



Clothing design for the physically handicapped elderly woman
by Cynthia Jean Allen

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE
in Home Economics

Montana State University

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Abstract:

The purpose of the study was to identify style features in outerwear preferred by physically handicapped females, 65 years or older. Professional staff members in local nursing homes offered suggestions concerning clothing for the elderly and physically handicapped. With these suggestions and others from previous studies, a daytime dress was designed. The following style features were selected: one-piece dress, full-length raglan sleeves, lowered neckline, elastic encased waistline, large patch pockets, long front zipper opening, and dress length extending over the knee. The design dress was tested on five elderly women with arm and/or leg disability. Two types of clothing characteristics were assessed: (1) functional features of present clothing and (2) functional features of design garment. Each woman's dressing ability greatly improved during the month she wore the design garment. A long front zipper was especially helpful.

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by

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ABSTRACT

The purpose of the study was to identify style features in outerwear preferred by physically handicapped females, 65 years or older. Professional staff members in local nursing homes offered suggestions concerning clothing for the elderly and physically handicapped. With these suggestions and others from previous studies, a daytime dress was designed. The following style features were selected: one-piece dress, full-length raglan sleeves, lowered neckline, elastic encased waistline, large patch pockets, long front zipper opening, and dress length extending over the knee. The design dress was tested on five elderly women with arm and/or leg disability. Two types of clothing characteristics were assessed: (1) functional features of present clothing and (2) functional features of design garment. Each woman's dressing ability greatly improved during the month she wore the design garment. A long front zipper was especially helpful.

CHAPTER I

INTRODUCTION

The study of clothing for the handicapped is a vast and relatively new area of concern. Special clothing has been designed for people whose figures vary from the norm. The tall woman, the chubby girl and the large woman, for example, have received special attention in regard to clothing problems. Clothing designers, however, have largely overlooked those with physical handicaps, a group for which a great need exists for functional and attractive clothing (Taylor 1963). Some research has been conducted to determine clothing needs of the arthritic, the cerebral palsied and the handicapped homemaker, but there is a large group of handicapped people whose clothing needs have been neglected. These include the elderly who comprise a sizable percentage of the United States population.

For the elderly there is often a problem in obtaining appropriate clothing that fits well because of their changing figures. As a person enters middle age, his/her body proportions begin to change. The face thins, abdomen and hips expand, the legs get thinner, and the waistline almost disappears. These changes become more accentuated with time, until the older person can no longer wear standard-sized clothing. Finding ready-to-wear clothing that is comfortable often becomes a problem. As glandular secretions decrease, the skin of the elderly becomes thin, dry, and inelastic. Rough textures and heavy fabrics,

as well as extreme temperatures, may irritate the skin (Hoffman 1970).

Tate (1961) stated,

One of the most noticeable changes as one grows older is that the body grows shorter. . . . This loss in height is caused by a progressive bending and shortening of the spinal column, a bowing of the head, and a general involution of the skeleton. . . . The shifting of body fat, which began in middle age, becomes more pronounced with the years. . . . As the face thins out, abdomen and hips, expand, and the legs get progressively thinner. . . . In women, this condition is exaggerated by the elongation of the breasts. . . . Obesity is more often a problem in old age than thinness. The skin over the body becomes dry, thin, and inelastic.

When the elderly are physically handicapped this problem in obtaining appropriate clothing is compounded. Improper clothing can hinder movements, produce discomfort and make the wearer feel unattractive. The self-image and morale of the person can also be influenced by clothing.

As age increases, social activities and contacts with others tend to decline. The elderly man may become apathetic to clothing and appearance because there is nothing or no one for whom to dress. This lack of interest in clothing may indicate the withdrawal of an individual from society and may signal the lowering of self-image or self-worth.

Many of the elderly live in nursing homes. These offer frequent interpersonal contacts and an active social life (Hoffman 1970). Clothing becomes more important for the nursing home residents and may offer therapeutic value as well. For example, clothing can be a source

of compliments, adding to the sense of well-being. It can set the tone for an occasion, or can add importance to an otherwise commonplace event. The wearing of daytime clothing (as opposed to loungewear) creates a feeling of recovery to normal health. When the patients are allowed to choose their own clothing, it has the therapeutic value of achievement, personal control, and expression of individuality. New clothes can be a link with the outside world, and convey a sense of the future rather than the past.

Clothing of this type would fill a demand for a sizeable population. Although it is impossible to determine the exact number of physically handicapped persons, there are approximately 22 million within the United States. In addition, 425,000 more persons become handicapped each year through accidents and disease (Trotter 1969). Over 20 million citizens in the United States are 65 years of age or older; approximately 20 percent of this group have mobility limitations. Predictions indicate this segment of the population will increase in the future decades (U.S. Superintendent of Documents 1970).

In recent years, the aged population of the United States has become a subject of great interest and concern. Senior citizens have increased greatly in numbers as well as percentage of the total population. In fact, the rising census figures are due mainly to the increasing percentage of youth and the aged within our society (Whitten 1969).

The aged are supposed to be America's forgotten people. Actually, they are becoming more visible all the time. For one thing, they are increasing in number. Today (1971) 20.5 million Americans are 65 or older. As their problems grow, demands for attention become more insistent (Associated Press dispatch 1971).

To illustrate the magnitude of 20.5 million people, this number exceeds the population of our 20 smallest States by over one million (U.S. Superintendent of Documents 1970). The percentage of the aged is increasing at a rapid rate. For example, in 1960, only ten percent were sixty-five or older. Census experts predict that by 1975, there will be 22 million in this group; by 2000 A.D., there will be 30 million senior citizens (Hoffman 1970).

Most Americans are aware of the increasing percentage of senior citizens, "but what has not been as widely recognized is the fact that people are living more often into the oldest ages" (U.S. Superintendent of Documents 1970). The "over-75" group is increasing greatly, and this has far-reaching implications for the services of the aged (Hoffman 1970).

This sizable group of people is in need of help, and those in the rehabilitation field endeavor to improve the life of the afflicted.

The A.H.E.A. Association (1969) stated that,

Rehabilitation is an individualized process in which the disabled person, professionals, and others, through comprehensive, coordinated, and integrated services, seek to minimize the disability and its handicapping effects and to facilitate the realization of the maximum potential of the handicapped individual (and his family).

The home economist has an important role to play in the rehabilitation process. As a field of endeavor, homemaker rehabilitation includes the development of selected competencies from each area of home economics. Clothing, one area of home economics, is one element in everyday living many people take for granted. But for the person with a physical disability, putting on clothing may be a very frustrating experience, or even an impossibility.

Some clothing designs appropriate for the elderly handicapped could be applied to other types of handicaps as well. The results of this need not be limited to only one group. One basic principle may solve several types of clothing problems for various physical limitations.

The Problem

The elderly handicapped comprise a large, heterogeneous group. Hallenbeck (1966) reported that some clothing research has been performed for handicapped children, but there has been little research concerning clothing for handicapped adults. May (1969) has said,

There have been a number of good beginnings in research in clothing for the handicapped and the older group. . . . A great deal more needs to be done in clothing design and in the adaptation of patterns to suit the special needs of the handicapped.

The purpose of this exploratory study, therefore, was to identify style features in outerwear preferred by physically handicapped females, 65 years or older; design a garment with these features; and compare it

to functional features of present clothing. It was limited by the size of the sample with arm/leg disability located within a geographical location.

The Assumptions

Based upon the literature reviewed, it was assumed that:

1. There is a lack of available, attractive and functional outerwear for the physically handicapped woman, 65 years of age and older.

2. In order to design and produce such clothing, it was first necessary to identify the specific functional and aesthetic clothing needs for each type of physical handicap and to relate these findings to existing knowledge of clothing for the elderly.

3. From this knowledge a design can be created and constructed for a group of women with similar handicap.

Definition of Terms

The following are definitions of terms used in this study:

Ambulatory--capable of walking; not bedfast.

Bedfast--patients who are confined to their beds for much of the time, but who are often encouraged to dress in street clothes and leave their beds on occasion.

Disability--not all disabilities result in handicaps; the transmutation of a disability into a handicap appears to be a function of the severity of the disability and the process of handicapping.

Elderly--men and women who are sixty-five years of age or older.

Geriatrics--the science of the medical and hygienic care of, or the disease of, aged persons.

Handicap--decrement in functioning resulting from the impact of a negative self-image or negative social attitudes toward the disabled.

Key Personnel--members of the nursing home staffs, who because of their professional positions or contacts with patients, are capable of expressing authoritative opinions on clothing for the elderly and physically handicapped.

Nursing Home--institution which serves as a place of residence for senior citizens; living arrangements may consist of private or semi-private rooms; health care is usually not rehabilitative in nature.

Outerwear--articles of clothing which exclude, shoes, lingerie, coats and accessory items. Examples of outerwear are blouses, skirts, dresses, slacks, sweaters, gowns and robes.

Physical Handicap--bodily disorder, malfunction or injury which limits mobility or renders normal physical activity impossible.

Therapeutic--pertaining to the treating or curing of disease.

CHAPTER II

REVIEW OF LITERATURE

The literature selected for review aims to provide general background information concerning: 1) the physically handicapped, 2) the elderly, and 3) clothing for the handicapped and elderly.

The Physically Handicapped

Definition and Historical Background

Throughout the ages, in every culture, the handicapped have constituted a percentage of the population. This group of people includes those with physical, mental or emotional disabilities, and the economically and culturally deprived (Trotter 1969). The attitude of primitive man toward the disabled has been dominant through thousands of years of human history. In the earliest civilizations, man had unwritten laws that the crippled and disabled be sacrificed for the good of the group. Eventually, the ancients made these inhumane practices into written laws, and those laws existed for many centuries. Even today, many of the repugnance and distaste with which the handicapped have been regarded throughout history prevails. Since 1930, however, more advances have occurred for the handicapped than ever before (Kessler 1947).

Socio-Psychological Factors

Much of the progress in rehabilitation of the handicapped has been medical in nature. Much remains to be done in the area of socio-

psychological attitudes of the handicapped. Geis (1972) has found the psychological problem of personal worth to be psychodynamic (the central) problem of all patients. Our culture has put great emphasis on success and personal attractiveness, something which the physically disabled cannot always achieve. This cultural attitude increases unnecessarily the sociological pressures upon the handicapped, and they consequently feel even more abnormal.

Physical handicaps of the elderly are usually chronic rather than acute. This factor also affects the socialization of the afflicted. Oyer and Paolucci (1970) reported,

chronic conditions often have a greater impact on the individual, his family, and society than do acute illnesses and injuries that attract more public attention. . . . Illness and/or disability, although different concepts, may be viewed as critical interventions that change role relationships. They become problems when they interfere with a group member's capacity to meet the social obligations of his role.

Other research studies have dealt with the self-concept of handicapped persons, especially those involving attitudes toward the body. Schwab and Harmeling (1968) in a study involving 124 in-patients, discovered "medically ill patients express more negative feelings toward their bodies than healthy persons. . .and tend to focus dissatisfaction on the body part of function affected by illness." In the group studied, twenty percent showed general dissatisfaction with their bodies as a whole, and females showed greater dissatisfaction than males.

Kurtz and Hirt (1970) investigated the relationship between physical health and global attitudes toward the outward form and appearance of the body. Two groups of twenty college students composed the sample. Although matched in educational level and socio-economic status, one group had chronic illnesses while the other group did not. The results indicated that chronically ill patients evaluated their bodily appearance more negatively than those in the normal group.

Rehabilitation of the Physically Handicapped

Future, rehabilitative efforts must strive to build the self-respect and self-concept of the physically handicapped. This will be a necessary and preliminary step in "humanizing" the afflicted. At a recent American Home Economics Association workshop, O'Toole ("Workshop Overview" 1969) stated, "Rehabilitation is an intermingling of the practical objective of restoring the individual to productivity and the humanitarian concern for the individual's dignity and self-respect."

May (1968) has offered the following guidelines for effective rehabilitation of the handicapped:

- 1) Be informed on the needs and resources in your community for the rehabilitation of the handicapped.
- 2) Know which local and federal laws relate directly to the handicapped.
- 3) Determine the immediate and long-range plans for the rehabilitation of the handicapped in your community.

Several techniques have been investigated to improve the social behavior and attitudes of handicapped people. The "reinforcement"

method was used by Hunt, Fitzhugh, and Fitzhugh (1968) in a study involving twelve institutionalized mentally retarded male patients. In an attempt to improve the dress behaviors of the patients, the researchers used different reinforcement techniques during a 34-day period. It was found that reinforcement procedures were effective in terms of temporarily improving on-the-job appearance of the sample group, and that the intermittent type of reinforcement proved the most effective.

Previous research had been aimed at the patient doing some type of activity, but Geis (1972) favors the "being" approach in socio-psychological treatment. He strives to encourage and increase the feelings of self-worth within the patient. Instead of feeling the need to accomplish a task or to be successful in doing some activity, the patient will feel worthwhile because of his personal values, beliefs, and intrinsic characteristics.

Often a patient is treated for his handicap and then released into a strange world from which he is accustomed. He needs some type of rehabilitation which will prepare him for his return to the outside world and help him adapt to this new environment. A "follow-up" rehabilitation service would provide pertinent information needed by the individual. This could include the activity of learning the steps involved in building an adequate wardrobe (Fisher 1969).

Many sources offer rehabilitative help to the physically handicapped. One is the voluntary health agency. DiMichael (1969) stated,

The leadership of private agencies is looking for new ideas. These new ideas should be drawn with a fullness of concept by those among you who are able to formulate projects with a degree of specificity that makes execution of the main concepts feasible. . . . Our concern is both the role of the voluntary health agency in rehabilitation and the role of home economics in the comprehensive approach to serving the unmet needs of people in distress.

Home economics are another group that can provide "well-rounded" socio-psychological rehabilitative programs. Home economics can bridge the gap between medically and educationally oriented rehabilitation of the past, and concentrate on family rehabilitation (Fisher 1969).

The community can also be a dynamic and effective force in rehabilitation. Conwell (1969) has devised a model which represents a total community approach to patient care. Many community resources are needed to totally rehabilitate the handicapped. Administration and coordination, personnel research and training, facilities and funds are necessary in a comprehensive community approach to preventive and therapeutic care. He further advises: "Really listen to the patient, for it is the patient who expresses the changes needed in a community."

Voltaire ("Workshop Overview" 1969) said of the professionals,

Men who are occupied in the restoration of health to other men, by the joint exertion of skills and humanity, are above all the rest of the earth. They even partake of divinity since to preserve and renew is almost as noble as to create.

The Elderly

These people, as a group, frequently suffer from a multiplicity of ailments. Approximately 20 percent have limited mobility. Many are afflicted with some type of chronic disease such as heart disease, arthritis, diabetes, visual impairment, and cancer (U.S. Superintendent of Documents 1970).

Need for Health Services

The number and physical health of people who are sixty-five years of age or over indicates a need for comprehensive services to the aged (Hoffman 1970). However,

The steady increase in the numbers of old and "older" old persons in the population is particularly significant in view of the fact that chronic disease, long-term illness, and disability comprise the bulk of the health problems of adults in their later maturity. Consequently the increase in the need for preventive and therapeutic services for this age group will be greater than the increase in number suggests (U.S. Superintendent of Documents 1970).

Sufficient financial aid is required to provide and pay for needed medical services. "It is an undisputed fact that medical needs and the cost of meeting these needs rise with declining health, and that the impact of chronic diseases is greatest among the elderly" (U.S. Superintendent of Documents 1970). Elderly patients comprise most hospital admissions and these individuals stay for longer periods of time. The elderly use more prescribed drugs, and higher utilization of services and expensive drugs by the elderly has been predicted (U.S. Superintendent

of Documents 1970). Demands are made on the medical profession to increase not only the amount of care to the aged, but to improve efficiency in the delivery of care. This will require new knowledge in preventive and therapeutic medicine (U.S. Superintendent of Documents 1970).

Factors Affecting Health

There are three main types of factors affecting the health of the aged: biological, socio-psychological, and emotional. Although each is a distinctive category in itself, the three factors are also interdependent.

According to recent research studies, a new conceptualization of the geriatric patient has evolved. Biological factors are now determined by the speed of self-consumption, or the rate at which an individual is using his given amount of ability to cope with stresses. This rate of wear and tear which the body has undergone determines the true biological age of a person (Wolff 1968). Symptoms of the aging process are now expressed differently, for "while chronic diseases have grown, death rates from infectious diseases have declined. . . . Aging probably has a basic relationship to chronic disease, which is a growing challenge to research and therapy" (U.S. Superintendent of Documents 1970). Of those 65 and older who have one or more chronic conditions, 59 percent have some mobility limitation of activity. One-third of those having some mobility limitations are so disabled

that they are unable to carry on any major activity (Hoffman 1970).

The socio-psychological components affecting health concern such topics as attitudes of society, stress, retirement, mental problems, poverty, bereavement and death, and distinct personality types. "Health" is used in its broad sense, for it embraces well-being and related factors which bear directly on it.

The state of the aged in our society has been somewhat improved,

yet the dismal tale of neglect, of untended ill, or discrimination, exploitation, humiliation, loneliness, and privation continues to be told. The aged have gained important benefits in the past thirty-five years. But in some ways their plight has worsened (Associated Press dispatch 1971).

"Many problems are created for the elderly because society reacts not on the basis of scientific knowledge but according to the myths and stereotypes with which it has surrounded 'old age'" (U.S. Superintendent of Documents 1970). Involuntary retirement at age 65, for example, may be a crushing blow to a man who wants to keep working and has many productive years ahead of him. In addition, forced retirement may result in a severely reduced income, somatic illness, and deflated ego which may ultimately cause personality difficulties and mental problems (U.S. Superintendent of Documents 1970).

The sociological components are often connected with stresses related to occupation, environment, family, and community. These stresses are capable of producing emotional imbalance. "Aging has

been thought of as vulnerability to stresses" (U.S. Superintendent of Documents 1970). The individual can no longer cope with or adapt to problems which confront him. The aged, for example, are often unable to compensate to stress imposed by illness (Hoffman 1970).

After retiring, a man unaccustomed to relaxation and recreation has little or nothing for which to hope after retirement. American culture tends to reject the aged because life emphasizes tension, compulsion, work, and competition (Wolff 1968). A pamphlet published by the U.S. Superintendent of Documents (1970) stated,

The statistics imply that the retirement years are quite demanding: they call on the elderly to change roles and status in a society that emphasizes youth. For many elderly persons, the shift is from independence, participation, and leadership to dependence, passivity, and exclusion--not only in economic and community life but also in the family. Many elderly persons live in a world dominated by leisure time but with reduced incomes and increased chance of ill health.

Virtually every study on the aged refers to lack of money as a fundamental handicap. Approximately one-fourth of the aged live below the federally defined poverty level. Poverty, for them, may be a long-standing economic deprivation which has increased with age. For others, poverty may have begun when the family breadwinner retired. This condition has been especially true of non-white Americans (Associated Press dispatch 1971). Though old people form ten percent of the population, they account for 20 percent of the poverty and 27 percent of the health-care expenditures in the nation. Their illnesses and disabilities tend to be more numerous and more costly. Medicare meets, on

the average, only 43 percent of their medical expenses (Associated Press dispatch 1971). Of these hospitalized, 95 percent are poor (Whitten 1969).

For many of the elderly, illness serves as a major cause of poverty by reducing their incomes; conversely, poverty can be a major contributory cause of illness when it serves as a barrier to receiving adequate medical care. . . . Recent studies indicate that about thirty percent of the elderly have assets of less than \$1000 each. Such persons may have sufficient protection through Medicare or other insurance to provide adequate protection for short-term illness; however, when long-term illness occurs, their financial assets may be quickly drained (U.S. Superintendent of Documents 1970).

Of those who are not hospitalized, many of the aged live "in sub-standard housing, largely in depressed urban areas. Half the elderly have little beyond an elementary education" (U.S. Superintendent of Documents 1970).

Many of the aged feel rejected, and are often treated as burdens to the rest of society. In other cultures, the aged are often looked upon with respect and love, and considered sources of great wisdom and experience in life. Because the United States is geared for fast-paced, hectic lifestyles which value time and money above all, the aged are often forgotten and excluded from social gatherings. Victims of the generation gap, the elderly withdraw from the outside world and are left "alone and isolated in the decaying city" (Associated Press dispatch 1971).

There may well be a direct relationship between physical and mental health. For example, "geriatric psychiatry is placing more

emphasis on seeking mixed causes of mental illness in older persons, taking into consideration possible interactions among physical illness, mental illness, and social illness" (U.S. Superintendent of Documents 1970).

Emotional components are capable of affecting health in the individual. For example, the economical, social and medical dependency needs increase with age. Many cannot accept aging as a natural process and experience the fear of losing physical attractiveness, strength, potency, and the loss of life. To combat these fears, the elderly should concentrate on the following positive aspects of old age: understanding of life, patience, experience, and wisdom. Hope for the future is also an important positive emotion (Wolff 1968). Old age can be a period of loneliness, especially for women. More than fifty percent of all elderly women are widows. Most men in this age group live in families with their own spouse, while only a minority of women do (U.S. Superintendent of Documents 1970).

According to the stereotype, the elderly are anxious about death.

But the fact is that younger persons are more likely to be concerned about death. Older individuals are probably more worried about money. . . . The dying person experiences a growing feeling of helplessness over his environment, but he has an increased interest in other people. . . . Information such as this suggests that perhaps the greatest disservice that can be done to the dying person is to isolate him (U.S. Superintendent of Documents 1970).

There are three clear-cut personality types associated with high life satisfaction, and these individuals adapt in various ways to the

aging process. The "mature" types accept aging, adjust well to losses, and are realistic about past and present lives. The "armored" types cling to middle-aged behavior patterns, deny aging, keep busy, and get along very well. Finally, the "rocking chair" types accept passivity, sit and rock without feeling guilty. Above all, to be truly happy,

the elderly person needs somebody to live for, something to be deeply interested in, something to permit him happiness and fulfillment. Life has to remain meaningful and purposeful. If the goal of life is lost, he becomes emotionally sick and is more prone to physical complaints. This important factor of life goal therefore deserves special consideration in any emotional rehabilitation program for the geriatric patient (Wolff 1968).

Rehabilitation Programs

Rehabilitation of the aged is becoming an increasingly controversial subject. There has been a slow rise in the proportion of elderly persons in nursing homes, chronic disease and mental hospitals, and other institutions. In 1940, 2.5 percent of elderly persons were in institutions mentioned above; in 1960, four percent of elderly persons were in institutions (U.S. Superintendent of Documents 1970).

A study investigating the characteristics of the institutionalized aged found that most were female, Caucasian, widowed, lived alone, are financially disadvantaged, and tend to be mentally and/or physically impaired (Riley 1968). There is currently a trend away from those "whose condition will not create difficulty or discomfort to others" to residents who are chronically ill, mentally and/or physically

impaired, and in need of long-term care (Goldman 1960). According to the 1967 Galperin study, the mean age of women applicants was 79.2 years. Lieberman (Kahana 1971) found that most institutional environments exert negative effects on the elderly individual with resulting depersonalization and various psychological losses.

The following observations and projections have been made regarding nursing homes: growth in bed capacity increased eleven percent from 1963 to 1967; expenditures have been increasing twelve percent per year since 1950; by 1980, bed capacity will reach three million (only 385,000 in 1967) (Hoffman 1970).

Nursing home health care for physical, mental, and social illness is usually therapeutic rather than preventive (Hoffman 1970). Although some homes provide adequate programs and facilities for the aged, many do not.

Despite the ever-increasing state hospital admission rate of elderly persons, any movement to provide adequate programs for them has been minimal. The trend all over the country continues to be that most hospitalized geriatric patients will remain there for the rest of their lives, and this sense of resignation is transmitted to the patient (Dubey 1968).

Some of the behavioral deterioration observed in institutionalized geriatric patients appears to be the result of not only the physical aging process but also the result of the institutional atmosphere which fosters functioning at below-optimum capacity (Dubey 1968).

Most desperate of all is the condition of the infirm confined to substandard institutions. Approximately one million elderly persons are in institutions, principally the nation's 24,000 nursing homes (Associated Press dispatch 1971).

Nursing homes are big business, and the humanitarian purposes for which they are built can be easily obscured. Congressman Pryor (Associated Press dispatch 1971) from Arkansas views nursing homes as agents in the "commercialization and dehumanization of the aged."

Because of poor programs, facilities, and impersonal care, the patients may become little more than bodies.

We usually encounter the typical faces of the semi-invalid in a so-called retirement home of today. This person has not laughed or cried in years, but has the suppressed, emotionless countenance that sees one day pass into the next with only the haziest perspective (Strangle 1968).

Health workers, either in private institutions or in public service,

generally receive an unbalanced view of the elderly. . . . To have thorough understanding of older people, practitioners should see them as members of society and its social systems, including kinship groups, neighborhoods, and communities (U.S. Superintendent of Documents 1970).

Home economists should not be overlooked as a source of meaningful rehabilitation for the aged. These professionals are capable of developing projects which relate to the skills of daily living and offer a challenging and enjoyable pastime to the aged as well (Green 1969).

Clothing for the Physically Handicapped and Elderly

Clothing Programs for the Handicapped

Interest in clothing for the handicapped began shortly after World War II. At that time, several programs were developed to aid war veterans with physical disabilities. However, the first program for

handicapped civilians did not begin until 1955. The Institute of Physical Medicine and Rehabilitation at New York University Medical Center sponsored the program. "Functional Fashions," as the project was named, was headed by designer Helen Cookman. Her philosophy was that clothing for the handicapped could be functional, becoming, and fashionable (Lowman 1964). "Functional Fashions" were designed for ease in dressing, increased social acceptance, and durability. This independent, non-profit organization attempted to manufacture specialized clothing for the physically handicapped. Unfortunately, there was not as large a demand for these items as had been anticipated. In recent years, several high fashion houses have produced garments with this label (Rusk 1959).

Since 1955, many projects have been organized in the United States, England, and Canada. Common goals for these establishments are to create safe, comfortable, convenient, protective, serviceable, and functional garments for those having physical handicaps (Lowman 1964).

The Agricultural Research Service of the U.S. Department of Agriculture has shown consistent interest in clothing for the handicapped. In 1959, Scott reported data on the clothing worn by 70 homemakers, as well as information regarding their clothing preferences and dislikes. Later, approximately twenty garments were designed and published in a government bulletin (Hallenbeck 1966).

In 1962, the Vocational Guidance and Rehabilitation Service began to offer clothing for the handicapped and elderly. The clothing, designed by Dorothy Behrens, was constructed by handicapped personnel. The reasonably-priced merchandise is offered through direct mail service. A measuring chart and price list are included to promote catalog sales ("Creating Fashions for the Physically Handicapped" 1964).

"Fashion-Able" offers reasonably-priced undergarments for disabled, ambulatory women. Mrs. Van Davis Odell, who is physically handicapped, heads the organization and designs some of the merchandise. The "Fashion-Able" line is sold through the catalog service ("Creating Fashions for the Physically Handicapped" 1964).

Ruth Smith (1965), organizer of Solve Industries, is also a registered nurse and nursing home supervisor. Solve Industries strive to design clothing which adds dignity to the handicapped, and also saves time and energy needed in dressing the patients. Her first project was a pair of men's slacks which could be put on a seated patient in a matter of seconds. Her philosophy is succinctly stated in the statement, "Let's not only add more years to their life, but let's add more life to their years!"

Although the United States Department of Agriculture is government-operated rather than privately-owned, it has also been a helpful source of information. Some booklets published by this agency offer suggestions on sewing and altering clothing for the physically handicapped.

Other Projects

Participants in a 1966 seminar at Cleveland, Ohio, agreed that interest in clothing for the handicapped was increasing and special clothing problems being recognized. Among the items discussed were costs of special clothing, feasibility of producing clothing from tested patterns in workshops and home-bound programs, clothing as an enhancement of the rehabilitation process, and the importance of looking employable. Major highlights gleaned from the seminar were the following; clothing problems of the handicapped have often been passed over as less important; rehabilitation seeks to minimize handicaps and emphasize the likeness to the non-handicapped person; clothing can minimize disabilities, increase comfort and self-assurance; and, clothing can be a valuable rehabilitation measure (National Seminar 1966).

In 1969, May (1969) proposed a world wide clearinghouse of information concerning the handicapped. This agency could collect all printed material on the handicapped, store the information, and disseminate any publication upon request. Since that time, a committee has been organized to further develop the clearinghouse project.

The Women's Federated Clubs of America have also initiated a project concerning clothing for the handicapped. If a chapter desires, it may sponsor a contest among its members. Rewards are given to those designing the most practical, comfortable, and fashionable garment for a physically handicapped person. Local winners may then compete nationally.

Previous Research Findings

The first requisite of special clothing is to solve the problems of the disabled person (MacGregor 1966). In order to do this, it is first necessary to analyze the activities of the handicapped person, then determine where difficulties exist (Cookman 1961).

Basically, the disabled have two kinds of needs. Physical needs include self-help in dressing, comfort, and the absence of strain on the fabric. Psychological needs require that the appearance of the disabled is attractive and similar to those of their peer group (Hallenbeck 1966).

May, Waggoner, and Boettke (1974) offered the following guidelines in the selection and adaptation of clothing for the handicapped:

1. independence in dressing (easy-on and easy-off, easy to fasten)
2. improved appearance (designed to camouflage)
3. comfortable (allows for movement, adjustable, fits, prevents accidents, protects)
4. durable (fibers, fabrics, and construction techniques)
5. easy care (fabrics, design, construction, and permanent care labels)

Hallenbeck (1966) listed self-help in dressing, comfort, and elimination of fabric strain as the major factors to consider in clothing the handicapped. She also suggested that the physically handicapped be divided into two groups, those who are able to dress themselves and those who require help in dressing. Then, she advised a further division in terms of physical problems of the patient. Those wearing braces or using crutches, for example, require reinforcement

and fuller-cut garments; those in wheelchairs need amply-cut back bodices and underarms, adjustable waistbands, appropriate sleeve length and styles, and skirts having proper fullness; and, those with limited finger action need easy-to-manage fasteners. Special clothing should be categorized by the physical problem with which it copes (Hallenbeck 1966).

Previous research studies concerning the physically handicapped have dealt with one type of disability exclusively.

In a study of clothing for handicapped children, Frescura found that clothing features which were helpful included over-the-head styles; durable, comfortable, absorbent, wrinkle-resistant, and easy-care fabrics; double bodices and skirts for durability; gussets in underarms for ease and durability ("Creating Fashions for the Physically Handicapped" 1964).

Zaccagnini (1970) looked at clothing problems of the cerebral palsied child. She found that nylon tape under the buttons, and large zippers used in knit shirts were preferred over oval clasps with rings, and snaps.

Women with rheumatoid arthritis were the subjects for a study by Madsen (1967). She found that most ready-to-wear dresses marketed for the physically handicapped must be custom-designed and special-ordered. She therefore attempted to adapt several ready-to-wear dresses so they could be worn by arthritic women. Findings indicated that adaptations

provide the variety and pleasure of selection and also provide garments suited to the needs of the individual. For certain types of handicaps, Madsen also determined that clothing which is especially designed or altered for the individual promotes adjustment to the disability both physically and psychologically.

Hallenbeck (1966) has classified the clothing needs of various types of handicapped people. Her basic assumption is that special clothing must solve the problems of the disabled person. "From the point of design and production, it is the physical disability left by the disease or injury, and not the cause, that is the essential factor."

Roth and Eddy (1967) conducted an investigation of the dress of hospitalized, elderly patients. In the hospital used for the study, patients were encouraged to wear their own street clothes. It was considered a sign of progress if the patient did this. Patients with high, socially respectable, reputations wore their own street clothing, but those with low reputations (isolates, alcoholics) wore hospital-issued clothing. A high value was placed on patients appearing neat, clean, and attractive. The appearance of a patient affected his assignment to a ward. The ideal patient, according to the medical staff, could dress himself and maintain a neat appearance.

Miller (1968) conducted a study to determine changes which take place in clothing behavior when women sixty-five or older leave homes of their own and move to retirement homes. She found relationships

between increased frequency in shopping and high education levels, and also between clothing consciousness and older age. Shopping habits changed after the women moved to the retirement homes, and the following trends were noted: decreases in the importance of clothing, amount of money spent on clothing, and the frequency of ordering clothing by mail; increases in phone and mail orders, clothing gifts received, amount of cosmetics used, and amount of help needed in selecting clothing.

Clothing Preferences of the Aged

In an investigation concerning clothing preferences of elderly women, Eberling (1960) found that design and fit are considered more important than price or ease-of-care. In the sample group studied, those from lower income groups had more difficulty finding clothing which fit properly. The following styles were preferred by members of the sample group: medium height heels, medium weight hosiery in light colors, one-piece dresses with jackets, V-necklines, three-quarter length sleeves, gored skirts at calf-length, fabrics with small designs in subdued colors. Of those answering the questionnaire, approximately one-half wore skirts and blouses, and some wore sports clothes.

Arthritics, according to Madsen (1967), listed these dress factors in order of importance: comfort; attractiveness when worn, ease in dressing, and fashionably attractive. Dresses which were easy to put on and remove were highly favored.

Shipley and Rosencranz (1962) found over seventy-five percent of women, fifty-five and older, were interested in style changes and wanted more variety in their clothing. Buyers were considered too conservative by the researchers, and a very low percentage of inventory catered to this age group. Of the women interviewed, the majority favored the following style features: side openings, three-quarter length sleeves, mid-calf length, gored skirts, necklines with collars, V-necklines, one-piece dresses, solid colors, small prints, and subdued colors (navy and light blue).

Latzke and Quinlan (1940) stated that "the dress design of the mature woman should express simplicity and distinction." The neckline, sleeve line, hip line, and hem line should receive special consideration. They agreed with the following Japanese theory: "the choice of design in the fabric suitable to any given age is worthy of serious consideration."

Hoffman (1970) suggested, "Most preferences stem from need for becomingness and functional convenience. . . . Color provides stimulation which is needed by women of all sizes and aesthetic sensitivity is not determined by body size." She lists the following as clothing preferences of older women: gored skirts, three-quarter length sleeves, V-necklines, round necklines starting a few inches below the neck, and front openings extending below the waist or to the hem.

Schuster (1973), based on the cumulative responses of patients and nursing home personnel, found the following style features were preferred over others within their respective categories: shift dress styles; one-piece dress types, jewel necklines, convertible collars, above-elbow sleeves, raglan sleeves, straight hemmed sleeves, A-line skirts, no-waist dresses, zipper fasteners, center-front closures extending from neck to hem, action pleats in back bodice, fabrics made of fiber blends, knit fabrics, floral fabric designs, and pink or red fabric colors.

Clothing Design and Production

Special clothing for the handicapped need not be complicated, highly-priced, or limited to only one type of handicap. Simplicity is the key in designing, but fashion and appearance must be considered (McGuire 1970, MacGregor 1966). A basic concept to the design of special clothing is that one garment should offer solutions to problems involved in many disabilities, not a separate design for each type of handicap (Cookman 1961). It is possible to design garments which incorporate a number of special features and can be used with different types of patients.

Hallenbeck (1966) stated that mass production of outerwear is not feasible, for there are too many variable factors. To obtain a neat appearance, the disabled must be custom-fitted or furnish the seamstress with very detailed and accurate measurements. In addition, the special

needs and aesthetic preferences of the individual must be considered. Therefore, it is not possible for the manufacturer to mass produce clothing on a large scale.

McGuire (1970) indicated that special clothing for the handicapped could be produced successfully because of the following reasons:

1. The clothing industry should realize this a much-needed area of specialization.
2. It is not profitable to design for only one individual handicap.
3. Many features desirable for the handicapped would be beneficial for the non-handicapped also. This would offer a much broader outlet for merchandise.
4. Clothing features such as sturdy fabrics, extra stitching, bright and cheerful colors, and low cost are needed by handicapped people but could be produced for the non-handicapped as well.

MacGregor (1966), on the other hand, stated that mass production of special clothing is impossible, and efforts should be directed toward the development of patterns for home sewing. Only several basic dress patterns would need to be produced by the commercial pattern companies. The garments could then be adapted to suit the particular disability, and style features could be varied (Taylor 1963).

Socio-Psychological Aspects of Dress

Clothing is one of the basic needs of man in addition to food and shelter. "Data from a 1952 Californian survey show," however, "that clothing is the second most frequently unmet need for persons beyond retirement age (medical care and drugs constitute the first unmet needs)" (Ryan 1966).

Dress assumes an important role in interpersonal relationships, especially first impressions. Its influence is two-fold for it affects the way one is treated by others as well as affecting one's self-concept. There is a definite relationship between appearance and individual security, and a correlation between clothing values and individual security. Flugel suggested that apart from faces and hands, what people actually react to are clothes, not bodies. Dress provides cues to sex, occupation, nationality, and social standing. Flugel wrote, "Clothing enables us to make a preliminary adjustment of our behavior toward him long before the more delicate analysis of feature and of speech can be attempted" (Eyestone 1965).

According to Hartmann (Eyestone 1965), clothing behavior is a neglected, but permanent, part of educational and social psychology. Psychological factors of dress concern self-image, social isolation, and feelings of worth. Clothing of the handicapped person plays just as important role in first impressions, can improve the self-image of the handicapped, and aid in their rehabilitation (Zaccagnini 1970). "Clothing should enhance one's self-esteem and be psychologically satisfying" (Trotter 1969). Reports of case studies indicate that when patients feel better physically, psychologically, or emotionally, their appearance also improves, and vice versa (Stangle 1968).

Three categories of psychological needs pertaining to clothing exist. According to Bliss, affectional, ego-bolstering, and ego-

defensive reasons determine why one dresses as he does (Eyestone 1965). For example, clothing can build the self-esteem of the elderly, thereby bolstering the ego (Allen 1954).

Cookman stated, "One's clothing tastes don't change just because she happened to be in an accident" ("Creating Fashions for the Physically Handicapped" 1964). In her opinion, the importance of clothing does not diminish, and its social and psychological effects may be more evident on the handicapped person.

Rehabilitation and Clothing

"Rehabilitation is based upon the concept of the worthiness of the individual and upon the idea that every individual should have an opportunity to reach his full potential" (Whitten 1969). The main objective in rehabilitation is for the handicapped to be able to care for his daily needs, and dressing is one of these daily tasks (Zaccagnini 1970).

The self-image of the handicapped person is very important in the process of rehabilitation. Treatments involve much more than physical restoration and vocational training.

The opinion the physically handicapped person has of himself (his self-concept) may determine whether he can be rehabilitated successfully. Self-evaluation depends, to a great extent, upon interaction with other persons and upon perceived evaluation by others (Stern 1956).

In a study involving blind students, Friend (1970) found that appearance evaluation and clothing values were related for all students. For the visibly handicapped, these factors are also related to self-concept.

Clothing has been used as a rehabilitative measure in institutions. "'Fashion therapy' is an activity through which patients are encouraged to improve personal appearance through disseminating information about current fashions and methods of personal grooming"(Eyestone 1965). In the early 1960's, the Fashion Group of San Francisco began "fashion therapy" programs in several mental institutions. By informing women patients of the latest news in fashion and grooming, the project produced dramatic results in patient confidence, morale, and appearance. Acute patients, as well as those about to be released, participated in the activities and were put in touch with the outside world. Because of their success, the Fashion Group leaders held seminars to train leaders from other United States cities and France. By 1962, eleven cities had adopted "fashion therapy" programs (Thompson 1962).

Brudno and Seltzer (1968) conducted a program designed to re-socialize eleven female patients suffering from senility and distortion of the past. The patients were exposed to activity-oriented socialization such as eating meals together. Gradually, some of the patients asked for wearing apparel to look more presentable.

After the first two meetings, group members became appropriately concerned with their personal appearance. All but one patient asked for clothes. The patients took the time to look into mirrors, to comb their hair, to put on lipstick and jewelry. They made it a point to dress up for each meal.

Dubey (1968) reported similar results with Mrs. Y, who was a non-ambulatory, 90-year-old patient. Mrs. Y disliked wearing dresses others

had chosen for her, so staff members offered to take her on a shopping tour. She agreed, and selected three comfortable and becoming dresses.

Dubey then reported,

Later, when I visited her, she was wearing one of her new dresses beaming with pleasure, and thoroughly enjoying the interest the dresses had aroused in the other patients. . . . Mrs. Y especially enjoys getting dressed up in one of her self-selected dresses for these special occasions.

CHAPTER III

PROCEDURE

There has been little research concerning clothing for handicapped adults. The study is designed to identify style features in outerwear preferred by physically handicapped females, 65 years or older; design a garment with these features; and compare it to functional features of present clothing.

Selection of Sample

The physically handicapped studied were elderly women and residents of nursing and convalescent facilities in Bozeman, Montana. The disability studied was arm and/or leg difficulty in daily activities.

Personnel of the facilities were contacted to obtain age, information on the type of arm/leg disability of each woman, her capacities in dressing, and the devices or aids used that affected her clothing.

Observation

Time was spent observing the women, in their normal setting at the nursing facilities, to obtain the following factors: 1) physical limitations of arm/leg disability; 2) degree of mobility and the use of mechanical devices; 3) clothing worn during the period; and 4) clothing problems recognized through observation.

The Dress Design

The specific type of garment chosen for study was a daytime dress.

It incorporated design features found in the review of literature to be desirable for women with the type of handicap described in the sample. They included raglan sleeve, lowered neckline, long zipper opening in front, pockets, elastic waistline, bodice and shirt fullness, and neck trim. During the development of the design, information from one of the participants supported the need for these features.

Selection of Fabrics

In the interview with each woman, questions were asked to find preferences in color and type of fabric for the "design dress." Several fabric types of polyester were chosen by the researcher according to color and fabric type, wearability, care required, cost, and aesthetic appeal. The women chose fabric from fabric swatchcards.

Construction of Garments

The initial construction for the design garment was completed Fall, 1974, during the researcher's Dress Design Course. The other dresses were constructed individually by researcher with professional advice from instructors.

Rating the Garments

Two rating instruments were designed to ascertain the functional features in clothing. "Rating I" was designed to determine the quality of features in present clothing and was completed before the woman began to wear the "design garment." "Rating II" was to show the

features in the functionally designed garment and was completed one month after the woman began to wear the "design garment."

Garments were rated by the women subjects, the nursing staff, family members (when available), and researcher. The researcher interviewed the above people to obtain these ratings.

The categories for the survey for clothing features were taken from "features in clothing" from Tables I and II: ". . .of Selected Physically Disabled Homemakers in Nebraska and New York"(Lois O. Schwab, "Clothing for Physically Disabled Homemakers." Rehabilitation Record: March-April, 1973, 32).

CHAPTER IV

RESULTS AND DISCUSSION OF FINDINGS

Information was sought to determine the functional features essential in clothing for the elderly woman who is physically handicapped. With this information, a daytime dress was designed and tested on a group of physically handicapped elderly women.

Sample

The population for this sample included elderly women with arm and/or leg disability. Three facilities in Bozeman, Montana: the Extended Care at the Bozeman Deaconess Hospital, the Convalescent Center, and the Gallatin County Rest Home, were contacted in the Fall of 1974. These three institutions were selected because it would be possible to include several women with similar physical disabilities living in similar situations. Five women with arm and/or leg difficulty in daily activity volunteered to participate in this study. One woman was a resident of the Extended Care; two were residents of the Convalescent Center; and two were residents of the Rest Home.

The women ranged in age from 74 to 84 years. Two were hemiplegia (total paralysis of one side of the body), were classified as bedrest patients and used a wheelchair. One wore a leg brace. Both required complete dressing assistance.

Three women were classified as ambulatory (able to move about without a wheelchair). Two of these had arthritic arms and legs, but were

able to dress themselves. The other woman had limited arm mobility for one arm because of arm surgery. She needed help in dressing (See Figure 1).

The mental capacity of all five women was excellent. They clearly understood the purpose for their participation. Although one woman was unable to verbally communicate with the researcher, the daughter, who has close contact with her mother's clothing difficulties, communicated for her.

Woman	Age	Physical Handicap	Capabilities in dressing	Devices or aids used affecting appropriate clothing
A	84	Hemiplegia: total right-side paralysis Bedrest-wheelchair	Must be completely dressed by nurse; ability to move paralyzed arm with good arm when dressing	wheelchair legbrace
B	75	Arthritis in both arms Ambulatory	Can dress herself; limited in arm movement; needs cane to walk	none
C	74	Arthritis in arms and legs Ambulatory	Can dress herself; arm/leg movement limited	none
D	83	Hemiplegia: total left-side paralysis Bedrest	Needs complete dressing help	wheelchair
E	77	Arm surgery on right arm; larger than left arm; right arm has very little mobility Ambulatory	Partially dresses herself; needs some help with fasteners	none

Figure 1. Characteristics of Participants

Dress Design

Observation and Interview

Time was spent with each woman to determine clothing problems with relation to her physical handicap and age. Nursing personnel agreed unanimously that each woman's dressing ability had decreased as she grew older. According to the nurses, this resulted from several sources, lack of energy, weakness due to infrequent physical activity, and lack of motivation to dress becomingly.

Participants responded to an interview concerning their clothing. Responses indicated certain features in clothing needed for arm and/or leg disabled elderly women. Most commonly desired were comfort, easy-on/easy-off, easy care fabric, becoming style, and attractive colors. Comfort was described by statements such as "softness of fabric," "roominess of garment," and "not too warm or not too cool." An easy-on/easy-off dress made it possible for the woman to dress and undress within a reasonable amount of time. It minimizes strain and encourages her to dress more often. Pink, blue, and green were the colors the women in the sample believed to be the ones that were most attractive.

While previous research indicated a definite need for additional investigation of clothing for the physically handicapped, the response by staff members and the participants was even greater than anticipated. Because of their daily contact with the clothing problems of patients, the nursing home personnel were extremely aware of the difficulty in

dressing the handicapped. The interest of all participants in this study, cooperation in completing the ratings, and volunteering for interviews was very encouraging. This attitude and enthusiasm eliminated any doubt for the need of special clothing for the handicapped.

The Design

The dress design incorporated functional features necessary for ease in dressing for the arm and/or leg disabled elderly woman. Everyone agreed these features had a number one priority. Based on the cumulative responses of patients and nursing home personnel, the following style features were preferred over others within their respective categories: shift dress styles, one-piece dress styles, lowered neckline, short sleeves, raglan sleeves, straight sleeve without cuff, A-line skirts, semi-fitted-waist dresses, zipper and large button fasteners, long center-front closures, knit fabrics, and large patch pockets.

The final dress had the following features:

1. one-piece dress
2. full-length raglan sleeves
3. elastic encased waistline
4. large patch pockets
5. long front zipper opening
6. dress length extending over-the knees

The neck trim and pockets were of contrasting fabric to the dress fabric.



Figure 2. Half-Scale Design Garment:
Front



Figure 3. Half-Scale Design Garment:
Back

Selection of Fabrics

The color and type of fabric preferences of each participant were recorded. A list was compiled combining each woman's preferences. All but one had a shade of red--a color that was a favorite in the interview. Blue and green, the other two preferred colors, were also chosen but not as frequently.

Woman	Color	Type of Fabric
A	rose or wine flower print	jersey
B	green	lightweight woven polyester
C	black and white rose, brown	lightweight polyester
D	pink	lightweight and soft jersey
E	pink, blue	knit of polyester

Figure 4. Color and Fabric Preferences of Participants

A fabric made of polyester was the unanimous preference. From this list, several types of fabric in polyester were selected. This met the qualifications by the participants that the dress be easy-care. The women chose the fabric for the "design garment" from eight swatch cards.



Figure 5. Fabric Selection: Participant
A 100% Acrylic Jersey



Figure 6. Fabric Selection: Participant
B Perm-Prest Polysport 100% Texturized
Polyester



Figure 7. Fabric Selection: Participant C Perm-Prest Polysport 100% Texturized Polyester



Figure 8. Fabric Selection: Participant D Knit of 50% Avlin Polyester, 50% Avril Rayon



Figure 9. Fabric Selection: Participant E Knit of 100% Texturized Dacron Polyester

Rating the Garments

Two rating instruments were administered to ascertain the effectiveness of the functional features. The scoring for each feature was based on a scale from one to five: with 1 low or poor, and 5 excellent. When a score was between two ratings, i.e., good-very good, the functional features was rated at the midpoint, i.e., 3.5.

Women's Reaction to Present Clothing

Rating I scored women's reaction to present clothing. It was completed before women began to wear the "design garment." Its purpose was twofold: 1) to rate functional features in present clothing, and 2) to determine difficulty with fasteners in present clothing (See Appendix A for instrument).

The highest score for any feature could have been 65, the lowest 13. The ratings ranged from 35 to 45. "Becoming, attractive style and colors" received the highest score (45) and "convenience/easy-on, easy-off" received the lowest score (35). This rating was approximately equal to "good" or average in the scale (See Appendix B). The mean distribution for functional features in present clothing was between 3.46 and 2.61 (See Figure 10).

Eleven out of thirteen responses in the study indicated that there was difficulty in the manipulation of fasteners. This meant that a functional garment for these women should eliminate fastener difficulty. Zippers and buttons were most frequently mentioned as difficult fasteners. The least difficult seemed to be grippers (See Figure 11). A zipper, however, was chosen over grippers for the long front dress opening. A zipper was easier than grippers to manipulate in a long front opening.

Women's Reaction to Design Dress

The features in the functionally designed garment were rated one month after participant began to wear the garment (See Appendix A). Since only zipper fasteners were used, difficulty of zipper closing was of special interest.

The highest possible score was 65 while the lowest was 13. Ratings ranged from 51 to 62. "Convenience easy-on/easy-off" received the highest score (62). "Resistance to soil and spills" and "becoming,

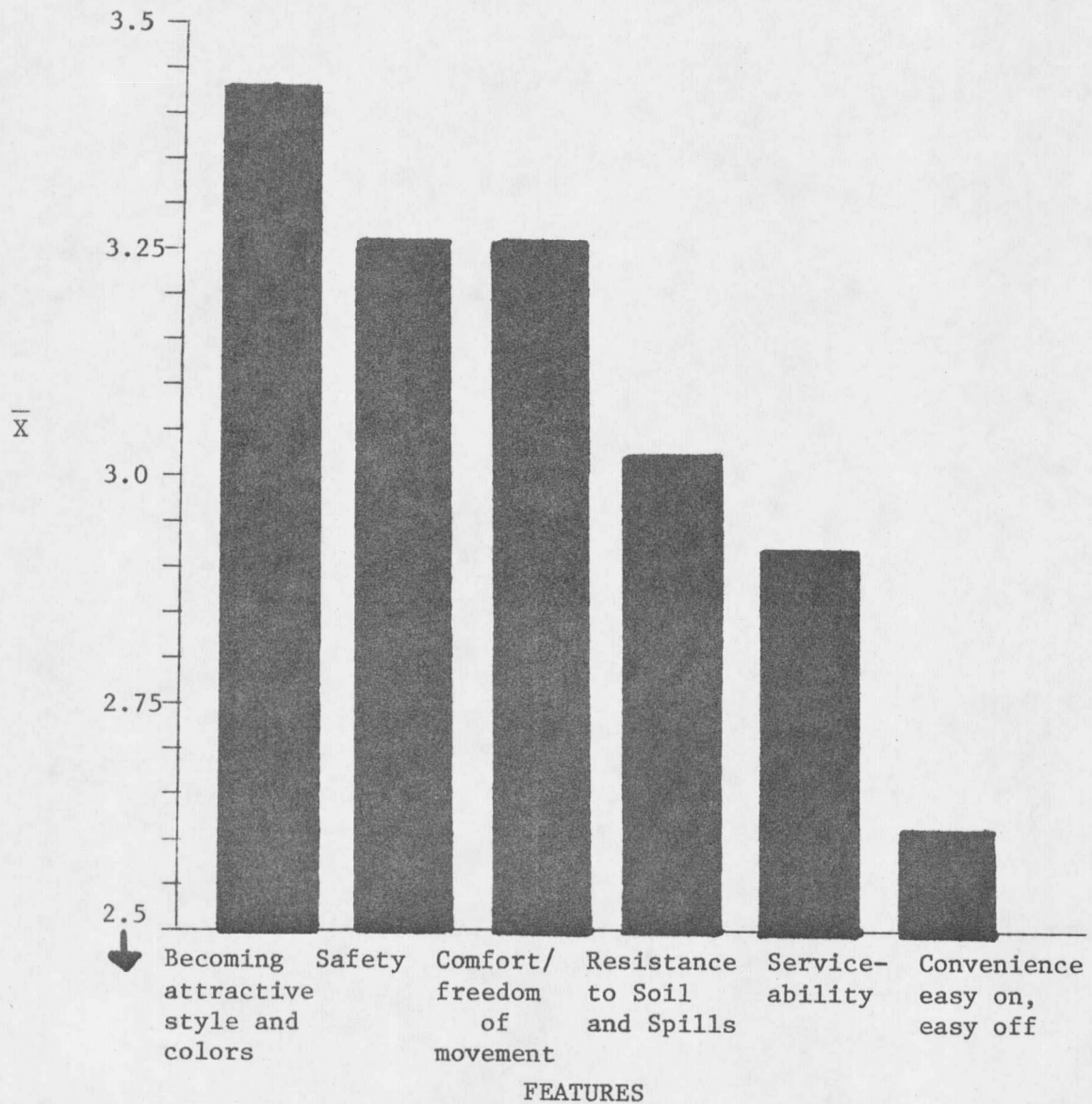


Figure 10. Mean Distribution for Functional Features in Present Clothing

attractive style and colors" received the lowest score (51). Both of these ratings were higher than the ones for the participants present clothing. The average rating was between 4.77 and 3.92 which was considered very good. This was one rating higher than that for their present clothing (See Figure 12).

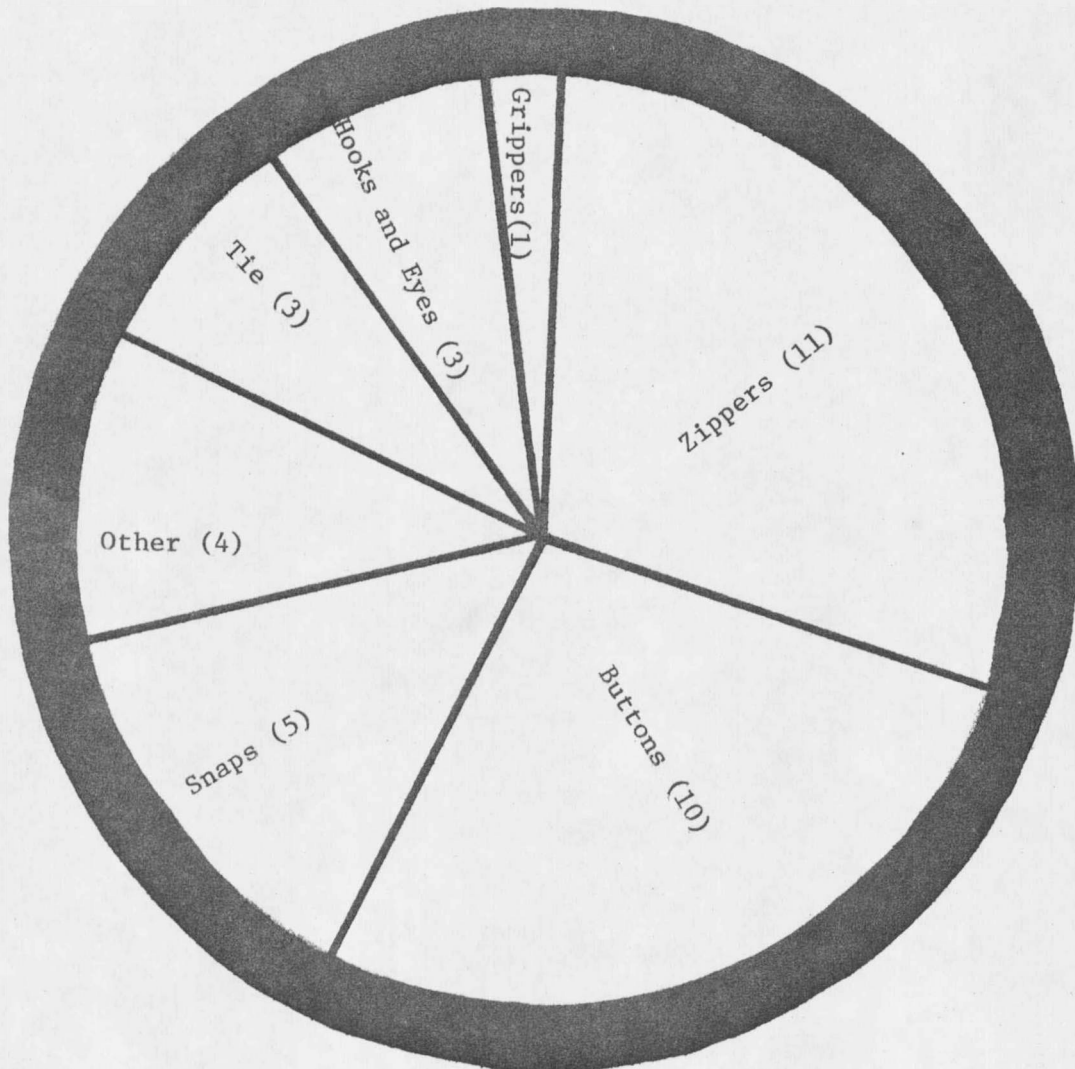


Figure 11. Distribution of Fastener Difficulty

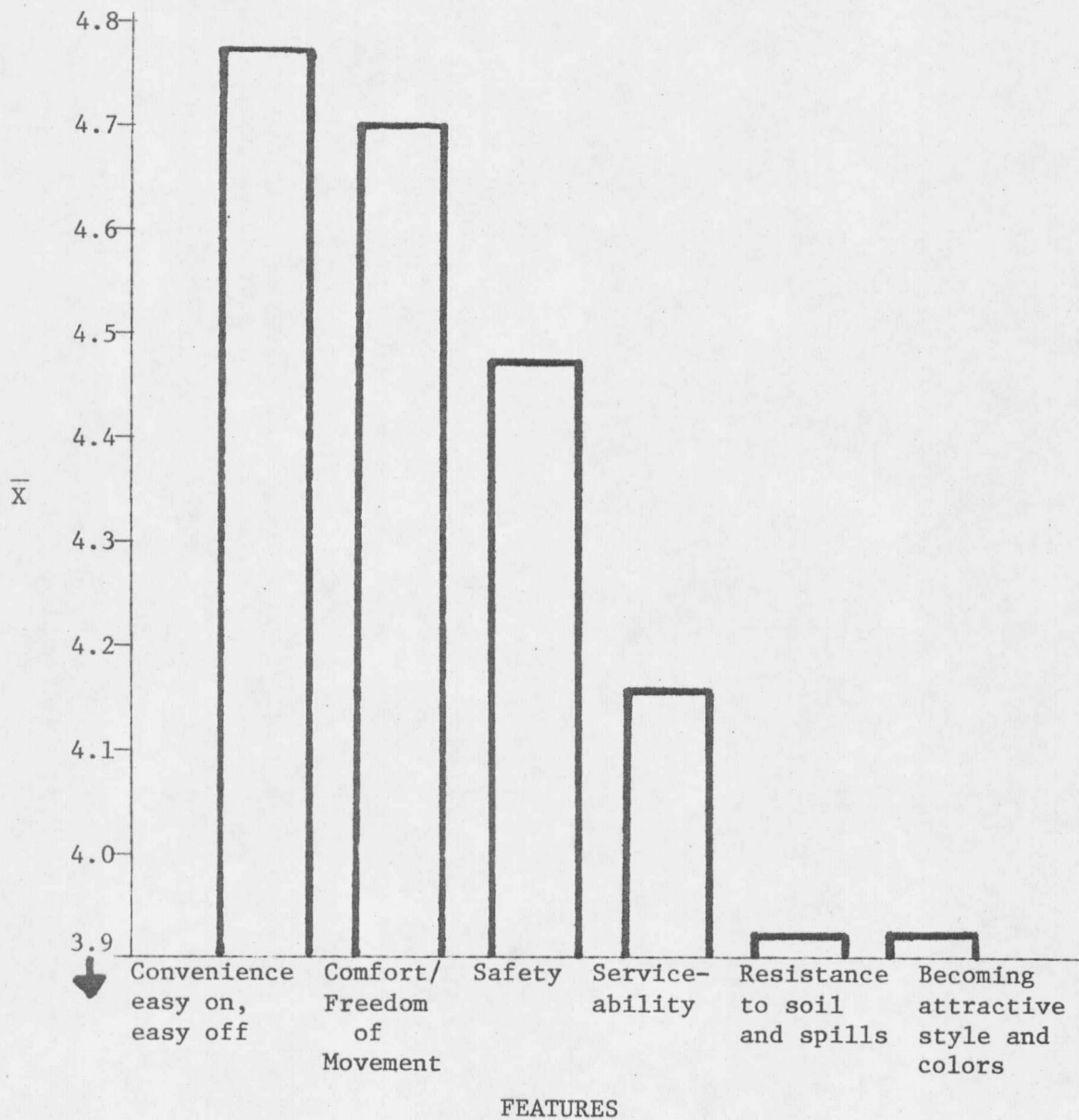


Figure 12. Mean Distribution for Functional Features in Design Garment

Comparison of Design Garment to Present Clothing

The relationship of two ratings measured any change in the woman's dressing ability. The design garment permitted two women to dress without aid, one woman to dress with minimal aid, and two women to be dressed with greater ease.

The ease-in-dressing feature ranked lowest in present clothing and highest in the design garment. For the test garment, convenience was very important. The design garment greatly improved her ability in dressing. It enabled each woman to dress or be dressed within a reasonable amount of time, minimized the strain of dressing, and encouraged each woman to wear the dress often. This is a very important feature to consider in clothing design for the physically handicapped (See Figure 13).

Although the number of patients interviewed was small, certain trends could be detected from their responses. In some cases, individual tastes in clothing styles were evident, but the types of handicapped patients did agree with others in their categories concerning certain style features. The three ambulatory patients favored lowered necklines, short sleeves, raglan sleeves, one-piece dress styles, zipper fasteners, front closures, and below-knee lengths. The bedrest-wheelchair patients favored the same features listed above with the exception of long sleeves.

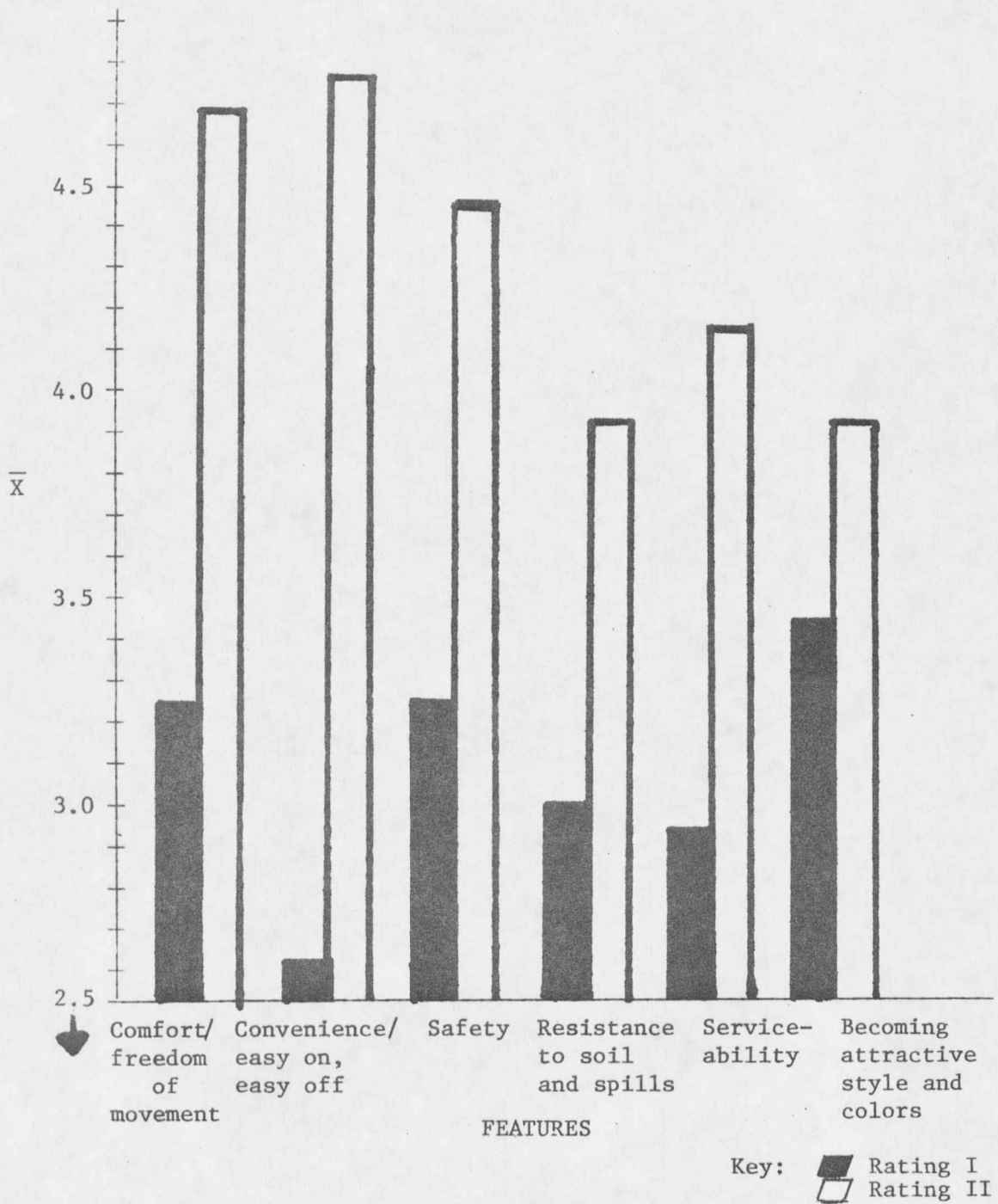


Figure 13. Comparison of Mean Score Distribution for Functional Features in Design Garment and Present Clothing

From previous research it had been expected that each type of physical handicap (wheelchair, ambulatory, etc.) would require a markedly different set of preferred style features. Schuster's (1973) research did not find this to be the case. In most instances, staff members and patients preferred one style feature for all types of handicaps over other style features within a category. This indicated that some dress designs could satisfy many (if not all) types of physical handicaps.

In this study the features required for women with arm and/or leg disability were incorporated into the dress design. The final dress design was accepted favorably by all five women. This indicated that dress designs can satisfy several types of physical handicaps.

The comparison of staff and patient responses concerning functional features illustrates general agreement in most categories. The answers of one group cannot be considered more reliable than those of the other group. The staff members responded to the situation as a whole, while the patient responses were on an individual basis. Therefore, personal preferences were voiced in the patient responses. The staff members had experienced the problem in different forms, and also had a greater amount of time to contemplate their responses. In most categories, the staff members and patients were in agreement. See Appendix B.

Literature on the psychology of clothing has indicated a direct relationship between clothing values and the emotional well-being of a

person. During the patient interviews, this fact was evident. Those who were busy, alert, and engaged in various activities also showed a marked interest in clothing. One factor seemed to complement the other. One woman in the study was very overweight, and self-conscious about her problem. She appeared interested at the beginning of the study but lost enthusiasm for participating in the study after she started to wear the design dress.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of the study was to identify style features in outerwear preferred by physically handicapped females, 65 years or older. Professional staff members in local nursing homes offered suggestions concerning clothing for the elderly and physically handicapped. With these suggestions and others from previous studies, a daytime dress was designed. The following style features were selected: one-piece dress, full-length raglan sleeves, lowered neckline, elastic encased waistline, large patch pockets, long front zipper opening, and dress length extending over the knee. The design dress was tested on five elderly women with arm and/or leg disability. Two types of clothing characteristics were assessed: (1) functional features of present clothing and (2) functional features of design garment. Each woman's dressing ability greatly improved during the month she wore the design garment. A long front zipper was especially helpful.

Findings from this investigation indicated a definite need for specially-designed clothing for the elderly and physically handicapped.

The results compare favorably with previous research in the area of clothing for the handicapped. Many of the style features preferred by the elderly handicapped women were also preferred by the cerebral palsied, arthritics, and those in other handicapped studies.

Conclusions

It was assumed that there is a lack of available, attractive, and functional outerwear for the elderly handicapped woman. This study confirmed this assumption. There is a definite need for specially designed clothing for the elderly handicapped woman. To meet this need, additional research in the manufacture and promotion of special clothing for this group of people is required.

In order to design and produce such clothing, it was first necessary to identify the specific functional and aesthetic clothing needs for each type of physical handicap and to relate these findings to existing knowledge of clothing for the elderly. It was found that, in general, previous research regarding clothing for the physically handicapped can be applied to those who are 65 years of age or older.

It was further assumed from this knowledge that a design can be created and constructed for a group of women with a similar handicap. Certain style features were combined, in this study, to produce a dress which is appropriate for several types of physical handicaps produced by arm and/or leg disability.

The impetus for this study was the presumed need for further research study concerning clothing for handicapped adults. This study confirmed such a need and concluded a great need exists for additional research in special clothing for the elderly handicapped woman.

Recommendations

For this Study

The small sample size limited the testing of the design garment. More women with arm and/or leg disability within the sample would have increased the reliability of the ratings.

A longer period for women to wear the design garment would have offered more accurate results.

For Further Study:

Further study to design other garments which have preferred style features identified in this study is needed. There are some handicaps which require one or two certain style features for comfort and mobility. If those basic needs are satisfied, however, there are endless possibilities for design variation. For example, a person may require a shift style with an A-line skirt for comfort. Her wardrobe may be composed of A-line skirts, but each has style, fabric, and color variations which make it different from the others.

The preceeding garments could be constructed and tested for comfort, function, and attractiveness with selected, handicapped elderly women.

Study is needed to investigate the possibility of ready-to-wear for both the handicapped and non-handicapped. Because a basic dress design is capable of satisfying many types of physical handicaps, theoretically many possibilities exist for the manufacture of special clothing for them. The individual patient, however, presents a problem to the manufacturer. The figures of elderly women are hard to fit and cover a vast range of measurements and sizes. Physically handicapped figures also provide additional problems to the mass producer of clothing. Besides fit, the personal preferences and tastes of the patients are an obstacle to the manufacturer. In a mass market situation, a manufacturer can offer a wide selection of colors, styles, and fabrics. Although there is a sizeable demand for special clothing for the handicapped, the demand is not large enough to warrant manufacture on a mass scale. The only possible alternative for the manufacturer would be to offer styles which could also be worn by non-handicapped persons.

The most productive effort might be directed to the commercial pattern companies. It would necessitate the addition of several basic patterns which could be offered in various size ranges. Patterns could be altered to accomodate the particular handicap. Aesthetic features could be chosen to suit the personal tastes of the wearer.

APPENDIX A

Surveys Used in Study

RATING I: Present Clothing

Name

Date

Please score present clothing for the following features in clothing.

Circle Please!

	POOR	FAIR	GOOD	V.GOOD	EXCELLENT
1. Comfort/ freedom of movement	1	2	3	4	5
2. Convenience, easy off/ easy on	1	2	3	4	5
3. Safety	1	2	3	4	5
4. Resistance from soil and spills	1	2	3	4	5
5. Serviceability	1	2	3	4	5
6. Becoming, attractive style and colors	1	2	3	4	5

Is there fastener difficulty: YES NO

Type of fastener difficulty

____ BUTTONS

____ ZIPPERS

____ SNAPS

____ GRIPPERS

____ HOOKS AND EYES

____ TIE

____ OTHER

RATING II: Acceptance of Design Dress

Name

Date

Please score this "functional garment" for the following features:

Please Circle

	POOR	FAIR	GOOD	V.GOOD	EXCELLENT
1. Comfort/ freedom of movement	1	2	3	4	5
2. Convenience, easy off/ easy on	1	2	3	4	5
3. Safety	1	2	3	4	5
4. Protection from soil and spills	1	2	3	4	5
5. Serviceability	1	2	3	4	5
6. Becoming, attractive style and colors	1	2	3	4	5

Is there zipper difficulty:

YES

NO

APPENDIX B

Responses of Participants

TABLE I
TOTAL SCORES FOR FUNCTIONAL FEATURES
OF PRESENT CLOTHING

FEATURE	(1) POOR	(2) FAIR	(3) GOOD	(4) V.GOOD	(5) EXCELLENT	TOTAL
1. Comfort/ freedom of movement	1	3	3	3 1-4.5	2	42.5
2. Convenience/ easy-on, easy-off	3	2 1-2.5	4	1 1-4.5	1	35
3. Safety		3	5	4	1	42
4. Resistance from soil and spills		4	5	4		39
5. Serviceability	3	2 1-2.5	2	2	3	38.5
6. Becoming, attractive style and colors		4	2	4	3	45

TABLE II
MEAN SCORES AND RANK FOR FUNCTIONAL
FEATURES IN PRESENT CLOTHING

FEATURE	$\bar{X}$	RANK
1. Comfort/freedom of movement	3.25	second
2. Convenience/ easy-on, easy-off	2.61	fifth
3. Safety	3.25	second
4. Resistance from soil and spills	3.00	third
5. Serviceability	2.92	fourth
6. Becoming, attractive style and colors	3.46	first

TABLE III

TOTAL RESULTS FOR DIFFICULTY IN
MANIPULATION OF FASTENERS

FASTENER	RESPONSE	
	%YES	%NO
Buttons	77	23
Zippers	84	16
Snaps	38	62
Grippers	8	92
Hooks and eyes	23	77
Tie	23	77
Other (in back)	31	69

TABLE IV

TOTAL SCORES FOR DESIGN GARMENT

FEATURE	(1)	(2)	(3)	(4)	(5)	TOTAL
	POOR	FAIR	GOOD	V.GOOD	EXCELLENT	
1. Comfort/ freedom of movement				4	9	61
2. Convenience/ easy-on, easy-off				3	10	62
3. Safety			1	5	7	58
4. Resistance from soil and spills			3	8	2	51
5. Serviceability			3	5	5	54
6. Becoming, attractive styles and colors		2	3	2	6	51
Zipper difficulty?	2 responses			11 responses		
	YES			NO		

TABLE V
MEAN SCORES AND RANK FOR FUNCTIONAL
FEATURES IN DESIGN GARMENT

FEATURE	$\bar{X}$	RANK
1. Comfort/ freedom of movement	4.69	second
2. Convenience/ easy-on, easy-off	4.77	first
3. Safety	4.46	third
4. Resistance to soil and spills	3.92	fifth
5. Serviceability	4.15	fourth
6. Becoming, attractive style and colors	3.92	fifth

TABLE VI
RATINGS OF PRESENT CLOTHING

PARTICIPANT		FEATURE					
		1	2	3	4	5	6
Woman	A	2	1	4	3	✓ 1	4
	B	5	5	3	3	5	5
	C	3	2.5	5	4	5	2
	D	4	3	2	4	1	5
	E	5	3	4	2	5	4
Nursing staff: for							
Woman	A	2	2	3	4	3	4
	D	1	1	4	2	1	2
	E*	4.5	4.5	2	2	2.5	2
Researcher: for							
Woman	A	2	1	3	3	2	4
	B	4	4	3	3	4	5
	C	3	2	4	4	4	2
	D	3	3	2	3	3	3
	E	4	3	3	2	3	3

Key for Feature #:

- 1-Comfort/ freedom of movement
- 2-Convenience/ easy-on, easy-off
- 3-Safety
- 4-Protection from soil and spills
- 5-Serviceability
- 6-Becoming, attractive style and colors

*B and C were omitted because they dress themselves.

TABLE VII
RATINGS OF DESIGN DRESS

PARTICIPANT		FEATURE					
		1	2	3	4	5	6
Woman	A	5	5	5	5	5	5
	B	5	5	4	4	3.5	3.5
	C	5	4	5	4	3	2
	D	5	5	4	3	5	5
	E	4	4	3	3	3	2
Nursing staff: for							
Woman	A	4	5	4	4	5	5
	D	5	5	5	4	4	5
	E*	4	5	4	3	4	4
Researcher: for							
Woman	A	5	5	5	4	4	5
	B	5	5	5	4	4	5
	C	4	5	4	5	5	3
	D	5	5	5	4	4	4
	E	5	4	4	4	5	3

Key for Feature #:

- 1-Comfort/ freedom of movement
- 2-Convenience/ easy-on, easy-off
- 3-Safety
- 4-Protection from soil and spills
- 5-Serviceability
- 6-Becoming, attractive style and colors

*B and C were omitted because they dress themselves.

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