"

Subjects felt that certain heights of panels would be more appropriate than others. Several elements could be contributing to this perception:

- (1) A scaled-model may not be doing justice to items that are not typically expected in an environment, and perhaps, a full-scaled environment would be required to more accurately test this concern.
- (2) The respondents could accurately judge the panel heights and were of a generation that would only accept situations that more closely resembled what was most familiar (in terms of wall height). This then would suggest why these subjects were more satisfied with the taller panels overall.

- (3) These subjects felt that a 62" panel height was not tall enough to provide for the basic needs (as queried by the RSS) in this study and, therefore, deemed it the least effective panel type in these scenarios.

What became apparent, upon review of the contrasts, was that even though the subjects felt strongly about the 62" height and could differentiate it from the taller panels, they did not appear to see any difference between the 72" and the 80". Both of these panel heights appeared to have either similar desirability or were not perceived as different by the participants. This seems to indicate that the subjects felt that either of these heights was sufficient to satisfy their needs in these settings.

This information could be very useful to healthcare providers in that there could be a substantial cost savings (using a 72" vs. an 80") by implementing this type of environment. As the height of the panel goes up, so too does the cost factor. By only having to utilize a 72" panel as a typical supportive structure, savings could be obtained in terms of construction.

Examination of Hypothesis 2 Relating to Room Setting

H₂: The room setting had no effect on panel enclosure acceptance.

A main effect for room setting also resulted in significant response mean differences, $F(2, 56) = 13.19, p < .05$, with no interaction effects. To ascertain where the significant differences were in this room-setting main effect, single degree of freedom contrasts were performed as a post hoc analysis. The room-setting bed-to-bed was not significantly different from the bedroom-to-

sitting area (BS vs. BB = $F(1, 57) = 0.49$, n.s.) The sitting-to-kitchenette setting was significantly different from mean response to both the bed-to-bed and the bedroom-to-sitting areas [BS vs. SK = $F(1, 57) = 24.60$, $p. < .05$; SK vs. BB = $F(1, 57) = 18.65$, $p. < .05$].

Discussion of Hypothesis 2 Relating to Room Setting

The indication by these respondents that the sitting-to-kitchenette was the setting that they were most concerned about (as measured by the means) (refer back to Table 4) was unexpected in this investigation. Because, the bedroom area tends to be a more private space than other areas in a home (i.e., dressing, sleeping, etc.), the bed-to-bed (given that these were two separate individuals sharing this space) was expected to be viewed as the most concerned area. This information could suggest that the subjects were insecure regarding their skills in this space, or another possibility could be that they did not want to have caregivers reviewing their abilities.

Over time, roommates would become accustomed to each other's habits and skills. This shared relationship would not pose a threat to the individuals as their skills diminished. Instead of being a threat to discovering the diminishing abilities, a roommate would perhaps share in concealment. It seemed apparent (at least by these subjects), that they are concerned about protecting this space from others. As one participant indicated, "If I have a mess in there (kitchenette), then I might just want to close it off when I have company."

Another possibility for the reaction of respondents seeming to

be more protective of the kitchenette may have to do with the activities of daily living as they are performed there. Perhaps this is one area where a "public" may view the resident's diminished skills, have an opportunity to judge these skills and, therefore, the resident is more protective of this area. This attitude by respondents could mean that there are differences in the perception of what skill levels mean to the person who is experiencing difficulties and what someone else might "see". Perhaps a future study could review not only the skill levels as indicated by respondents, but what it means to them in terms of another's view point. Certain areas of the residence that require more motor/cognate skills may depict the reduction of capacities and may therefore, become more visible to outsiders (family members, healthcare providers, etc.). The perception of the outsider seems to be feared by these subjects.

Panel enclosure for the bed-to-bed and the bedroom-to-sitting areas was deemed to have similar acceptance by these subjects. The indication that both of these areas would be viewed the same by these subjects was not expected. As mentioned previously, it seemed probable that the bedroom area (bed-to-bed) would have been the most sensitive or, the area requiring the most privacy within the space. As this was not the case, in this study, one other possibility may mean that as we age, spaces take on different degrees of priority with respect to privacy than those perhaps held by younger people. The similarity of these two settings on the part of these subjects, with respect to their sensitivity, could suggest that they regard these areas as fundamental to the residential environment.

There would be no need for special treatments or considerations for these two settings according to this group of people.

Examination of Hypothesis 3 Relating to ADL Effect

H₃: The ADL grouping had no effect on panel enclosure acceptance

There was no significant difference with this main effect and, therefore, we failed to reject the null hypothesis.

Discussion of Hypothesis 3 Relating to ADL Effect

Respondents of all ADL groups viewed the varied environments of panel enclosures in much the same manner. This suggests that those subjects with low abilities were willing to view new types of environments with similar perspectives as those with higher ability levels. This trend could provide cost savings to potential providers of a panelled environment especially if further studies confirm this conclusion. In other words, it appears that the panelled aspects of these environments need not be tailored to the ADL level.

Another possible explanation of this result could be due to the types of questions asked in this study. Perhaps if other types of questions were considered, different results may have occurred.

Examination of Hypothesis 4 Relating to the Interaction of Panel Height and Room Setting

H₄: The panel height and room setting interaction had no effect on panel enclosure acceptance.

There was no significant difference found in this effect.

Therefore, we failed to reject the null hypothesis.

Discussion of Hypothesis 4 Relating to the Interaction of Panel Height and Room Setting

Referring to Table 5, one can see that there was no obvious connection between panel heights and room settings as this relates to the satisfaction scale variable. Subjects were more satisfied as the panel height increased regardless of room setting. The subjects were the least satisfied with the panelled environment in the sitting-to-kitchenette regardless of panel height.

Examination of Hypothesis 5 Relating to ADL/panel height interaction.

H₅: ADL/panel height interaction had no effect on panel enclosure acceptance.

There was no significant difference found in the interaction between the ADL/panel height and the dependent variable.

Therefore, we failed to reject the null hypothesis.

Discussion of Hypothesis 5 Relating to ADL/panel height interaction.

No matter what the ADL group (see Table 6), the higher the panel the more satisfied participants were. This information could be of interest to healthcare providers using this type of system in that all levels of ADL's tend to accept the concept. This would allow a developer to provide environments that were similar and therefore, reduce costs that are attributed to customizing.

**TABLE 5: ROOM SETTING SENSITIVITY SCALE
DIFFERENCES IN THE MEAN RESULTING
FROM THE INTERACTION OF PANEL
HEIGHT AND ROOM SETTING**

		PANEL HEIGHTS		
		62"	72"	80"
ROOM SETTINGS				
BB	Mean	3.72	4.42	4.58
	(SD)	(0.84)	(0.74)	(0.69)
BS	Mean	3.65	4.43	4.56
	(SD)	(0.91)	(0.75)	(0.68)
SK	Mean	3.50	4.20	4.35
	(SD)	(0.93)	(0.81)	(0.84)

Note: BB = Bed to bed; BS = Bedroom to sitting;
SK = Sitting to kitchenette

**TABLE 6: ROOM SETTING SENSITIVITY SCALE
DIFFERENCES IN THE MEAN RESULTING
FROM THE INTERACTION OF ADL GROUP,
PANEL HEIGHT, AND ROOM SETTING**

		ADL GROUPS		
		HIGH	MEDIUM	LOW
ROOM SETTINGS				
BB	Mean	4.27	4.12	4.33
	(SD)	(0.78)	(0.85)	(0.89)
BS	Mean	4.22	4.17	4.25
	(SD)	(0.91)	(0.85)	(0.88)
SK	Mean	4.07	3.94	4.05
	(SD)	(0.97)	(0.88)	(0.96)
PANEL HEIGHTS				
80"	Mean	4.60	4.40	4.49
	(SD)	(0.75)	(0.72)	(0.75)
72"	Mean	4.42	4.19	4.44
	(SD)	(0.69)	(0.76)	(0.84)
62"	Mean	3.54	3.64	3.69
	(SD)	(0.85)	(0.91)	(0.93)

Note: BB = Bed to bed; BS = Bedroom to sitting;
SK = sitting to kitchenette

Examination of Hypothesis 6 Relating to ADL/room setting interaction

H₆: ADL/room type interaction had no effect on panel enclosure acceptance.

There was no significant difference among the ADL groups with this interaction. Therefore, we failed to reject the null hypothesis.

Discussion of Hypothesis 6 Relating to ADL/room setting interaction

No matter what the ADL group, participants were the least satisfied with panels in the setting sitting-to-kitchenette. This suggests that these subjects preferred to have a more substantially enclosed environment.

Examination of Question 4 Not Related to Hypotheses

Q₄: "At this stage in your life, is this a type of space in which you would like to live (YES, NO, UNDECIDED)?"

Seventy percent (70%) of the participants indicated that "yes" they would like to live in this type of environment; 15% said they would not; and, 12% were undecided (3% had no response) (see Appendix T).

Discussion of Question 4 Not Related to Hypotheses

This group of subjects indicated that they would indeed consider this type of environment. To have a substantial number indicate positively that they would consider living in this type of

environment was unexpected. As mentioned earlier, the subjects in this study had a minimum of exposure to open-office systems furnishings. This suggests that it is not necessary to fully enclose individual residential spaces. Perhaps the possibility of adjusting spaces to suit the resident had more appeal than this researcher suspected it would. As one subject put it, "If I had that option right now, I wouldn't have to sell my piano. I would be able to adjust the size of each space and make room for it." Another subject indicated, "If I wanted to have a party, I could just move these panels out of my way."

The comments reflect back to Cooper and Hasselkus' (1992) Model of Environmental Control. A possibility for subjects being more accepting of this type of environment, could be due to the concept of adapting the spaces to meet their individual needs. Perhaps the perception of having control over an environment allows the person to accept innovative ways to enclose those spaces.

This information also supports the theories put forward by Crewe, Zola and Associates (1983): (1) a person has the right to live in the least restrictive environment; (2) a person has the right to autonomy; and (3) a person has the right to support for competency in daily tasks. The subjects in this study indicated a preference for arranging spaces for their own needs. This keys directly to both Cooper and Hasselkus (1992) and Crewe, Zola and Associates (1983). By indicating their preference for flexibility, these subjects tend to view the environments as perhaps being less restrictive (they have control). By having an environment that is self-altering, the subjects feel more autonomous (they can control the spaces on their

own). The perception of control over the individual spaces could tend to make the subjects feel that this environment would be supportive in nature.

Examination of Questions 11a, 11b, and 11c Not Related to Hypotheses

11_a: "In general would having a panel as a means of separation be better than or worse than a hospital curtain (1 = BETTER THAN; 2 = WORSE THAN)?"

11_b: "In general would having a panel as a means of separation be better than or worse than leaving the space open between (1 = BETTER THAN; 2 = WORSE THAN)?"

11_c: "In general would having a panel as a means of separation be better than or worse than a normal wall (1 = BETTER THAN; 2 = WORSE THAN)?"

For 11a, 92% indicated that the panelled enclosure would be better than a hospital curtain, 7% thought it would be worse than and, 1% did not respond. For 11b, 95% agreed that the panel would be better than leaving the spaces open, 2% responded that it would be worse than and, 3% had no response. For 11c, 68% chose a panelled environment over a normal wall as a means of separation, 28% did not want panels, and 3% did not respond. This suggests almost a three-to-one ratio of preference for panels as an enclosure (see Appendix N).

Discussion Examination of Questions 11a, 11b, and 11c Not Related to Hypotheses

There was an expectation, on the part of the researcher, that these participants might consider panels as an alternative means of residential enclosure over less desirable means (cubicle curtains, openness, etc.). There was no preconceived idea that these females would indicate a preference for panels over a typical wall. This finding was unexpected.

Upon reflection, it could be related to the theories as presented by Cooper and Hasselkus (1992) and Crewe, Zola and Associates (1983). Having the freedom to allocate space according to one's needs may be contributing to the acceptance of this new idea for spatial enclosure.

It could also suggest, that these females are not completely happy with the types of assisted environments in which they are presently housed. They may feel that the normal walls (in the relatively small spaces allotted) contain the spaces too much. Having a panel that does not reach the ceiling may provide them with the perception of more openness within the space. The concept of flexibility, in terms of allocation of panels, and the ability to control the height of enclosure seems to be particularly appealing to these subjects.

CHAPTER IV

SUMMARY, CONCLUSIONS AND IMPLICATIONS

SUMMARY

Several demographic conditions were indicated earlier that relate to this sample under study. The projection for the population over 65 in the year 2010 (16 years hence) will be one in seven. The forecast for 2050 will be 100 million people over age 65 (refer back to Figure 2). This phenomenon is a direct result of the wave of "baby boomers" reaching 65 years of age. Not only will there be more aging Americans than ever before but, they will continue to live longer lives. Life expectancy has continued to increase for older women in particular. The projections suggest that this will increase another 29% for the period of 1990-2040 (Ferraro, 1990). As life expectancy increases, so too does the probability of these elderly to experience debilitating, chronic diseases. These diseases lead to functional impairments and, therefore, a decrease in the ability to perform daily tasks (Taeuber, 1992). These functional limitations impact directly on the ability to live independently. The estimates indicate a need to respond with innovations in housing that will allow for adaptations for an older and more impaired elderly.

Housing for the elderly with diminished capabilities is reaching national concern. Alternatives to existing conventional housing need to be found that will support an independent lifestyle for these citizens. One goal, as suggested by Howell as early as

1980, was in order to support individual independence and prevent premature institutionalization, design must provide for adaptation and flexibility.

This study was a first step in reviewing an alternative to the means of conventional internal separation (full-height, fixed walls) and studied a more flexible and adaptable devise (panels). As a basis for any practical commitment to the improvement of the differently-abled elderly (Leibrock, 1989), it was necessary to obtain empirical information about this new type of residential construction--a panel-enclosed environment. This research examined whether or not, open-office landscape system panels would be viewed by the elderly as an acceptable alternative to a fixed condition (full-height walls). If the sample viewed these panels as an enclosure favorably, this could then lead to new approaches in adaptable, flexible building design for the elderly.

The major purposes of this study were to determine:

- (1) Whether or not different heights of panels (80", 72", and 62") would affect residents' satisfaction of a particular environment;
- (2) If a particular room setting would appear to increase the elderly's endorsement of this type of enclosure;
- (3) If different skill levels of respondents would relate to acceptance of different panel heights similarly;
- (4) If the combination of panel heights and room settings would be viewed similarly;
- (5) If the ADL group levels would view the panel heights similarly;
- (6) If the different ADL groups would view the room settings

- similarly; and,
- (7) To determine the demographic and self-esteem characteristics of the ADL groups.

CONCLUSIONS

Participants in this study (all females) indicated an acceptance of panels as a means of enclosure. Upon reviewing the contrasts, the trend suggested that the subjects would prefer the higher panels to the lower ones in all settings. There was no noted distinction between the two higher panels, however. These women also indicated that the sitting-to-kitchenette setting held a higher degree of concern in the selection of the panel heights than either of the other two settings. No relationship was found between the different skill levels for the activities of daily living (ADL) and their interpretation of this environment.

This sample accepted panels as opposed to walls and indicated that they would consider living in this type of an environment. The participants of this study responded positively to this new concept of supportive "walls." Howell's prediction of 1980, "...that allocation of residential spaces requires a new definition (p.8.)," was upheld by this group. The sample revealed a variety of functional disabilities, and yet, all were in concert when it came to embracing a new design concept for enclosure. They seemed to feel that, "...living units have to be spatially inter-changeable, extendable or retractable...(Howell, 1980, p. 8.)," in order to support an individual's changing needs.

Enclosing spatial areas with panels was accepted by this

sample. Of the three heights of panels (62", 72", 80") presented to this group, the trend was to prefer the higher panels (72" and 80") in all cases. This was not expected. It seemed, from the researcher's view point, that most people would want to have lower walls (panels) around the kitchenette.

Traditionally, this area (kitchen) of the household tends to have a lot of activity and many typical residential designs provide for more openness between the kitchen and shared spaces. This type of layout has been designed so that communication between areas may be maintained. The research sample did not agree with that design philosophy. They indicated a preference for the higher panel in this area.

To feel the need to close off this space to others suggested that this was one area where the right to autonomy was important (at least to these respondents). The right to function independently without the observation of others seems to be a critical factor to these women. A reason that this need may be felt may be due to the fact that activities within the kitchen demand a variety of cognate and motor skills (Canada Mortgage and Housing, 1989). This may be why these participants felt so strongly about this setting. It was held in a higher degree of sensitivity than either of the two other settings (bed-to-bed and bedroom-to sitting). These respondents wanted to have a more private setting in this case to protect their functional abilities.

Assessments are often performed on individuals to determine whether or not, a person was capable of functioning independently. A trained observer ranks these abilities. The abilities were

assessed in terms of the skills that a person had in accomplishing ADL's (Enders, 1983; Canada Mortgage and Housing, 1983). Skills in the kitchen were an important consideration as they are also a means of life support for the individual.

The elderly females in this study were already residing in assisted facilities. Many were in now in facilities where working in the kitchen was no longer a possibility for them. The typical facility provided for a reduced spatial environment for the kitchen--a kitchenette. Therefore, these females already had had to admit to a reduction of capacities in order to change their residence and live in an assisted home. They had been assessed by someone. Crew, Zola and Associates (1983) suggested that autonomy was an important factor in maintaining independence. The results here, in terms of this setting, support this theory. These females wanted to have privacy in an area that demands much from them.

The result that these women were particularly concerned about how the kitchen was enclosed may reveal the pain of having to acknowledge one's own disablement. The kitchen may have been a space where they had been very familiar and enjoyed a certain skill level in performing the tasks required. Recognizing one's own limitations may be one thing but, having someone else observe, document, and proceed to suggest an environment that would be more assisting may have been very troubling. These women may have felt that in these assisting facilities that they are being "watched" and did not want to have to expose any further demise in their skills. They therefore, were more protective of this setting and wanted a higher panel to enclose the space.

All of these subjects, regardless of their ADL level, accepted a panelled environment. This was not an expected finding. This researcher anticipated that those in the lowest skill level would accept a panel enclosure before those who required very little assistance. It was expected that the low ADL's would view a panel enclosed environment as more supportive to their reduced functional abilities, and would find that appealing. As Lawton (1980) suggested in his "Environmental Docility Hypothesis", the less competent the individual, the greater impact the environment has on them. This suggests that the subjects with the most need for assistance would accept a panel solution as a means to maintain a more independent life style.

To have all subjects in this study accept this new type of interior construction method (panels) was not predicted. Perhaps this result suggests that even those that are skilled, in terms of ADL's, view this fact as one that most likely will change. Therefore, they perceive a need for an environment that has the potential to adapt to their needs rather than the individual having to adapt to the environment.

Although the results from this study may only be generalizable to this population, they suggest that these respondents view panels as an acceptable means of enclosure. There would be a need for some design considerations and panel height preferences, however, these subjects indicated that they were willing to sacrifice some internal spatial privacy for an environment that they find more supportive to their individual needs.

IMPLICATIONS

For Industry

Based on the findings of this study, implications for industry can be viewed from the perspective of both the healthcare provider and the systems manufacturer. For many years healthcare facilities have been developed with a warehouse mentality for caring for our elderly. There is a growing need for industry to become involved in new forms of residential environments by making available, at affordable costs, environments that promote and encourage independence and autonomy for the elderly. These types of facilities may also be made available to all persons who are differently-abled (Leibrock, 1989).

The projections for people over the age of 65 will be one in five by the year 2030 (Belsky, 1990). Statistics also indicate that elderly who experience diminished skill levels have expanded 168% from 1964 to 1992 (Taeuber, 1992). This will increase the demand for assistance in living. These figures only represent one population in need, the elderly. With soaring healthcare costs, efforts need to be made to develop environments that can be more assisting in nature. Government and developers alike may need to broaden their horizons in terms of the possibilities that can be made available for persons in this type of situation.

As the need for assisting housing increases, the manufacturing industry could be called upon to solve these residential environmental concerns. Open-office systems manufacturers have concentrated their efforts in the past on the office market. The

changes needed will require a shift on the part of the manufacturers, from office market to residential healthcare market. Upon viewing this shift more closely, however, it is not that great a leap for the manufacturers to make. The infrastructure exists. Panels are the supporting structure for all potential additions. Components such as storage and work surfaces are in place. Redesigning and retooling would be required for kitchens and bathroom, and perhaps more "residential" aesthetics would be necessary for these settings. An inclusion of a more residential pallet of fabrics and finishes would be desirable. The development of new products could produce an entirely new market place for these manufacturers.

For Researchers

Implications for research would include recommendations for improving the Room Setting Sensitivity Scale used in this study, as well as a need for additional research in innovative concepts. It would also be beneficial to replicate this study in other geographical areas.

The pairs of environmental factors dealing specifically with panel adjustability needed to have further explanation and clarification to this audience and the validity of the scale would have been improved. Other concerns would be that other issues need to be investigated (i.e., territory, safety, hang-on components, plumbing, etc.). What types of features should be designed for these kinds of residences?

In an effort to improve the RSS Scale and to develop a more clear understanding of the scale model as a reliable simulation tool,

the following study could prove useful:

- (1) To prepare for a pre/post test combined with open-ended questions utilizing the same sample type.
- (2) The pre-test would be comprised of the existing RSS Scale questions and the existing 1" = 1'-0" scale model.
- (3) The post-test would be comprised of the use of this RSS Scale questionnaire, but utilizing a full-scale mock-up of the 1" = 1'-0" scaled model. This mock-up would have all of the environmental features present to experience fully.
- (4) After the post-test was completed, an open-ended interview would take place. This would allow for the participants to express ideas, concerns or impart information that they felt would contribute to a better understanding of the environments that they were experiencing. This information could then be reviewed with respect to the RSS questionnaire and the simulations.
- (5) Hypothesis 1: Would be to test whether or not, the subjects would respond to both simulated environments similarly?
- (6) Hypothesis 2: Would the subjects respond to the RSS Scale in both simulated environments similarly?
- (7) Hypothesis 3: Would there be any interaction effect between the RSS Scale and the two simulation models?

The information reviewed here could determine whether or not, the RSS Scale items were being viewed in both environments the same. If not, perhaps clarification could be determined by using the open-ended questions. This study would also review the correlation between the subjects perception of the scale model and the full-

scaled mock-up.

Continued research in the area of alternatives to assisting housing needs aimed at enabling a disabled population is recommended. This study researched only one possibility in terms of new interior construction methods for residential interiors. Future studies could review components for the home as adaptable and changeable. Innovations, in terms of construction method techniques would also be important to this issue as well. These types of studies would be recommended in a full-scale simulation. It would perhaps be easier to "view" types of components in a complete environment.

As mentioned, this study reviewed only one possible solution for adaptable living spaces. Perhaps several versions of innovative means of separation could be tested. This would allow subjects to choose an enclosure type, rather than just having one presented. Perhaps this kind of comparison would lead to a better understanding of the kinds of separation that would be most acceptable to this population.

Acceptance of this type of panel enclosure was only generalizable to this sample under study. A replication, in another territory would be useful in determining if the results here would be duplicated elsewhere. This would be an important consideration for industry.

It was determined by this study that these participants accepted panelled enclosed environments. This information adds to the body of knowledge of these types of enclosures for elderly females.

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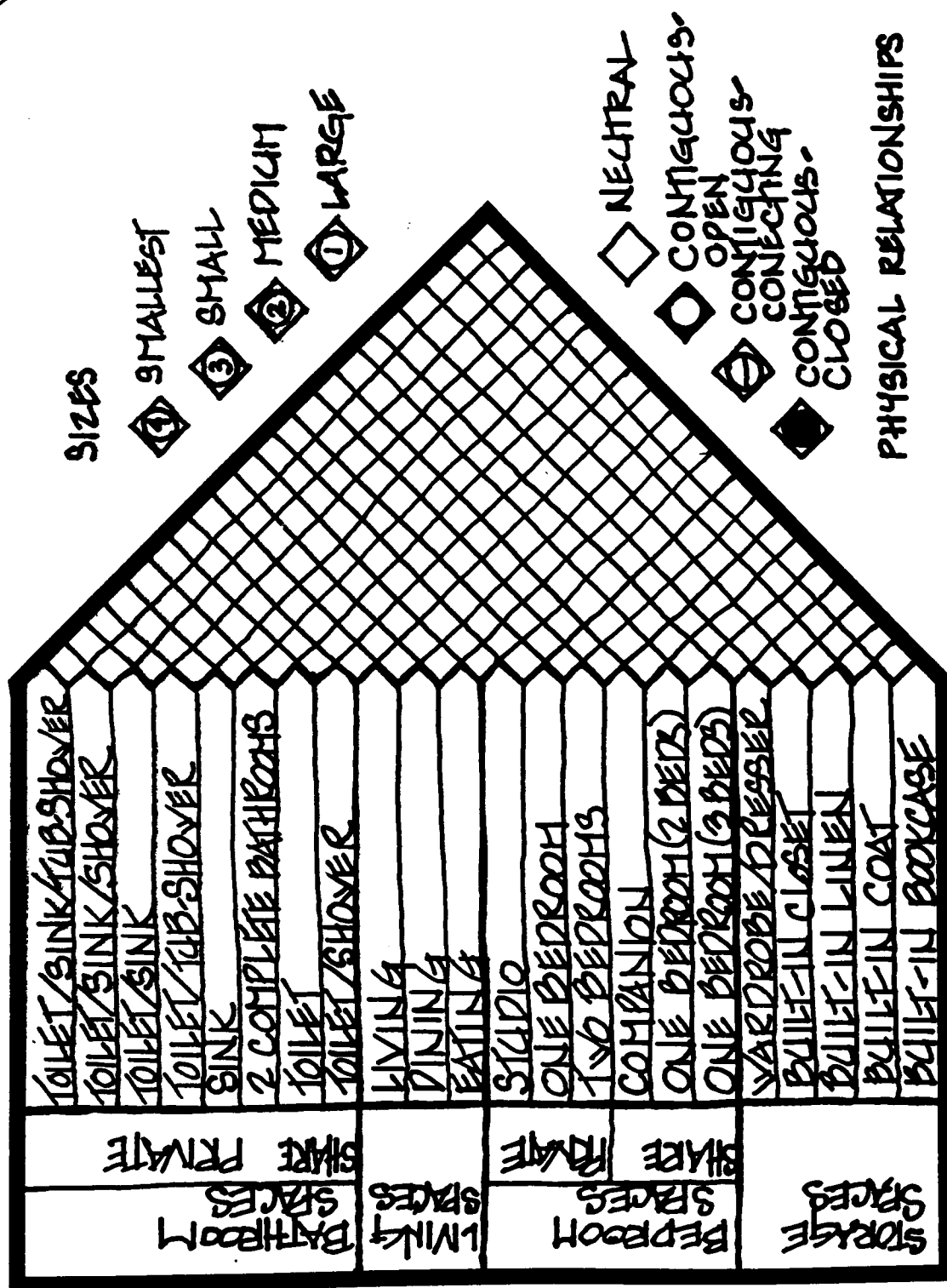
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APPENDICES

APPENDIX A

MATRIX OF ASSISTED LIVING FACILITIES SPATIAL AREAS

MATRIX OF ASSISTED LIVING FACILITIES SPATIAL AREAS



APPENDIX B
SIMILAR/DISSIMILAR AREA SCALE

2 BED BEDROOM KITCHENETTE EATING AREA ENTRY	SIMILAR	WARDROBE LIVING / SITTING TOILET / SINK / SHOWER
BUILT-IN CLOSET SINK TOILET / SINK / TUB-SHOWER		ONE BEDROOM COMPANION
BUILT-IN BOOKCASE 3 BED BEDROOM BUILT-IN LINEN DINING TOILET / TUB-SHOWER TOILET / SHOWER	DISSIMILAR	BUILT-IN COAT STG. STUDIO TWO BEDROOMS TWO COMPLETE BATHROOMS TOILET SINK / TOILET

APPENDIX C
INFORMED CONSENT FORM

INFORMED CONSENT: An Elderly Residence

Purpose: This research endeavor is being conducted to examine if there is a difference between the activities of daily living in assisted living facility residents and their environmental needs.

Procedure: The females who are 65+ years and have resided in an assisted living facility for at least three months prior to this survey, will be asked to complete the enclosed questionnaire. This questionnaire will take approximately fifteen minutes to complete. Upon completion, a random sample of 60 persons will be asked to work with this researcher on a 1" = 1'-0" scale model. This will be a focused interview and will take approximately thirty to forty minutes to complete.

Objective: It is hoped that this research will provide information regarding the activities of daily living and enclosure satisfaction. This information could provide some predictors to the types of facilities that need to be designed in the future for elderly people. With this in mind, your voluntary participation in this research is greatly appreciated.

I hereby authorize my responses and information as being accurate and valid to the best of my knowledge, and allow them to be included in this research project and any subsequent publications.

(Respondent's signature, date)

APPENDIX D

ENDERS' ACTIVITIES OF DAILY LIVING CHECKLIST QUESTIONNAIRE

ACTIVITIES OF DAILY LIVING CHECKLIST

NO. _____

Different people accomplish the same tasks in different ways, yet they may accomplish the same things with equal effectiveness. The following items ask about your approach to accomplishing these actions or activities.

The items describe different ways people have of doing these activities. They DO NOT describe desirable or undesirable behavior, nor do your responses to these items tell how well you do these activities.

Please indicate how well each item describes how you typically approach -- or try to approach -- these actions and/or activities.

Using the following scale circle one of the numbers that best describes your behavior in doing these tasks. If another person is required to assist you in these actions, please circle "P". If you require equipment to assist you, please circle "E" and describe what type of equipment you require in the space provided.

1 = NEVER BY MYSELF

2 = RARELY BY MYSELF

3 = OCCASIONALLY BY MYSELF

4 = MOSTLY BY MYSELF

5 = ALWAYS BY MYSELF

6 = NOT APPLICABLE

P = PEOPLE ASSISTED ME

E = EQUIPMENT ASSISTED ME

1. Dress upper body

1 2 3 4 5 6 P E _____

2. Dress lower body

1 2 3 4 5 6 P E _____

3. Put on shoes, socks

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

4. Manage buttons, zippers, bras

1 2 3 4 5 6 P E _____

5. Getting into bed

1 2 3 4 5 6 P E _____

6. Getting out of bed

1 2 3 4 5 6 P E _____

7. Positioning myself in bed

1 2 3 4 5 6 P E _____

8. Getting on the toilet

1 2 3 4 5 6 P E _____

9. Getting off the toilet

1 2 3 4 5 6 P E _____

10. Getting into the car

1 2 3 4 5 6 P E _____

11. Getting out of the car

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

12. Getting into tub/shower

1 2 3 4 5 6 P E _____

13. Getting out of tub/shower

1 2 3 4 5 6 P E _____

14. Washing hands and face

1 2 3 4 5 6 P E _____

15. Washing hair

1 2 3 4 5 6 P E _____

16. Brushing teeth

1 2 3 4 5 6 P E _____

17. Toilet hygiene

1 2 3 4 5 6 P E _____

18. Nail care

1 2 3 4 5 6 P E _____

19. Makeup

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

20. Ear care

1 2 3 4 5 6 P E _____

21. Brushing hair

1 2 3 4 5 6 P E _____

22. Feminine hygiene

1 2 3 4 5 6 P E _____

23. Feeding self

1 2 3 4 5 6 P E _____

24. Cutting food

1 2 3 4 5 6 P E _____

25. Drinking liquids

1 2 3 4 5 6 P E _____

26. Control of urination in daytime

1 2 3 4 5 6 P E _____

27. Control of urination at night

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

28. Walking - inside home

1 2 3 4 5 6 P E _____

29. Walking - outside home

1 2 3 4 5 6 P E _____

30. Up/down stairs

1 2 3 4 5 6 P E _____

31. Escalators

1 2 3 4 5 6 P E _____

~~32.~~ Elevators

1 2 3 4 5 6 P E _____

33. Sidewalk curbs

1 2 3 4 5 6 P E _____

34. (SKIP TO NUMBER 38 IF NOT IN A WHEELCHAIR) If in a wheelchair you can

Manual - propelling inside home

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

35. Manual - propelling outside home

1 2 3 4 5 6 P E _____

36. Electrical - propelling inside home

1 2 3 4 5 6 P E _____

37. Electrical - propelling outside home

1 2 3 4 5 6 P E _____

38. Writing - signature

1 2 3 4 5 6 P E _____

39. Speaking

1 2 3 4 5 6 P E _____

40. Reading

1 2 3 4 5 6 P E _____

41. Listening

1 2 3 4 5 6 P E _____

42. Typing

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

43. Telephone

1 2 3 4 5 6 P E _____

44. Using oven range

1 2 3 4 5 6 P E _____

45. Using oven

1 2 3 4 5 6 P E _____

46. Using refrigerator

1 2 3 4 5 6 P E _____

47. Using freezer

1 2 3 4 5 6 P E _____

48. Using microwave

1 2 3 4 5 6 P E _____

49. Transporting cookware, ingredients

1 2 3 4 5 6 P E _____

50. Using can openers

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

51. Reach upper cabinets

1 2 3 4 5 6 P E _____

52. Reach lower cabinets

1 2 3 4 5 6 P E _____

53. Washing/drying dishes

1 2 3 4 5 6 P E _____

54. Doing laundry

1 2 3 4 5 6 P E _____

55. Housecleaning

1 2 3 4 5 6 P E _____

56. Dusting

1 2 3 4 5 6 P E _____

57. Cleaning the floors

1 2 3 4 5 6 P E _____

58. Opening/Closing doors

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

59. Using keys

1 2 3 4 5 6 P E _____

60. Using light switches

1 2 3 4 5 6 P E _____

61. Using pay phones

1 2 3 4 5 6 P E _____

62. Handling money/or change

1 2 3 4 5 6 P E _____

63. Checking account

1 2 3 4 5 6 P E _____

64. Take medications

1 2 3 4 5 6 P E _____

65. Meal planning

1 2 3 4 5 6 P E _____

66. Meal preparation

1 2 3 4 5 6 P E _____

Use the following scale and (Circle one number):

1 = NEVER BY MYSELF

5 = ALWAYS BY MYSELF

2 = RARELY BY MYSELF

6 = NOT APPLICABLE

3 = OCCASIONALLY BY MYSELF

P = PEOPLE ASSISTED ME

4 = MOSTLY BY MYSELF

E = EQUIPMENT ASSISTED ME

67. Maintenance of mobility aids

1 2 3 4 5 6 P E _____

68. Maintenance of assistive devices

1 2 3 4 5 6 P E _____

69. (SKIP IF NOT IN A WHEELCHAIR. GO TO QUESTION 71.)
General maintenance

1 2 3 4 5 6 P E _____

70. Recharging battery on electric chair

1 2 3 4 5 6 P E _____

Certain demographics are necessary in order to qualify the information gathered with regional statistics. The following questions will assist us in this endeavor.

71. Origin of Subject(Circle Number)

1 WHITE (CAUCASIAN)

4

SPANISH AMERICAN

2 BLACK (NEGRO)

5

AMERICAN INDIAN

3 ORIENTAL

6

OTHER_____

72. When were you born? _____
YEAR MONTH DAY

73. Your present age: _____ YEARS

74. Your present marital status. (Circle number)

- | | | | |
|---|---------------|---|-----------|
| 1 | NEVER MARRIED | 4 | SEPARATED |
| 2 | MARRIED | 5 | WIDOWED |
| 3 | DIVORCED | | |

75. Number of children you have in each age group. (If none, write "0") _____.

Number of children (Check one)

- | | | | |
|-------|----------|-------|-------------|
| _____ | 14 to 18 | _____ | 35 to 44 |
| _____ | 19 to 24 | _____ | 45 to 54 |
| _____ | 25 to 34 | _____ | 55 to 64 |
| | | _____ | 65 and over |

76. Are you presently: (Circle a number)

- 1 EMPLOYED
- 2 UNEMPLOYED
- 3 RETIRED
- 4 FULL-TIME HOMEMAKER

77. What was your approximate net family income from all sources, before taxes, in 1993? (Circle number)

- | | | | |
|---|-------------------|----|------------------|
| 1 | LESS THAN \$3,000 | 6 | 13,000 TO 15,999 |
| 2 | 3,000 TO 4,999 | 7 | 16,000 TO 19,999 |
| 3 | 5,000 TO 6,999 | 8 | 20,000 TO 24,999 |
| 4 | 7,000 TO 9,999 | 9 | 25,000 TO 29,999 |
| 5 | 10,000 TO 12,999 | 10 | OVER \$30,000 |

78. What is your religious preference? (circle number)

- 1 PROTESTANT (Specify denomination)_____
- 2 JEWISH
- 3 CATHOLIC
- 4 OTHER (Specify)_____

79. Which is the highest level of education that you have completed? (Circle one number)

- 1 NO FORMAL EDUCATION
- 2 SOME GRADE SCHOOL
- 3 COMPLETED GRADE SCHOOL
- 4 SOME HIGH SCHOOL
- 5 COMPLETED HIGH SCHOOL
- 6 SOME COLLEGE
- 7 COMPLETED COLLEGE, (Specify major)_____
- 8 SOME GRADUATE WORK
- 9 A GRADUATE DEGREE (Specify degree) _____

Is there anything else you would like to tell us about the kinds of activities that you need to do in the course of a weekly routine? If so, please use this space for that purpose.

Also, any comments you wish to make that you think may help in future efforts to understand the activities of daily living will be appreciated, with here or in a separate letter.

Your contribution to this effort is very greatly appreciated. If you would like a summary of results, please print your name and address on the back of the return envelop (NOT ON THIS QUESTIONNAIRE). We sill see that you get one.

APPENDIX E
LETTER TO AREA AGENCIES ON AGING

THE UNIVERSITY OF TENNESSEE
KNOXVILLE



EXAMPLE: SENT TO AREA AGENCIES ON AGING

November 30, 1993

Textiles, Retailing and Interior Design
Room 230, College of Human Ecology
1215 West Cumberland Avenue
Knoxville, Tennessee 37996-1900
(615) 974-2141
FAX (615) 974-2617

Tennessee Department of Health
Division of Health Care Facilities
283 Plus park Boulevard
Nashville, TN 37247-0530

To Whom it may concern,

I am a doctoral student at The University of Tennessee, Knoxville. I am researching the micro-environments of the elderly, in particular those residing in a Congregate or Semi-independent residence. I would appreciate a list of any of these facilities (and contact names) that may be present in your area. Please indicate what type of service these facilities offer (congregate or assisted).

Part of this research will also review existing plans of these types of residents. If it would be possible, I would certainly appreciate a copy of a typical resident's floor plan (to scale, if possible; if not to scale, then possibly with overall measurements). The idea is to compile this information to see if there are typical layouts that facilities are using. I would certainly appreciate your assistance in this matter. As a result of your assistance in the endeavor, I would be happy to send to your organization any information that may be obtained with respect to this compilation.

Please send any plans to: Lennie Scott-Webber (Mrs.) at the above address. Thank you in advance for your assistance.

Sincerely,

Lennie Scott-Webber (Mrs.)
Doctoral Candidate
Textiles, Retail, and Interior Design

APPENDIX F

LETTERS TO CONGREGATE/ASSISTED LIVING FACILITIES



EXAMPLE: SENT TO CONGREGATE/ASSISTED LIVING FACILITIES
ADMINISTRATORS

Textiles, Retailing and Interior Design
Room 230, College of Human Ecology
1215 West Cumberland Avenue
Knoxville, Tennessee 37996-1900
(615) 974-2141
FAX (615) 974-2617

December 1, 1994

Address

Dear ,

I am a doctoral student at The University of Tennessee, Knoxville researching the micro-environments of the elderly, in particular those residing in a Congregate or Semi-independent residence. There are basically three parts to this dissertation research:

- (1) A review of existing floor plans for these types of facilities.
- (2) An activities-of-daily-living questionnaire to be filled out voluntarily by residents who are female, 65 or older, have resided in their particular dwelling for at least three months, and who would be deemed able to participate in the study and, should they be selected to give responses to daily living preferences by viewing a scaled model.
- (3) Of those submitting their questionnaire, a random pool of 60 persons would be selected (and requested to volunteer) to participate in a focused interview that would review a 1"=1'-0" scale model. This model is testing potentially new concepts in senior housing and, therefore, uses a scale model as a simulation tool.

This research has been granted approval by the Human Subjects Committee here at The University of Tennessee, Knoxville verifying that the privacy and welfare of all those who participate will be respected and protected. It would be very much appreciated if your organization would be willing to assist in this endeavor. If so, these are the following areas requiring your assistance:

- (1) A copy of a typical resident's floor plan (to scale, if possible; if not to scale, then possibly with overall measurements) to be sent to the attention of Lennie Scott-Webber.
- (2) Qualifying the residents according to the above criteria, forwarding a list of the names, addresses, and phone numbers of the residents; or,
- (3) Notifying how many fit the criteria so that a packet of questionnaires could be forwarded to be distributed by your staff to the respective participants. (In either case, a return envelope would be supplied for the participants' convenience.)
- (4) A randomly selected group of participants would then be asked to participate in the scale model study. This study will use a focused interview method to ask for their opinions about the environment that they will be looking at in the model. The principal researcher would travel to your site in order to facilitate this part of the process.

This study will compile the information regarding the floor plans of existing facilities to see if typical layouts are being used. This "typical" would then become the base of the scale model study. The activities-of-daily-living scale along with the scale model will be studied to ascertain whether or not certain elderly may desire alternative environments.

We would certainly appreciate your organization's assistance in this matter. As a result of your assistance in this endeavor, we would be happy to share the results of this study.

Please send floor plans and information about how to proceed with the remaining portions of this study to: Lennie Scott-Webber (Mrs.) at the above address. Thank you in advance for your assistance.

Sincerely,

Lennie Scott-Webber (Mrs.), MS, IBD, ASID
Doctoral Candidate
Interior Design Program

Nancy C. Canestaro, D. Arch.
Associate Professor
Interior Design Program

THE UNIVERSITY OF TENNESSEE
KNOXVILLE



EXAMPLE: SENT TO CONGREGATE/ASSISTED LIVING FACILITIES
ADMINISTRATORS/SECOND NOTICE

Textiles, Retailing and Interior Design
Room 230, College of Human Ecology
1215 West Cumberland Avenue
Knoxville, Tennessee 37996-1900
(615) 974-2141
FAX (615) 974-2617

Address

Dear ,

About three weeks ago I wrote to you seeking your organizations assistance on the research involving the environments of seniors in assisted/congregate facilities. As of today we have not yet received information from your facility.

Our research unit has undertaken this study because of the belief that opinions of this population should be taken into account in the formation of policies for the planning and development of communities in which people requiring assistance will live in the future.

I am writing to you again because of the significance each facility has to the usefulness of this study. Your name was drawn through the East Tennessee's Area Agency on Aging's records. This means that only those facilities that house seniors in congregate/assisted facilities were asked to respond. In order for the results of this study to be truly representative of the opinions of all East Tennessee residents, fitting the above criteria, it is essential that each facility in the sample return the information required.

In the event that the request for your facilities participation was misplaced, a replacement indicating the procedure for involvement is enclosed.

Your cooperation is greatly appreciated.

Sincerely,

Lennie Scott-Webber (Mrs.) MS
Doctoral Candidate, Interiors

Nancy C. Canestaro, D. Arch
Associate Professor, Interiors

Parts to this research:

- (1) A review of existing floor plans for congregate/assisted living type of facilities.
- (2) An activities-of-daily-living questionnaire to be filled out voluntarily by residents who are female, 65 or older, have resided in their particular dwelling for at least three months, and who would be deemed able to participate in the study and, should they be selected to give responses to daily living preferences by viewing a scaled model.
- (3) Of those submitting their questionnaire, a random pool of 60 persons would be selected (and requested to volunteer) to participate in a focused interview that would review a 1"=1'-0" scale model. This model is testing potentially new concepts in senior housing and, therefore, uses a scale model as a simulation tool.

This research has been granted approval by the Human Subjects Committee here at The University of Tennessee, Knoxville verifying that the privacy and welfare of all those who participate will be respected and protected. It would be very much appreciated if your organization would be willing to assist in this endeavor. If so, these are the following areas requiring your assistance:

- (1) A copy of a typical resident's floor plan (to scale, if possible; if not to scale, then possibly with overall measurements) to be sent to the attention of Lennie Scott-Webber.
- (2) Qualifying the residents according to the above criteria, forwarding a list of the names, addresses, and phone numbers of the residents; or,
- (3) Notifying how many fit the criteria so that a packet of questionnaires could be forwarded to be distributed by your staff to the respective participants. (In either case, a return envelope would be supplied for the participants' convenience.)
- (4) A randomly selected group of participants would then be asked to participate in the scale model study. This study will use a focused interview method to ask for their opinions about the environment that they will be looking at in the model. The principal researcher would travel to your site in order to facilitate this part of the process.

This study will compile the information regarding the floor plans of existing facilities to see if typical layouts are being used. This "typical" would then become the base of the scale model study. The activities-of-daily-living scale along with the scale model will be studied to ascertain whether or not certain elderly may desire alternative environments.

We would certainly appreciate your organization's assistance in this matter. As a result of your assistance in this endeavor, we would be happy to share the results of this study.

Please send floor plans and information about how to proceed with the remaining portions of this study to: Lennie Scott-Webber (Mrs.) at the above address. Thank you in advance for your assistance.

Sincerely,

Lennie Scott-Webber (Mrs.), MS
Doctoral Candidate
Interior Design Program

Nancy C. Canestaro, D. Arch.
Associate Professor
Interior Design Program



March 12, 1994

Textiles, Retailing and Interior Design
Room 230, College of Human Ecology
1215 West Cumberland Avenue
Knoxville, Tennessee 37996-1900
(615) 974-2141
FAX (615) 974-2617

Dear

As I indicated to you in my telephone conversation, I am seeking your organizations assistance on the research involving the environments of seniors in assisted/congregate facilities. Enclosed you will find the information regarding this research study.

The population under study would be those females who are 65+ years of age, have resided in the assisted facility for at least three months and are cognate enough to fill out a question and perhaps work with this researcher on a scale model. Our research unit has undertaken this study because of the belief that opinions of this population should be taken into account in the formation of policies for the design and development of communities in which people requiring assistance will live in the future.

Your name was drawn through the East Tennessee's Area Agency on Aging's records. This means that only those facilities that house seniors in congregate/assisted facilities were asked to respond. In order for the results of this study to be truly representative of the opinions of all East Tennessee residents, fitting the above criteria, it is essential that each facility in the sample return the information required. An enclosed listing indicating the procedure for involvement is enclosed. Your cooperation is greatly appreciated.

Sincerely,

Lennie Scott-Webber (Mrs.) MS
Doctoral Candidate, Interiors

Nancy C. Canestaro, D. Arch
Associate Professor, Interiors
Parts to this research:

- (1) A review of existing floor plans for congregate/assisted living type of facilities.
- (2) An activities-of-daily-living questionnaire to be filled out voluntarily by residents who are female, 65 or older, have resided in their particular dwelling for at least three months, and who would be deemed able to participate in the study and, should they be selected to give responses to daily living preferences by viewing a scaled model.
- (3) Of those submitting their questionnaire, a random pool of 60 persons would be selected (and requested to volunteer) to participate in a focused interview that would review a 1"=1'-0" scale model. This model is testing potentially new concepts in senior housing and, therefore, uses a scale model as a simulation tool.

This research has been granted approval by the Human Subjects Committee here at The University of Tennessee, Knoxville verifying that the privacy and welfare of all those who participate will be respected and protected. It would be very much appreciated if your organization would be willing to assist in this endeavor. If so, these are the following areas requiring your assistance:

- (1) A copy of a typical resident's floor plan (to scale, if possible; if not to scale, then possibly with overall measurements) to be sent to the attention of Lennie Scott-Webber.
- (2) Qualifying the residents according to the above criteria, forwarding a list of the names, addresses, and phone numbers of the residents; or,
- (3) Notifying how many fit the criteria so that a packet of questionnaires could be forwarded to be distributed by your staff to the respective participants. (In either case, a return envelope would be supplied for the participants' convenience.)
- (4) A randomly selected group of participants would then be asked to participate in the scale model study. This study will use a focused interview method to ask for their opinions about the environment that they will be looking at in the model. The principal researcher would travel to your site in order to facilitate this part of the process.

This study will compile the information regarding the floor plans of existing facilities to see if typical layouts are being used. This "typical" would then become the base of the scale model study. The activities-of-daily-living scale along with the scale model will be studied to ascertain whether or not certain elderly may desire alternative environments.

We would certainly appreciate your organization's assistance in this matter. As a result of your assistance in this endeavor, we would be happy to share the results of this study.

Please send floor plans and information about how to proceed with the remaining portions of this study to: Lennie Scott-Webber (Mrs.) at the above address. Thank you in advance for your assistance.

THE UNIVERSITY OF TENNESSEE
KNOXVILLE



February 3, 1994

Textiles, Retailing and Interior Design
Room 230, College of Human Ecology
1215 West Cumberland Avenue
Knoxville, Tennessee 37996-1900
(615) 974-2141
FAX (615) 974-2617

Dear

We would like to thank you for your cooperation with respect to our research efforts regarding the micro-environments for the elderly. It is extremely important for the study to obtain a representative sample of participants. By having the cooperation of your organization, makes us closer to our goal.

We will be contacting you again in the near future. At that time we will be enclosing the first questionnaire regarding the activities of daily living analysis.

Again, thank you for your continued cooperation,

Sincerely,

Lennie Scott-Webber
Doctoral Candidate
Interior Design

Dr. Nancy Canestaro
Associate Professor
Interior Design

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

April 30, 1994

Textiles, Retailing and Interior Design
Room 230, College of Human Ecology
1215 West Cumberland Avenue
Knoxville, Tennessee 37906-1900
(615) 974-2141
FAX (615) 974-2617

Dear Ms. ,

On behalf of myself and my research associates, we would like to thank you and your staff for your cooperation with respect to our research efforts regarding the micro-environments for the elderly. It was extremely important for the study to obtain a representative sample of participants, and the cooperation of your organization allowed us to realize our goal. Our special thanks to the ladies who so generously gave of their time to assist us.

The results of this study need to meet the approval of this doctoral committee prior to any information becoming public, and the anticipation of that approval is August of 1994. This would facilitate the sharing of those results perhaps as early as Fall, 1994.

Again, thank you for your cooperation regarding these efforts,

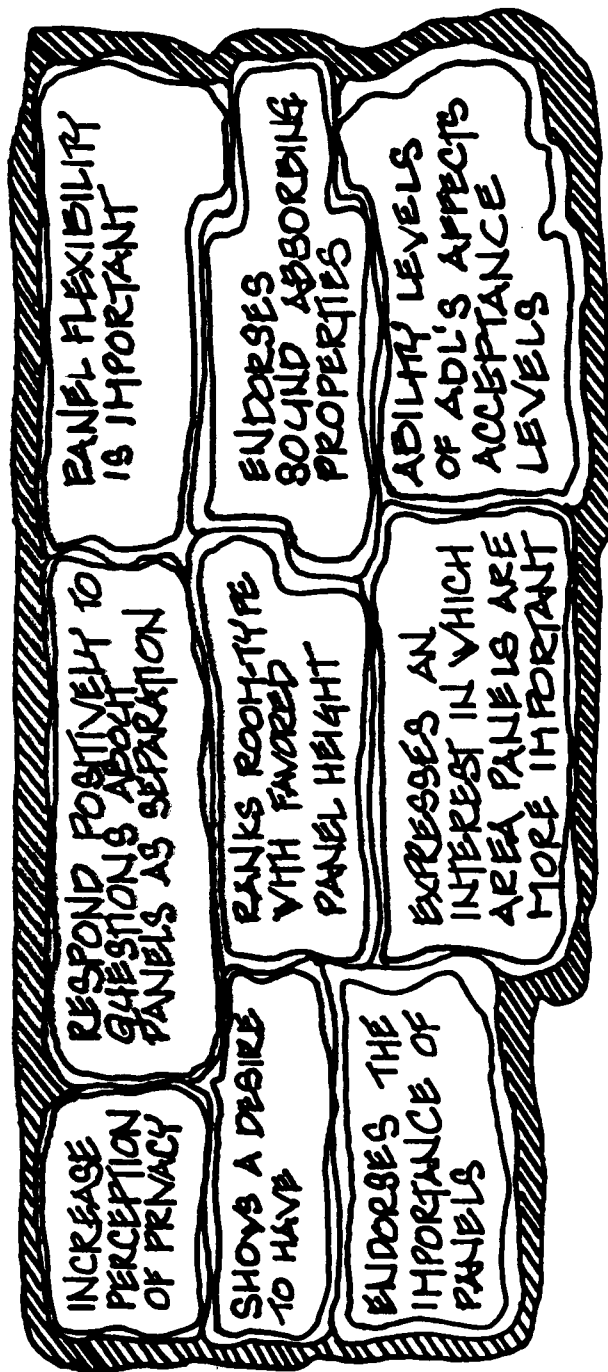
Sincerely,

Lennie Scott-Webber
Doctoral Candidate
Interior Design

Dr. Nancy Canestaro
Associate Professor
Interior Design

APPENDIX G

CONCEPT CHART FOR ORGANIZING THE CONSTRUCT FOR THE ROOM-SETTING SENSITIVITY SCALE



APPENDIX H
DEMOGRAPHIC CHARACTERISTICS OF ALL SUBJECTS

DESCRIPTION OF ALL PARTICIPANTS

Characteristics	Number N = 143	Percent	Valid Percent
Racial Origin			
White	118	82.50	83.70
African American	18	12.60	12.80
Spanish American	5	3.50	3.50
Missing	<u>2</u>	<u>1.40</u>	<u>Missing</u>
	143	100.00	100.00
Age of Participant			
65 - 74	21	16.10	14.80
75 - 84	58	40.60	41.00
85 - 96	60	42.00	42.50
Missing	<u>4</u>	<u>1.40</u>	<u>Missing</u>
	143	100.00	100.00
Marital Status			
Never Married	21	14.70	14.70
Married	13	9.10	9.10
Divorced	7	4.90	4.90
Separated	1	.70	.70
Widowed	<u>101</u>	<u>70.60</u>	<u>70.60</u>
	143	100.00	100.00
Employment Status			
Unemployed	4	2.80	3.20
Retired	108	75.50	87.10
Full-time Homemaker	12	8.40	9.70
Missing	<u>19</u>	<u>13.30</u>	<u>Missing</u>
	143	100.00	100.00
Religious Preference			
Protestant	117	81.80	84.20
Catholic	3	2.10	2.20
Other	18	12.50	12.90
Missing	<u>5</u>	<u>3.50</u>	<u>Missing</u>
	143	100.00	100.00

DESCRIPTION OF PARTICIPANTS (CONTINUED)

Characteristics	Number N = 143	Percent	Valid Percent
Family Net Income			
3,000 or less	10	7.00	11.60
3 - 4,999	9	6.30	10.50
5 - 6,999	15	10.50	17.40
7 - 9,999	9	6.30	10.50
10 - 12,999	14	9.80	16.30
13 - 15,999	10	7.00	11.60
16 - 19,999	3	2.10	3.50
20 - 24,999	7	4.90	8.10
25 - 29,999	1	.70	1.20
30+	8	5.60	9.30
Missing	<u>57</u>	<u>39.90</u>	<u>Missing</u>
	143	100.00	100.00
Education Level			
No formal Education	2	1.40	1.40
Some Grade School	15	10.50	10.70
Completed Grade School	14	9.80	10.00
Some High School	12	8.40	8.60
Completed High School	32	22.40	22.90
Some College	20	14.00	14.30
Completed College	27	18.90	19.30
Some Graduate Work	7	4.90	5.00
A Graduate Degree	11	7.70	7.90
Missing	<u>3</u>	<u>2.10</u>	<u>Missing</u>
	143	100.00	100.00

Note: Totals may not add to N due to missing values.

APPENDIX I

DEMOGRAPHIC CHARACTERISTICS OF ADL GROUPS

DESCRIPTION OF ALL PARTICIPANTS

Characteristics	Number N = 143	Percent	Valid Percent
Racial Origin			
White	118	82.50	83.70
African American	18	12.60	12.80
Spanish American	5	3.50	3.50
Missing	<u>2</u>	<u>1.40</u>	<u>Missing</u>
	143	100.00	100.00
Age of Participant			
65 - 74	21	16.10	14.80
75 - 84	58	40.60	41.00
85 - 96	60	42.00	42.50
Missing	<u>4</u>	<u>1.40</u>	<u>Missing</u>
	143	100.00	100.00
Marital Status			
Never Married	21	14.70	14.70
Married	13	9.10	9.10
Divorced	7	4.90	4.90
Separated	1	.70	.70
Widowed	<u>101</u>	<u>70.60</u>	<u>70.60</u>
	143	100.00	100.00
Employment Status			
Unemployed	4	2.80	3.20
Retired	108	75.50	87.10
Full-time Homemaker	12	8.40	9.70
Missing	<u>19</u>	<u>13.30</u>	<u>Missing</u>
	143	100.00	100.00

DESCRIPTION OF PARTICIPANTS (CONTINUED)

Characteristics	Number N = 143	Percent	Valid Percent
Family Net Income			
3,000 or less	10	7.00	11.60
3 - 4,999	9	6.30	10.50
5 - 6,999	15	10.50	17.40
7 - 9,999	9	6.30	10.50
10 - 12,999	14	9.80	16.30
13 - 15,999	10	7.00	11.60
16 - 19,999	3	2.10	3.50
20 - 24,999	7	4.90	8.10
25 - 29,999	1	.70	1.20
30+	8	5.60	9.30
Missing	<u>57</u>	<u>39.90</u>	<u>Missing</u>
	143	100.00	100.00
Education Level			
No formal Education	2	1.40	1.40
Some Grade School	15	10.50	10.70
Completed Grade School	14	9.80	10.00
Some High School	12	8.40	8.60
Completed High School	32	22.40	22.90
Some College	20	14.00	14.30
Completed College	27	18.90	19.30
Some Graduate Work	7	4.90	5.00
A Graduate Degree	11	7.70	7.90
Missing	<u>3</u>	<u>2.10</u>	<u>Missing</u>
	143	100.00	100.00

DESCRIPTION OF PARTICIPANTS (CONTINUED)

Characteristics	Number N = 143	Percent	Valid Percent
Religious Preference			
Protestant	117	81.80	84.20
Catholic	3	2.10	2.20
Other	18	12.50	12.90
Missing	<u>5</u>	<u>3.50</u>	<u>Missing</u>
	143	100.00	100.00

Note: Totals may not add to N due to missing values.

APPENDIX J

ROOM SETTING SENSITIVITY SCALE QUESTIONNAIRE

NO: _____

INTRODUCTION:

Purpose: This research will examine if there is a difference between what residents do in an assisted living facility and their enclosure needs.

Ways in which information may be used: For research at the University of Tennessee, Knoxville; in scientific journals; and to better understand the needs of this group of people.

What is expected of respondents: Your opinions are of great importance to this study. There are no right or wrong answers. All of this information will remain confidential.

EXPLANATION OF THE PROCESS:

Today we will show you a 1"=1'-0" scaled model of an assisted living environment. We would like to ask your opinion about a new type of construction system called panels. These panels are basically walls that are lower than full height. Some of these could be covered in a variety of finishes such as fabrics or wood. Some of these would also have sound absorbing properties. As we show this model to you, we will change panel heights in various areas. Each time we do this, we will ask you questions we want your opinions about.

EXAMPLE: 80" panel height in bed to bed situation

open _____/ _____/ _____/ _____/ _____/ _____/ closed
 (1) (2) (3) (4) (5) (6)

In this situation, we will pretend that you would be sharing a room with another female. The floor plan consists of an entry, a bathroom, a kitchenette, two beds in a bedroom, and a living space (SHOW THEM THE SPACES).

(INTERVIEWER TO CHECK RANDOM ASSIGNMENT FOR THIS PARTICIPANT PRIOR TO PROCEEDING.
MODEL PERSON TO BE PLACED IN THE ROOM AS UNDERLINED)

"PRETEND THAT THIS MODEL FIGURE IS YOU AND THIS ONE IS YOUR
ROOMMATE."

PANEL HEIGHT: 80"

There are several adjectives on this card. Would you use
these terms to describe how panels as a separation
would make you feel? Would you find the space....(REPEAT)

80a. ROOM: Bed to bed

noisy	___/___/___/___/___/___/	quiet
stuffy	___/___/___/___/___/___/	with fresh air
private	___/___/___/___/___/___/	public
moveable	___/___/___/___/___/___/	fastened
stale	___/___/___/___/___/___/	well vented
no smells	___/___/___/___/___/___/	smelly
fixed	___/___/___/___/___/___/	adjustable
protected	___/___/___/___/___/___/	exposed
disturbing	___/___/___/___/___/___/	restful
odorless	___/___/___/___/___/___/	odor

80 b. ROOM: Bed to sitting

noisy	___/___/___/___/___/___/	quiet
stuffy	___/___/___/___/___/___/	with fresh air
private	___/___/___/___/___/___/	public
moveable	___/___/___/___/___/___/	fastened
stale	___/___/___/___/___/___/	well vented
no smells	___/___/___/___/___/___/	smelly
fixed	___/___/___/___/___/___/	adjustable
protected	___/___/___/___/___/___/	exposed
disturbing	___/___/___/___/___/___/	restful
odorless	___/___/___/___/___/___/	odor

80c. ROOM: Sitting to kitchenette

noisy	___/___/___/___/___/___/	quiet
stuffy	___/___/___/___/___/___/	with fresh air
private	___/___/___/___/___/___/	public
moveable	___/___/___/___/___/___/	fastened
stale	___/___/___/___/___/___/	well vented
no smells	___/___/___/___/___/___/	smelly
fixed	___/___/___/___/___/___/	adjustable
protected	___/___/___/___/___/___/	exposed
disturbing	___/___/___/___/___/___/	restful
odorless	___/___/___/___/___/___/	odor

(CHANGE OUT PANEL HEIGHT)

PANEL HEIGHT: 72"

There are several adjectives on this card. Would you use these terms to describe how the panel as a separation would make you feel? Would you find the space...(REPEAT)

72a. ROOM: Bed to bed

noisy	☐	☐	☐	☐	☐	☐	quiet
stuffy	☐	☐	☐	☐	☐	☐	with fresh air
private	☐	☐	☐	☐	☐	☐	public
moveable	☐	☐	☐	☐	☐	☐	fastened
stale	☐	☐	☐	☐	☐	☐	well vented
no smells	☐	☐	☐	☐	☐	☐	smelly
fixed	☐	☐	☐	☐	☐	☐	adjustable
protected	☐	☐	☐	☐	☐	☐	exposed
disturbing	☐	☐	☐	☐	☐	☐	restful
odorless	☐	☐	☐	☐	☐	☐	odor

72b. ROOM: Bed to sitting

noisy	☐	☐	☐	☐	☐	☐	quiet
stuffy	☐	☐	☐	☐	☐	☐	with fresh air
private	☐	☐	☐	☐	☐	☐	public
moveable	☐	☐	☐	☐	☐	☐	fastened
stale	☐	☐	☐	☐	☐	☐	well vented
no smells	☐	☐	☐	☐	☐	☐	smelly
fixed	☐	☐	☐	☐	☐	☐	adjustable
protected	☐	☐	☐	☐	☐	☐	exposed
disturbing	☐	☐	☐	☐	☐	☐	restful
odorless	☐	☐	☐	☐	☐	☐	odor

72c. ROOM: Sitting to kitchenette

noisy	☐	☐	☐	☐	☐	☐	quiet
stuffy	☐	☐	☐	☐	☐	☐	with fresh air
private	☐	☐	☐	☐	☐	☐	public
moveable	☐	☐	☐	☐	☐	☐	fastened
stale	☐	☐	☐	☐	☐	☐	well vented
no smells	☐	☐	☐	☐	☐	☐	smelly
fixed	☐	☐	☐	☐	☐	☐	adjustable
protected	☐	☐	☐	☐	☐	☐	exposed
disturbing	☐	☐	☐	☐	☐	☐	restful
odorless	☐	☐	☐	☐	☐	☐	odor

(CHANGE OUT PANEL HEIGHT)

PANEL HEIGHT: 62"

There are several adjectives on this card. Would you use these terms to describe how a panel as a separation would make you feel? Would you find this space...(REPEAT)

62a. ROOM: Bed to bed

noisy	☐	☐	☐	☐	☐	☐	quiet
stuffy	☐	☐	☐	☐	☐	☐	with fresh air
private	☐	☐	☐	☐	☐	☐	public
moveable	☐	☐	☐	☐	☐	☐	fastened
stale	☐	☐	☐	☐	☐	☐	well vented
no smells	☐	☐	☐	☐	☐	☐	smelly
fixed	☐	☐	☐	☐	☐	☐	adjustable
protected	☐	☐	☐	☐	☐	☐	exposed
disturbing	☐	☐	☐	☐	☐	☐	restful
odorless	☐	☐	☐	☐	☐	☐	odor

62b. ROOM: Bed to sitting

noisy	☐	☐	☐	☐	☐	☐	quiet
stuffy	☐	☐	☐	☐	☐	☐	with fresh air
private	☐	☐	☐	☐	☐	☐	public
moveable	☐	☐	☐	☐	☐	☐	fastened
stale	☐	☐	☐	☐	☐	☐	well vented
no smells	☐	☐	☐	☐	☐	☐	smelly
fixed	☐	☐	☐	☐	☐	☐	adjustable
protected	☐	☐	☐	☐	☐	☐	exposed
disturbing	☐	☐	☐	☐	☐	☐	restful
odorless	☐	☐	☐	☐	☐	☐	odor

62c. ROOM: Sitting to kitchenette

noisy	☐	☐	☐	☐	☐	☐	quiet
stuffy	☐	☐	☐	☐	☐	☐	with fresh air
private	☐	☐	☐	☐	☐	☐	public
moveable	☐	☐	☐	☐	☐	☐	fastened
stale	☐	☐	☐	☐	☐	☐	well vented
no smells	☐	☐	☐	☐	☐	☐	smelly
fixed	☐	☐	☐	☐	☐	☐	adjustable
protected	☐	☐	☐	☐	☐	☐	exposed
disturbing	☐	☐	☐	☐	☐	☐	restful
odorless	☐	☐	☐	☐	☐	☐	odor

1. In which area would it be important to have the 80" panel? (RANK ORDER 1, 2, 3; 1 = BEING THE MOST IMPORTANT AND 3 = BEING THE LEAST IMPORTANT)

___ BED TO BED
 ___ BED TO SITTING
 ___ SITTING TO KITCHENETTE

WHY? _____

2. In which area would it be important to have the 72" panel? (RANK ORDER 1, 2, 3; 1 = BEING THE MOST IMPORTANT AND 3 = BEING THE LEAST IMPORTANT)

___ BED TO BED
 ___ BED TO SITTING
 ___ SITTING TO KITCHENETTE

WHY? _____

3. In which area would it be important to have the 62" panel? (RANK ORDER 1, 2, 3; 1 = BEING THE MOST IMPORTANT AND 3 = BEING THE LEAST IMPORTANT)

___ BED TO BED
 ___ BED TO SITTING
 ___ SITTING TO KITCHENETTE

WHY? _____

4. At this stage in your life, is this a type of space in which you would like to live?

1 YES
 2 NO
 3 UNDECIDED

=====

WE ARE GOING TO PROVIDE DEFINITIONS FOR EACH OF THESE TERMS. IN GENERAL, COULD YOU TELL US WHAT YOUR OPINION IS OF THESE FEATURES?

5a. Visual privacy = away from public view, secluded.

5b. In general would you find that feature something that you would....

LIKE EXTREMELY	LIKE VERY MUCH	LIKE SOMEWHAT	DISLIKE SOMEWHAT	DISLIKE VERY MUCH	DISLIKE EXTREMELY
1	2	3	4	5	6

5c. In general would that feature be ...

EXTREMELY IMPORTANT	VERY IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT	EXTREMELY UNIMPORTANT
1	2	3	4	5	6

6a. Audio privacy = reduction of noise from other people and other distractions.

6b. In general would you find that feature something that you would....

LIKE	LIKE VERY	LIKE	DISLIKE	DISLIKE	DISLIKE
EXTREMELY	MUCH	SOMEWHAT	SOMEWHAT	VERY MUCH	EXTREMELY
1	2	3	4	5	6

6c. In general would that feature be ...

EXTREMELY	VERY	SOMEWHAT	SOMEWHAT	VERY	EXTREMELY
IMPORTANT	IMPORTANT	IMPORTANT	UNIMPORTANT	UNIMPORTANT	UNIMPORTANT
1	2	3	4	5	6

7a. Flexibility = the ability to relocate the panel anywhere within the space and/or rotate the panel in its position.

7b. In general would you find that feature something that you would....

LIKE	LIKE VERY	LIKE	DISLIKE	DISLIKE	DISLIKE
EXTREMELY	MUCH	SOMEWHAT	SOMEWHAT	VERY MUCH	EXTREMELY
1	2	3	4	5	6

7c. In general would that feature be ...

EXTREMELY	VERY	SOMEWHAT	SOMEWHAT	VERY	EXTREMELY
IMPORTANT	IMPORTANT	IMPORTANT	UNIMPORTANT	UNIMPORTANT	UNIMPORTANT
1	2	3	4	5	6

8a. Separation = to cause to part, to divide.

8b. In general would you find that feature something that you would...

LIKE	LIKE VERY	LIKE	DISLIKE	DISLIKE	DISLIKE
EXTREMELY	MUCH	SOMEWHAT	SOMEWHAT	VERY MUCH	EXTREMELY
1	2	3	4	5	6

8c. In general would that feature be...

EXTREMELY	VERY	SOMEWHAT	SOMEWHAT	VERY	EXTREMELY
IMPORTANT	IMPORTANT	IMPORTANT	UNIMPORTANT	UNIMPORTANT	UNIMPORTANT
1	2	3	4	5	6

9a. Odorless = not having any odors or heavy smells.

9b. In general would you find that feature something that you would...

LIKE	LIKE VERY	LIKE	DISLIKE	DISLIKE	DISLIKE
EXTREMELY	MUCH	SOMEWHAT	SOMEWHAT	VERY MUCH	EXTREMELY
1	2	3	4	5	6

9c. In general would that feature be...

EXTREMELY IMPORTANT	VERY IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT	EXTREMELY UNIMPORTANT
1	2	3	4	5	6

10a. Well vented air = air that has the ability to circulate.

10b. In general would you find that feature something that you would...

LIKE EXTREMELY	LIKE VERY MUCH	LIKE SOMEWHAT	DISLIKE SOMEWHAT	DISLIKE VERY MUCH	DISLIKE EXTREMELY
1	2	3	4	5	6

10c. In general would that feature be...

EXTREMELY IMPORTANT	VERY IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT	EXTREMELY UNIMPORTANT
1	2	3	4	5	6

=====

(HOLD UP A PANEL AS YOU ASK THESE QUESTIONS)

11a In general would having a panel as a means of separation be better than or worse than a hospital curtain? (CIRCLE ONE)

1 BETTER THAN 2 WORSE THAN

11b In general would having a panel as a means of separation be better than or worse than leaving the space open? (CIRCLE ONE)

1 BETTER THAN 2 WORSE THAN

11c In general would having a panel as a means of separation be better than or worse than a normal wall? (CIRCLE ONE)

1 BETTER THAN 2 WORSE THAN

=====

(IN ORDER TO UNDERSTAND BETTER HOW PEOPLE WHO ARE LIVING IN ASSISTED CARE HOUSING FEEL AT THIS STAGE IN THEIR LIVES, WE WOULD LIKE TO ASK YOU A FEW PERSONAL QUESTIONS.)

12. I feel that I am a person of worth, at least on an equal basis with others.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

13. I wish I could have more respect for myself.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

14. I feel I have a number of good qualities.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

15. I certainly feel useless at times. At times I think I am no good at all.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

16. I am able to do things as well as most people.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

17. All in all, I am inclined to think I'm a failure.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

18. I feel I do not have much to be proud of.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

19. I take a positive attitude toward myself.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

20. On the whole, I am satisfied with myself.

ALMOST ALWAYS	OFTEN	AT TIMES	SELDOM	NEVER
1	2	3	4	5

21. Is there anything that you would like to add to this interview? _____

APPENDIX K
DESIGN OF ANALYSIS

REPEATED FACTORS

ACTIVITIES OF DAILY LIVING LEVELS			
HIGH	HEIGHT	PANEL HEIGHT=62"	PANEL HEIGHT=72"
		SEPARATION	SEPARATION
		BED/BED BED/SITTING SITTING/KITCHEN	BED/BED BED/SITTING SITTING/KITCHEN
MEDIUM	HEIGHT	SEPARATION	SEPARATION
		BED/BED BED/SITTING SITTING/KITCHEN	BED/BED BED/SITTING SITTING/KITCHEN
		SEPARATION	SEPARATION
LOW	HEIGHT	SEPARATION	SEPARATION
		BED/BED BED/SITTING SITTING/KITCHEN	BED/BED BED/SITTING SITTING/KITCHEN
		SEPARATION	SEPARATION

APPENDIX L

**MATRICES OF CORRELATION COEFFICIENTS FOR ROOM SETTING
SENSITIVITY SCALE ITEMS**

MATRIX OF CORRELATION COEFFICIENTS FOR ROOM SETTING SENSITIVITY SCALE ITEMS

ENVIRONMENTAL FACTORS	PANEL HEIGHTS	ROOM SETTING: BED TO SITTING									
		Noisy/		Private/		Moveable/		Stale/		No smells/	
		Quiet	Stuffy/ Fresh air	Public	Fastened	Well vented	Smelly	Fixed/ Adjustable	Exposed	Restfull	Odorless/ Odor
Noisy/Quiet	8	1									
	7	1									
	6	1									
Stuffy/Fresh air	8	-0.01	1								
	7	.36*	1								
	6	-0.12	1								
Private/Public	8	0.21	-0.11	1							
	7	.42*	.27*	1							
	6	.53*	0.04	1							
Moveable/Fastened	8	-0.01	-0.11	.40*	1						
	7	-0.01	0.16	-0.04	1						
	6	-0.14	0.15	0.11	1						
Stale/Well vented	8	0.01	.76*	-0.22	-0.23	1					
	7	-0.02	.64*	0.04	0.08	1					
	6	-.33*	.45*	-0.21	-0.08	1					
No smells/Smelly	8	0.08	.45*	-0.15	-0.24	.46*	1				
	7	0.22	.30*	0.15	-0.13	.31*	1				
	6	0.33	0.03	.51*	-0.16	-0.16	1				
Fixed/Adjustable	8	0.09	-0.07	0.25	.61*	-0.2	1				
	7	0.24	.26*	0.07	.71*	0.15	1				
	6	0.03	0.14	0.06	.80*	-0.03	1				
Protected/Exposed	8	.41*	0	.53*	0.23	-0.11	0.05	0.25	1		
	7	.45*	.32*	.51*	-0.02	-0.01	0.18	0.16	1		
	6	.53*	0.03	.73*	0.06	-0.16	.62*	0.09	1		
Disturbing/Restfull	8	.46*	0.09	.27*	0.11	0.02	0.32*	0.05	.5857*	1	
	7	.34*	.31*	.50*	0.11	-0.02	.33*	0.24	0.67*	1	
	6	.45*	0.01	.60*	-0.09	-0.2	.52*	-0.1	.60*	1	
Odorless/Odor	8	.27*	0.2	-0.02	0.01	0.14	.45*	-0.11	.26*	.42*	1
	7	0.21	0.22	0.23	-0.09	0.17	.70*	-0.03	.41*	.30*	1
	6	.38*	-0.08	.40*	-0.02	-0.18	.57*	0.02	.55*	.43*	1

* Significant at 0.05 level (Like dimensions in bold type)

MATRIX OF CORRELATION COEFFICIENTS FOR ROOM SETTING SENSITIVITY SCALE ITEMS

ENVIRONMENTAL FACTORS	PANEL HEIGHTS	ROOM SETTING: SITTING TO KITCHENETTE									
		Noisy/	Stuffy/	Private/	Moveable/	Well vented	No smells/	Fixed/	Protected/	Disturbing/	Odorless/
		Quiet	Fresh air	Public	Fastened	Stale/	Smelly	Adjustable	Exposed	Restfull	Odor
Noisy/Quiet	8	1									
	7	1									
	6	1									
Stuffy/Fresh air	8	0.06	1								
	7	.28*	1								
	6	-.33*	1								
Private/Public	8	0.19	0.05	1							
	7	.46*	0.17	1							
	6	.54*	0.05	1							
Moveable/Fastened	8	0.05	0.1	.46*	1						
	7	0.06	0.23	0.15	1						
	6	-0.09	0.22	0.13	1						
Stale/Well vented	8	0.07	.73*	0.11	0.07	1					
	7	0	.61*	-0.04	0.25	1					
	6	-.30*	.65*	0	0.09	1					
No smells/Smelly	8	0.17	.43*	0.14	0.1	.40*	1				
	7	.27*	.46*	0.24	-0.08	.31*	1				
	6	.55*	0.01	.52*	0.1	0.02	1				
Fixed/Adjustable	8	-0.04	0.17	.31*	.45*	0.17	-0.02	1			
	7	0.19	0.17	.26*	.74*	.28*	0.09	1			
	6	-0.09	0.22	0.02	.74*	0.1	0.12	1			
Protected/Exposed	8	.33*	0.1	.52*	0.2	0.2	.28*	0.1	1		
	7	.34*	0.22	.52*	0.03	0.04	0.16	0.11	1		
	6	.46*	0.03	.81*	0.12	-0.07	.51*	0.11	1		
Disturbing/Restfull	8	0.24	.26*	.32*	0.1	.31*	.55*	0.18	.46*	1	
	7	.33*	0.21	.70*	0.03	-0.03	.43*	0.02	.41*	1	
	6	.40*	-0.06	.46*	0.02	-.26*	.50*	-0.11	.47*	1	
Odorless/Odor	8	0	.30*	0.24	0.19	.28*	.57*	.28*	0.12	.46*	1
	7	0.09	.31*	0.25	0.09	.29*	.71*	-0.01	0.02	.34*	1
	6	.36*	-0.08	0.31*	0.1	-0.12	.64	0.09	.41*	.47*	1

* Significance at 0.05 level (Like dimensions in bold type)

MATRIX OF CORRELATION COEFFICIENTS FOR ROOM SETTING SENSITIVITY SCALE ITEMS

ENVIRONMENTAL FACTORS	PANEL HEIGHTS	ROOM SETTING: BED TO BED									
		Noisy/ Stuff/ Quiet					Private/ Moveable/ Fastened				
		8	7	6	8	7	8	7	6	8	7
Noisy/ Quiet	8	1									
	7	1									
	6	1									
Stuffy/ Fresh air	8	0.01	1								
	7	0.17	1								
	6	-0.23	1								
Private/ Public	8	0.13	-0.09	1							
	7	.46*	0.24	1							
	6	.52*	-0.01	1							
Moveable/ Fastened	8	-0.09	0.04	.36*	1						
	7	0.08	0.21	0.21	1						
	6	-0.18	0.08	-0.02	1						
Stale/ Well vented	8	0.1	.66*	0.08	0.16	1					
	7	-0.06	.54*	-0.02	0.13	1					
	6	-.36*	.64*	-0.2	-0.03	1					
No smells/ Smelly	8	.37*	0.24	-0.22	-0.08	.29*	1				
	7	0.17	.39*	0.07	-0.11	.38*	1				
	6	0.41	0	.41*	-0.16	0.06	1				
Fixed/ Adjustable	8	-0.13	0.14	0.05	.47*	0.18	-0.12	1			
	7	0.27	0.16	0.1	.50*	-0.09	-0.02	1			
	6	-0.1	0.06	0	.78*	-0.09	-0.13	1			
Protected/ Exposed	8	0.23	0.01	.47*	0.18	0.2	-0.02	.28*	1		
	7	0.22	.27*	.58*	0.11	0.07	.27*	0.07	1		
	6	.61*	0.11	.7*	-0.04	-0.05	.56*	-0.04	1		
Disturbing/ Restfull	8	.52*	0.09	0.27	0.1	0.25	.42*	-0.02	.56*	1	
	7	.56*	.31*	.47*	0.04	-0.09	0.25	0.11	.48*	1	
	6	.38*	0.06	.41*	-0.01	-0.18	.27*	-0.08	.57*	1	
Odorless/ Odor	8	0.05	0.11	0.03	0.12	0.12	.50*	0.03	.32*	.45*	1
	7	0.2	.37*	0.13	0.13	0.1	.63*	-0.04	.32*	.42*	1
	6	.28*	-0.01	.42*	-0.03	-0.02	.51*	0.09	.45*	.32*	1

* Significant at 0.05 level (Like dimensions in bold type)

APPENDIX M
SELF-ESTEEM ANOVA RESULTS

SELF-ESTEEM ANOVA RESULTS

ADLGROUP			
	LOW n=20	MEDIUM n=20	HIGH n=20
Mean	3.96	4.00	4.27
(SD)	(0.54)	(0.57)	(0.43)

Note: Low = Activity of daily living/skill level
Medium = Activity of daily living/skill level
High = Activity of daily living/skill level

APPENDIX N

INDICATION OF PANELLED ENCLOSURE PREFERENCES BY PARTICIPANTS

INDICATION OF PANELLED ENCLOSURE PREFERENCES BY PARTICIPANTS

SOURCE	RESPONSE	FREQUENCY	PERCENT	VALID PERCENT
Panel vs. cubicle curtain	Better than	55	91.71	93.21
	Worse than	4	6.71	6.81
	Missing	1	1.71	Missing
Panel vs. open space	Better than	57	95.11	98.31
	Worse than	1	1.71	1.71
	Missing	2	3.31	Missing
Panel vs. normal wall	Better than	41	68.31	70.71
	Worse than	17	28.31	29.31
	Missing	2	3.31	Missing

NOTE: N = 60

APPENDIX O

ASSISTANCE REQUIRED IN ACTIVITIES OF DAILY LIVING TASKS

ASSISTANCE REQUIRED IN ACTIVITIES OF DAILY LIVING TASKS

		ADL GROUP LEVELS		
		Low n=20	Medium n=20	High n=20
TYPE OF ASSISTANCE				
TOTP	MEAN (SD)	17.10 (11.23)	7.05 (5.86)	1.15 (2.18)
TOTE	MEAN (SD)	5.70 (4.83)	3.55 (4.41)	1.20 (3.11)
TOTPE	MEAN (SD)	22.80 (11.14)	10.60 (6.26)	2.35 (3.72)

Note: TOTP = Total participant population requiring personal assistance;
TOTE = Total participant population requiring equipment assistance;
TOTPE = TOTP + TOTE

APPENDIX P

**INTERNAL CONSISTENCY BETWEEN ROOM SETTING SENSITIVITY SCALE
ITEMS AND SCALE MEANS**

INTERNAL CONSISTENCY BETWEEN ROOM SETTING SENSITIVITY SCALE ITEMS AND SCALE MEANS

PANEL HEIGHTS		ROOM SETTING: BED TO BED											
ENVIRONMENTAL FACTORS		Noisy-	Stuffy-	Private-	Moveable-	Stale-	No smells-	Fixed-	Protected-	Disturbing-	Odorless-		
		Quiet	Fresh air	Public	Fastened	Well vented	Smelly	Adjustable	Exposed	Restfull	Odor		
Scale mean	8	.38*	.49*	.39*	.54*	.63*	.43*	.47*	.56*	.62*	.47*		
	7	.57*	.67*	.58*	.42*	.36*	.55*	.45*	.61*	.63*	.52*		
	6	.51*	.28*	.66*	.31*	.08	.60*	.35*	.80*	.58*	.63*		
		ROOM SETTING: BED TO SITTING											
Scale mean	8	.51*	.45*	.45*	.46*	.33*	.38*	.42*	.65*	.64*	.50*		
	7	.58*	.66*	.52*	.42*	.38*	.53*	.60*	.63*	.67*	.53*		
	6	.54*	.28*	.75*	.36*	-.04	.62*	.41*	.81*	.65*	.63*		
		ROOM SETTING: SITTING TO KITCHENETTE											
Scale mean	8	.35*	.60*	.60*	.53*	.60*	.62*	.51*	.54*	.66*	.60*		
	7	.53*	.67*	.63*	.46*	.50*	.63*	.56*	.47*	.58*	.51*		
	6	.50*	.30*	.72*	.47*	.19	.75*	.42*	.73*	.56*	.62*		

* = Significance at 0.05 level

NOTE: Analysis used correlation coefficients

APPENDIX Q

INTERNAL CONSISTENCY BETWEEN LIKE ITEMS MEASURING SIMILAR DIMENSIONS

**INTERNAL CONSISTENCY BETWEEN LIKE ITEMS
MEASURING SIMILAR DIMENSIONS**

		ROOM SETTING: BED TO BED		
		PANEL HEIGHTS		
		80"	72"	62"
ITEM				
Noisy/Quiet/Disturbing/Restful		.52*	.56*	.38*
Private/Public/Protected/Exposed		.47*	.58*	.71*
Moveable/Fastened/Fixed/Adjustable		.47*	.50*	.78*
Stale/Well vented/Stuffy/Fresh air		.66*	.54*	.64*
No smells/Smelly/Odorless/Odor		.50*	.63*	.51*
		ROOM SETTING: BEDROOM TO SITTING		
		PANEL HEIGHTS		
		80"	72"	62"
ITEM				
Noisy/Quiet/Disturbing/Restful		.46*	.34*	.45*
Private/Public/Protected/Exposed		.53*	.51*	.73*
Moveable/Fastened/Fixed/Adjustable		.61*	.71*	.80*
Stale/Well vented/Stuffy/Fresh air		.76*	.64*	.45*
No smells/Smelly/Odorless/Odor		.45*	.70*	.57*
		ROOM SETTING: SITTING TO KITCHENETTE		
		PANEL HEIGHTS		
		80"	72"	62"
ITEM				
Noisy/Quiet/Disturbing/Restful		.24	.33*	.40*
Private/Public/Protected/Exposed		.52*	.52*	.81*
Moveable/Fastened/Fixed/Adjustable		.45*	.74*	.74*
Stale/Well vented/Stuffy/Fresh air		.73*	.61*	.65*
No smells/Smelly/Odorless/Odor		.57*	.71*	.64

* Significant at 0.05 level

NOTE: Analysis used correlation coefficients

APPENDIX R

FACTORS INDICATING RELIABILITY FOR ROOM SETTING SENSITIVITY SCALE

**FACTORS INDICATING RELIABILITY
FOR ROOM SETTING SENSITIVITY SCALE**

	PANEL HEIGHTS		
	80"	72"	62"
ROOM SETTINGS			
Bed to Bed	0.65	0.72	0.64
Bedroom to Sitting	0.58	0.73	0.69
Sitting to Kitchenette	0.77	0.76	0.71

APPENDIX S

DATA FROM ROOM SETTING SENSITIVITY SCALE QUESTIONNAIRE

80" question 1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	5	8.3	8.3	11.7
	3	7	11.7	11.7	23.3
	4	4	6.7	6.7	30.0
	5	20	33.3	33.3	63.3
	6	22	36.7	36.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	9	15.0	15.0	20.0
	3	7	11.7	11.7	31.7
	4	10	16.7	16.7	48.3
	5	13	21.7	21.7	70.0
	6	18	30.0	30.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	6	10.0	10.0	10.0
	4	9	15.0	15.0	25.0
	5	13	21.7	21.7	46.7
	6	32	53.3	53.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	16.7	16.7	16.7
	2	9	15.0	15.0	31.7
	4	9	15.0	15.0	46.7
	5	11	18.3	18.3	65.0
	6	21	35.0	35.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 5

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.1	5.1
	2	7	11.7	11.9	16.9
	3	4	6.7	6.8	23.7
	4	9	15.0	15.3	39.0
	5	18	30.0	30.5	69.5
	6	18	30.0	30.5	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	

Valid cases 59 Missing cases 1

80" question 6

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.4	3.4
	2	10	16.7	16.9	20.3
	4	26	43.3	44.1	64.4
	5	13	21.7	22.0	86.4
	6	8	13.3	13.6	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	

Valid cases 59 Missing cases 1

80" question 7

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	8	13.3	13.6	13.6
	2	5	8.3	8.5	22.0
	3	5	8.3	8.5	30.5
	4	4	6.7	6.8	37.3
	5	12	20.0	20.3	57.6
	6	25	41.7	42.4	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	

Valid cases 59 Missing cases 1

80" question 8

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	1	1.7	1.7	1.7
	4	7	11.7	11.7	13.3
	5	18	30.0	30.0	43.3
	6	34	56.7	56.7	100.0
	Total	60	100.0	100.0	

Valid cases 60 Missing cases 0

80" question 9

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	2	3.3	3.3	3.3
	3	4	6.7	6.7	10.0
	4	7	11.7	11.7	21.7
	5	32	53.3	53.3	75.0
	6	15	25.0	25.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 10

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	6	10.0	10.0	10.0
	4	25	41.7	41.7	51.7
	5	17	28.3	28.3	80.0
	6	12	20.0	20.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 11

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	10	16.7	16.7	20.0
	3	9	15.0	15.0	35.0
	4	3	5.0	5.0	40.0
	5	17	28.3	28.3	68.3
	6	19	31.7	31.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 12

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	8	13.3	13.3	18.3
	3	3	5.0	5.0	23.3
	4	9	15.0	15.0	38.3
	5	19	31.7	31.7	70.0
	6	18	30.0	30.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 13

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	4	6.7	6.7	8.3
	4	7	11.7	11.7	20.0
	5	14	23.3	23.3	43.3
	6	34	56.7	56.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 14

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	16.7	16.7	16.7
	2	9	15.0	15.0	31.7
	4	8	13.3	13.3	45.0
	5	12	20.0	20.0	65.0
	6	21	35.0	35.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 15

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.4	3.4
	2	4	6.7	6.8	10.2
	3	5	8.3	8.5	18.6
	4	9	15.0	15.3	33.9
	5	17	28.3	28.8	62.7
	6	22	36.7	37.3	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

80" question 16

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.1	5.1
	2	9	15.0	15.3	20.3
	4	22	36.7	37.3	57.6
	5	18	30.0	30.5	88.1
	6	7	11.7	11.9	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

80" question 17

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.3	10.3
	2	8	13.3	13.8	24.1
	3	5	8.3	8.6	32.8
	4	5	8.3	8.6	41.4
	5	12	20.0	20.7	62.1
	6	22	36.7	37.9	100.0
	.	2	3.3	Missing	
	Total	60	100.0	100.0	
Valid cases	58	Missing cases	2		

80" question 18

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.4	3.4
	2	1	1.7	1.7	5.1
	4	6	10.0	10.2	15.3
	5	19	31.7	32.2	47.5
	6	31	51.7	52.5	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

80" question 19

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	5	8.3	8.3	8.3
	3	4	6.7	6.7	15.0
	4	8	13.3	13.3	28.3
	5	29	48.3	48.3	76.7
	6	14	23.3	23.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 20

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.4	3.4
	2	3	5.0	5.1	8.5
	4	25	41.7	42.4	50.8
	5	17	28.3	28.8	79.7
	6	12	20.0	20.3	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

80" question 21

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	11	18.3	18.3	18.3
	3	10	16.7	16.7	35.0
	4	6	10.0	10.0	45.0
	5	20	33.3	33.3	78.3
	6	13	21.7	21.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 22

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.0	10.0
	2	8	13.3	13.3	23.3
	3	11	18.3	18.3	41.7
	4	8	13.3	13.3	55.0
	5	13	21.7	21.7	76.7
	6	14	23.3	23.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 23

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	4	6.7	6.7	10.0
	4	9	15.0	15.0	25.0
	5	14	23.3	23.3	48.3
	6	31	51.7	51.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 24

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	8	13.3	13.3	13.3
	2	9	15.0	15.0	28.3
	4	9	15.0	15.0	43.3
	5	10	16.7	16.7	60.0
	6	24	40.0	40.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 25

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	6.7	6.8	6.8
	2	6	10.0	10.2	16.9
	3	7	11.7	11.9	28.8
	4	11	18.3	18.6	47.5
	5	12	20.0	20.3	67.8
	6	19	31.7	32.2	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

80" question 26

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	16.7	17.5	17.5
	2	11	18.3	19.3	36.8
	4	23	38.3	40.4	77.2
	5	11	18.3	19.3	96.5
	6	2	3.3	3.5	100.0
	.	3	5.0	Missing	
	Total	60	100.0	100.0	
Valid cases	57	Missing cases	3		

80" question 27

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.5	10.5
	2	7	11.7	12.3	22.8
	3	5	8.3	8.8	31.6
	4	4	6.7	7.0	38.6
	5	11	18.3	19.3	57.9
	6	24	40.0	42.1	100.0
	.	3	5.0	Missing	
	Total	60	100.0	100.0	
Valid cases	57	Missing cases	3		

80" question 28

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	3	5.0	5.0	5.0
	4	8	13.3	13.3	18.3
	5	13	21.7	21.7	40.0
	6	36	60.0	60.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" question 29

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	6	10.0	10.0	13.3
	3	3	5.0	5.0	18.3
	4	6	10.0	10.0	28.3
	5	26	43.3	43.3	71.7
	6	17	28.3	28.3	100.0
	Total	60	100.0	100.0	

Valid cases 60 Missing cases 0

80" question 30

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	8.3	8.5	8.5
	2	5	8.3	8.5	16.9
	4	31	51.7	52.5	69.5
	5	13	21.7	22.0	91.5
	6	5	8.3	8.5	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	

Valid cases 59 Missing cases 1

72" question 1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	8	13.3	13.3	18.3
	3	7	11.7	11.7	30.0
	4	9	15.0	15.0	45.0
	5	25	41.7	41.7	86.7
	6	8	13.3	13.3	100.0
	Total	60	100.0	100.0	

Valid cases 60 Missing cases 0

72" question 2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	6	10.0	10.0	10.0
	3	2	3.3	3.3	13.3
	4	10	16.7	16.7	30.0
	5	19	31.7	31.7	61.7
	6	23	38.3	38.3	100.0
	Total	60	100.0	100.0	

Valid cases 60 Missing cases 0

72" question 3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	5	8.3	8.3	11.7
	4	16	26.7	26.7	38.3
	5	27	45.0	45.0	83.3
	6	10	16.7	16.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.2	10.2
	2	6	10.0	10.2	20.3
	4	14	23.3	23.7	44.1
	5	9	15.0	15.3	59.3
	6	24	40.0	40.7	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

72" question 5

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.4	3.4
	2	4	6.7	6.8	10.2
	4	8	13.3	13.6	23.7
	5	19	31.7	32.2	55.9
	6	26	43.3	44.1	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

72" question 6

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.0	10.0
	2	13	21.7	21.7	31.7
	4	20	33.3	33.3	65.0
	5	16	26.7	26.7	91.7
	6	5	8.3	8.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 7

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	6.7	6.7	6.7
	2	8	13.3	13.3	20.0
	3	7	11.7	11.7	31.7
	4	3	5.0	5.0	36.7
	5	16	26.7	26.7	63.3
	6	22	36.7	36.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 8

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	6	10.0	10.0	13.3
	4	14	23.3	23.3	36.7
	5	26	43.3	43.3	80.0
	6	12	20.0	20.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 9

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.4	3.4
	2	2	3.3	3.4	6.8
	3	7	11.7	11.9	18.6
	4	8	13.3	13.6	32.2
	5	30	50.0	50.8	83.1
	6	10	16.7	16.9	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

72" question 10

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	12	20.0	20.3	22.0
	4	22	36.7	37.3	59.3
	5	19	31.7	32.2	91.5
	6	5	8.3	8.5	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

72" question 11

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	9	15.0	15.0	20.0
	3	7	11.7	11.7	31.7
	4	6	10.0	10.0	41.7
	5	26	43.3	43.3	85.0
	6	9	15.0	15.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 12

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	5	8.3	8.3	8.3
	3	2	3.3	3.3	11.7
	4	6	10.0	10.0	21.7
	5	25	41.7	41.7	63.3
	6	22	36.7	36.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 13

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	3	5.0	5.0	6.7
	4	14	23.3	23.3	30.0
	5	28	46.7	46.7	76.7
	6	14	23.3	23.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 14

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	9	15.0	15.3	15.3
	2	4	6.7	6.8	22.0
	4	11	18.3	18.6	40.7
	5	11	18.3	18.6	59.3
	6	24	40.0	40.7	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

72" question 15

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	4	6.7	6.9	6.9
	4	7	11.7	12.1	19.0
	5	27	45.0	46.6	65.5
	6	20	33.3	34.5	100.0
	.	2	3.3	Missing	
	Total	60	100.0	100.0	
Valid cases	58	Missing cases	2		

72" question 16

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	11.7	11.7	11.7
	2	9	15.0	15.0	26.7
	4	22	36.7	36.7	63.3
	5	18	30.0	30.0	93.3
	6	4	6.7	6.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 17

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.0	10.0
	2	9	15.0	15.0	25.0
	3	4	6.7	6.7	31.7
	4	5	8.3	8.3	40.0
	5	16	26.7	26.7	66.7
	6	20	33.3	33.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 18

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	4	6.7	6.7	10.0
	4	16	26.7	26.7	36.7
	5	29	48.3	48.3	85.0
	6	9	15.0	15.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 19

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	6	10.0	10.0	13.3
	3	8	13.3	13.3	26.7
	4	10	16.7	16.7	43.3
	5	23	38.3	38.3	81.7
	6	11	18.3	18.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 20

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	12	20.0	20.3	22.0
	4	22	36.7	37.3	59.3
	5	20	33.3	33.9	93.2
	6	4	6.7	6.8	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

72" question 21

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	14	23.3	23.3	28.3
	3	7	11.7	11.7	40.0
	4	8	13.3	13.3	53.3
	5	25	41.7	41.7	95.0
	6	3	5.0	5.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 22

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	6.7	6.7	6.7
	2	5	8.3	8.3	15.0
	3	4	6.7	6.7	21.7
	4	8	13.3	13.3	35.0
	5	17	28.3	28.3	63.3
	6	22	36.7	36.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 23

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	4	6.7	6.7	11.7
	4	17	28.3	28.3	40.0
	5	26	43.3	43.3	83.3
	6	10	16.7	16.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 24

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	11.7	11.9	11.9
	2	3	5.0	5.1	16.9
	4	14	23.3	23.7	40.7
	5	11	18.3	18.6	59.3
	6	24	40.0	40.7	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

72" question 25

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.4	3.4
	2	7	11.7	12.1	15.5
	3	1	1.7	1.7	17.2
	4	8	13.3	13.8	31.0
	5	19	31.7	32.8	63.8
	6	21	35.0	36.2	100.0
	.	2	3.3	Missing	
	Total	60	100.0	100.0	
Valid cases	58	Missing cases	2		

72" question 26

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	11	18.3	18.3	18.3
	2	16	26.7	26.7	45.0
	4	20	33.3	33.3	78.3
	5	12	20.0	20.0	98.3
	6	1	1.7	1.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 27

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	6.7	6.7	6.7
	2	8	13.3	13.3	20.0
	3	6	10.0	10.0	30.0
	4	5	8.3	8.3	38.3
	5	13	21.7	21.7	60.0
	6	24	40.0	40.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 28

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	3.3	3.3	3.3
	2	3	5.0	5.0	8.3
	4	11	18.3	18.3	26.7
	5	33	55.0	55.0	81.7
	6	11	18.3	18.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 29

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	4	6.7	6.7	11.7
	3	8	13.3	13.3	25.0
	4	14	23.3	23.3	48.3
	5	22	36.7	36.7	85.0
	6	9	15.0	15.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" question 30

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.2	10.2
	2	16	26.7	27.1	37.3
	4	25	41.7	42.4	79.7
	5	9	15.0	15.3	94.9
	6	3	5.0	5.1	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	13	21.7	21.7	21.7
	2	18	30.0	30.0	51.7
	3	4	6.7	6.7	58.3
	4	16	26.7	26.7	85.0
	5	5	8.3	8.3	93.3
	6	4	6.7	6.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	3	5.0	5.0	6.7
	3	3	5.0	5.0	11.7
	4	4	6.7	6.7	18.3
	5	13	21.7	21.7	40.0
	6	36	60.0	60.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 5

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	2	3.3	3.4	5.1
	3	3	5.0	5.1	10.2
	4	4	6.7	6.8	16.9
	5	9	15.0	15.3	32.2
	6	40	66.7	67.8	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 6

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	13	21.7	22.0	22.0
	2	15	25.0	25.4	47.5
	4	20	33.3	33.9	81.4
	5	6	10.0	10.2	91.5
	6	5	8.3	8.5	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 7

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	11.7	11.7	11.7
	2	6	10.0	10.0	21.7
	3	8	13.3	13.3	35.0
	4	6	10.0	10.0	45.0
	5	9	15.0	15.0	60.0
	6	24	40.0	40.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 8

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	11	18.3	18.3	18.3
	2	11	18.3	18.3	36.7
	4	25	41.7	41.7	78.3
	5	9	15.0	15.0	93.3
	6	4	6.7	6.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 9

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	9	15.0	15.0	15.0
	2	10	16.7	16.7	31.7
	3	8	13.3	13.3	45.0
	4	15	25.0	25.0	70.0
	5	10	16.7	16.7	86.7
	6	8	13.3	13.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 10

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	12	20.0	20.0	20.0
	2	15	25.0	25.0	45.0
	4	24	40.0	40.0	85.0
	5	4	6.7	6.7	91.7
	6	5	8.3	8.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 11

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	19	31.7	31.7	31.7
	2	15	25.0	25.0	56.7
	3	5	8.3	8.3	65.0
	4	12	20.0	20.0	85.0
	5	7	11.7	11.7	96.7
	6	2	3.3	3.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 12

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	4	6.7	6.7	8.3
	3	3	5.0	5.0	13.3
	4	6	10.0	10.0	23.3
	5	9	15.0	15.0	38.3
	6	37	61.7	61.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 13

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	16.7	16.7	16.7
	2	14	23.3	23.3	40.0
	4	25	41.7	41.7	81.7
	5	6	10.0	10.0	91.7
	6	5	8.3	8.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 14

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	8	13.3	13.6	13.6
	2	5	8.3	8.5	22.0
	4	14	23.3	23.7	45.8
	5	8	13.3	13.6	59.3
	6	24	40.0	40.7	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 15

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.7	1.7	1.7
	2	3	5.0	5.1	6.8
	3	2	3.3	3.4	10.2
	4	3	5.0	5.1	15.3
	5	10	16.7	16.9	32.2
	6	40	66.7	67.8	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 16

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	12	20.0	20.0	20.0
	2	16	26.7	26.7	46.7
	4	24	40.0	40.0	86.7
	5	5	8.3	8.3	95.0
	6	3	5.0	5.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 17

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	8.3	8.3	8.3
	2	8	13.3	13.3	21.7
	3	7	11.7	11.7	33.3
	4	7	11.7	11.7	45.0
	5	11	18.3	18.3	63.3
	6	22	36.7	36.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 18

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	16.7	16.7	16.7
	2	12	20.0	20.0	36.7
	4	22	36.7	36.7	73.3
	5	12	20.0	20.0	93.3
	6	4	6.7	6.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 19

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	9	15.0	15.0	15.0
	2	12	20.0	20.0	35.0
	3	7	11.7	11.7	46.7
	4	11	18.3	18.3	65.0
	5	16	26.7	26.7	91.7
	6	5	8.3	8.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 20

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	14	23.3	23.3	23.3
	2	15	25.0	25.0	48.3
	4	18	30.0	30.0	78.3
	5	7	11.7	11.7	90.0
	6	6	10.0	10.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 21

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	24	40.0	40.7	40.7
	2	11	18.3	18.6	59.3
	3	3	5.0	5.1	64.4
	4	12	20.0	20.3	84.7
	5	3	5.0	5.1	89.8
	6	6	10.0	10.2	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 22

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.0	5.0
	2	5	8.3	8.3	13.3
	3	4	6.7	6.7	20.0
	4	6	10.0	10.0	30.0
	5	7	11.7	11.7	41.7
	6	35	58.3	58.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 23

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	9	15.0	15.0	15.0
	2	11	18.3	18.3	33.3
	4	28	46.7	46.7	80.0
	5	8	13.3	13.3	93.3
	6	4	6.7	6.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 24

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.2	10.2
	2	4	6.7	6.8	16.9
	4	16	26.7	27.1	44.1
	5	6	10.0	10.2	54.2
	6	27	45.0	45.8	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 25

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	5.0	5.1	5.1
	2	4	6.7	6.8	11.9
	3	1	1.7	1.7	13.6
	4	3	5.0	5.1	18.6
	5	11	18.3	18.6	37.3
	6	37	61.7	62.7	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

62" question 26

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	27	45.0	45.0	45.0
	2	15	25.0	25.0	70.0
	4	12	20.0	20.0	90.0
	5	4	6.7	6.7	96.7
	6	2	3.3	3.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 27

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.0	10.0
	2	4	6.7	6.7	16.7
	3	7	11.7	11.7	28.3
	4	7	11.7	11.7	40.0
	5	12	20.0	20.0	60.0
	6	24	40.0	40.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 28

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	13	21.7	21.7	21.7
	2	9	15.0	15.0	36.7
	4	20	33.3	33.3	70.0
	5	14	23.3	23.3	93.3
	6	4	6.7	6.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 29

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	11	18.3	18.3	18.3
	2	14	23.3	23.3	41.7
	3	5	8.3	8.3	50.0
	4	11	18.3	18.3	68.3
	5	14	23.3	23.3	91.7
	6	5	8.3	8.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" question 30

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	25	41.7	41.7	41.7
	2	13	21.7	21.7	63.3
	4	13	21.7	21.7	85.0
	5	4	6.7	6.7	91.7
	6	5	8.3	8.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" ranking bed to bed

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	17	28.3	28.3	28.3
	2	31	51.7	51.7	80.0
	3	12	20.0	20.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" ranking bedroom to sitting

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	33	55.0	55.0	55.0
	2	17	28.3	28.3	83.3
	3	10	16.7	16.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

80" ranking sitting to kitchenette

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	16.7	16.7	16.7
	2	12	20.0	20.0	36.7
	3	38	63.3	63.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" ranking bed to bed

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	13	21.7	21.7	21.7
	2	27	45.0	45.0	66.7
	3	20	33.3	33.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" ranking bedroom to sitting

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	30	50.0	50.0	50.0
	2	18	30.0	30.0	80.0
	3	12	20.0	20.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

72" ranking sitting to kitchenette

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	17	28.3	28.3	28.3
	2	15	25.0	25.0	53.3
	3	28	46.7	46.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

62" ranking bed to bed

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	22	36.7	37.9	37.9
	2	22	36.7	37.9	75.9
	3	14	23.3	24.1	100.0
	.	2	3.3	Missing	
	Total	60	100.0	100.0	
Valid cases	58	Missing cases	2		

62" ranking bedroom to sitting

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	12	20.0	20.7	20.7
	2	25	41.7	43.1	63.8
	3	21	35.0	36.2	100.0
	.	2	3.3	Missing	
	Total	60	100.0	100.0	
Valid cases	58	Missing cases	2		

62" ranking sitting to kitchenette

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	26	43.3	44.1	44.1
	2	11	18.3	18.6	62.7
	3	22	36.7	37.3	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

Like to live in this type of environment: 1= Yes; 2 = no; 3 = undecided

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	42	70.0	72.4	72.4
	2	9	15.0	15.5	87.9
	3	7	11.7	12.1	100.0
	.	2	3.3	Missing	
	Total	60	100.0	100.0	
Valid cases	58	Missing cases	2		

Visual privacy - Like vs. dislike

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	11.7	11.7	11.7
	2	32	53.3	53.3	65.0
	3	18	30.0	30.0	95.0
	4	3	5.0	5.0	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

Visual privacy - Important vs. unimportant

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	9	15.0	15.0	15.0
	2	34	56.7	56.7	71.7
	3	16	26.7	26.7	98.3
	4	1	1.7	1.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

Audio privacy - Like vs. dislike

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	20	33.3	33.3	33.3
	2	26	43.3	43.3	76.7
	3	9	15.0	15.0	91.7
	4	5	8.3	8.3	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

Audio privacy - Important vs. unimportant

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	17	28.3	28.8	28.8
	2	29	48.3	49.2	78.0
	3	9	15.0	15.3	93.2
	4	3	5.0	5.1	98.3
	5	1	1.7	1.7	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

Flexibility - Like vs. dislike

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.0	10.0
	2	31	51.7	51.7	61.7
	3	10	16.7	16.7	78.3
	4	8	13.3	13.3	91.7
	5	4	6.7	6.7	98.3
	6	1	1.7	1.7	100.0
	Total	60	100.0	100.0	
Valid cases	60	Missing cases	0		

Flexibility - Important vs. unimportant

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	10.0	10.2	10.2
	2	25	41.7	42.4	52.5
	3	19	31.7	32.2	84.7
	4	6	10.0	10.2	94.9
	5	2	3.3	3.4	98.3
	6	1	1.7	1.7	100.0
	.	1	1.7	Missing	
	Total	60	100.0	100.0	
Valid cases	59	Missing cases	1		

APPENDIX T

**DESCRIPTIVE STATISTICS FOR QUESTIONS NOT RELATING TO
HYPOTHESES**

DESCRIPTIVE STATISTICS FOR QUESTIONS
NOT RELATING TO HYPOTHESES

QUESTION	ROOM SETTING	PANEL HEIGHT	RANK ORDER	FREQUENCY	PERCENT	VALID PERCENT
1	BB	80"	1	17	28.31	28.31
1	BB	80"	2	31	51.71	51.71
1	BB	80"	3	12	20.00	20.00
Total				60	100.00	100.00
1	BS	80"	1	33	55.00	55.00
1	BS	80"	2	17	28.31	28.31
1	BS	80"	3	10	16.71	16.71
Total				60	100.00	100.00
1	SK	80"	1	10	16.71	16.71
1	SK	80"	2	12	20.00	20.00
1	SK	80"	3	38	63.31	63.31
Total				60	100.00	100.00
2	BB	72"	1	13	21.71	21.71
2	BB	72"	2	27	45.00	45.00
2	BB	72"	3	20	33.31	33.31
Total				60	100.00	100.00
2	BS	72"	1	30	50.00	50.00
2	BS	72"	2	18	30.00	30.00
2	BS	72"	3	12	20.00	20.00
Total				60	100.00	100.00
2	SK	72"	1	17	28.31	28.31
2	SK	72"	2	15	25.00	25.00
2	SK	72"	3	28	46.71	46.71
Total				60	100.00	100.00

Note: 1 = highest value; 3 = lowest value

DESCRIPTIVE STATISTICS FOR QUESTIONS
NOT RELATING TO HYPOTHESES (CONTINUED)

QUESTION	ROOM SETTING	PANEL HEIGHT	RANK ORDER	FREQUENCY	PERCENT	VALID PERCENT
3	BB	62"	1	22	36.71	36.91
3	BB	62"	2	22	36.71	37.91
3	BB	62"	3	14	23.31	24.11
3	BB	62"	Missing	2	3.31	Missing
Total				60	100.00	100.00
3	BS	62"	1	12		20.71
3	BS	62"	2	25	41.71	43.11
3	BS	62"	3	21		36.21
3	BS	62"	Missing	2	3.31	Missing
Total				60	100.00	100.00
3	SK	62"	1	26	43.31	44.11
3	SK	62"	2	11	18.31	18.61
3	SK	62"	3	22	36.71	37.31
3	SK	62"	Missing	1	1.71	Missing
Total				60	100.00	100.00

Note: N = 60

BB = Bed-to-bed setting; BS = Bedroom-to-sitting setting; and

SK = Sitting-to-kitchenette setting

Note: 1 = highest value; 3 = lowest value

QUESTION	RANKING	FREQUENCY	PERCENT	VALID PERCENT
4	Yes	42	70.00	72.41
4	No	9	15.00	15.51
4	Undecided	7	11.71	12.11
	Missing	2	3.31	Missing
Total		60		

DESCRIPTIVE STATISTICS FOR QUESTIONS
NOT RELATING TO HYPOTHESES (CONTINUED)

QUESTION	VALUE	FACTOR	TYPE	FREQUENCY	PERCENT	VALID PERCENT
5b	1	Privacy	Visual	7	11.71	11.71
5b	2	Privacy	Visual	32	53.31	53.31
5b	3	Privacy	Visual	18	30.00	30.00
5b	4	Privacy	Visual	3	5.00	5.00
Total				60	100.00	100.00
5c	1	Privacy	Visual	9	15.00	15.00
5c	2	Privacy	Visual	34	56.71	56.71
5c	3	Privacy	Visual	16	26.71	26.71
5c	4	Privacy	Visual	1	1.71	1.71
Total				60	100.00	100.00
6b	1	Privacy	Audio	20	33.31	33.31
6b	2	Privacy	Audio	26	43.31	43.31
6b	3	Privacy	Audio	9	15.00	15.00
6b	4	Privacy	Audio	5	8.31	8.31
Total				60	100.00	100.00
6c	1	Privacy	Audio	17	28.31	28.81
6c	2	Privacy	Audio	29	48.31	49.21
6c	3	Privacy	Audio	9	15.00	15.31
6c	4	Privacy	Audio	3	5.00	5.11
6c	5	Privacy	Audio	1	1.71	1.71
6c	Missing	Privacy	Audio	1	1.71	Missing
Total				60	100.00	100.00
7b	1	Flexibility		6	10.00	10.00
7b	2	Flexibility		31	51.71	51.71
7b	3	Flexibility		10	16.71	16.71
7b	4	Flexibility		8	13.31	13.31
7b	5	Flexibility		4	6.71	6.71
7b	6	Flexibility		1	1.71	1.71
Total				60	100.00	100.00

Note: 1 = highest value; 6 = lowest value

DESCRIPTIVE STATISTICS FOR QUESTIONS
NOT RELATING TO HYPOTHESES (CONTINUED)

QUESTION	VALUE	FACTOR	TYPE	FREQUENCY	PERCENT	VALID PERCENT
7c	1	Flexibility		6	10.00	10.21
7c	2	Flexibility		25	41.71	42.41
7c	3	Flexibility		19	31.71	32.21
7c	4	Flexibility		6	10.00	10.21
7c	5	Flexibility		2	3.31	3.41
7c	6	Flexibility		1	1.71	1.71
7c	Missing	Flexibility		1	1.71	Missing
Total				60	100.00	100.00
8b	1	Separation		3	5.00	5.11
8b	2	Separation		41	68.31	69.51
8b	3	Separation		13	21.71	22.00
8b	4	Separation		1	1.71	1.71
8b	5	Separation		1	1.71	1.71
8b	Missing	Separation		1	1.71	Missing
Total				60	100.00	100.00
8c	1	Separation		1	1.71	1.71
8c	2	Separation		38	63.31	64.41
8c	3	Separation		13	21.71	22.00
8c	4	Separation		6	10.00	10.21
8c	5	Separation		1	1.71	1.71
8c	Missing	Separation		1	1.71	Missing
Total				60	100.00	100.00
9b	1	Olfactory		27	45.00	45.81
9b	2	Olfactory		24	40.00	40.71
9b	3	Olfactory		8	13.31	13.61
9b	Missing	Olfactory		1	1.71	Missing
Total				60	100.00	100.00

Note: 1 = highest value; 6 = lowest value

DESCRIPTIVE STATISTICS FOR QUESTIONS
NOT RELATING TO HYPOTHESES (CONTINUED)

QUESTION	VALUE	FACTOR	TYPE	FREQUENCY	PERCENT	VALID PERCENT
9c	1	Olfactory		22	36.71	37.91
9c	2	Olfactory		26	43.31	44.81
9c	3	Olfactory		3	13.31	13.81
9c	4	Olfactory		2	3.31	3.41
9c	Missing	Olfactory		2	3.31	Missing
Total				60	100.00	100.00
10b	1	Circulation		20	33.31	33.91
10b	2	Circulation		36	60.00	61.00
10b	3	Circulation		3	5.00	5.11
10b	Missing	Circulation		1	1.71	Missing
Total				60	100.00	100.00
10c	1	Circulation		22	36.71	37.91
10c	2	Circulation		29	48.31	50.00
10c	3	Circulation		7	11.71	12.11
10c	Missing	Circulation		2	3.31	Missing
Total				60	100.00	100.00
QUESTION	VALUE	CONDITION		FREQUENCY	PERCENT	VALID PERCENT
11a	Better	Curtain		55	91.71	93.2
11a	Worse	Curtain		4	6.71	6.81
11a	Missing	Curtain		1	1.71	Missing
Total				60	100.00	100.00

Note: 1 = highest value; 6 = lowest value

Note: Panel vs. cubicle curtain as a means of separation

DESCRIPTIVE STATISTICS FOR QUESTIONS
NOT RELATING TO HYPOTHESES (CONTINUED)

QUESTION	VALUE	CONDITION		FREQUENCY	PERCENT	VALID PERCENT
11b	Better	Open		57	95.00	98.31
11b	Worse	Open		1	1.71	1.71
11b	Missing	Open		2	3.31	Missing
Total				60	100.00	100.00
11c	Better	Normal		41	68.31	70.71
11c	Worse	Normal		17	28.31	29.31
11c	Missing	Normal		2	3.31	Missing
Total				60	100.00	100.00

Note: Panel vs. open space

Note: Panel vs. a normal wall as a means of separation

VITA

I was born in Lewiston, Idaho, on May 21, 1947 to Howard and Helen Stamey. On June 17, 1967, I was married to Phillip George Scott, and two children came along: Mitchell and Hillary. In August of 1981, I was married to Thomas Kenneth Webber and collected three more children: Sam, David, and Marci.

I graduated from Lewiston High School in Lewiston, Idaho in 1965. I received a design degree from Spokane Community College, Spokane, Washington in 1967. In 1988, I received a Bachelor of Arts degree in Fine Arts from the University of South Florida, Tampa, Florida. I continued on and received a Master of Science degree with a minor in Gerontology from the University of Tennessee, Knoxville, Tennessee in 1993, and have since completed the requirements for a Ph.D. in Consumer Environments with an emphasis in Interior Design from the Department of Textiles, Retail, and Interior Design at the University of Tennessee, Knoxville, Tennessee in August, 1994.

My professional teaching experience includes acting as a graduate teaching assistant at UTK between 1991-1994; acting as an adjunct faculty in the interior design program at St. Petersburg Junior College, Clearwater campus, Clearwater, Florida, from 1987-1988; and practicing as an interior design practitioner from 1972-1991.

I have been awarded the Kappa Omicron Nu Honor Society Award and the Interior Design/Wilsonart Graduate Fellowship Award. I am currently or have been a member of these professional organizations: IBD, ASID, and IDEC.