THE CLOTHING SATISFACTIONS AND DISSATISFACTIONS OF PHYSICALLY HANDICAPPED STUDENTS AGE SIX TO SIXTEEN, ENROLLED IN PUBLIC SCHOOLS

by

Melinda Waters Burke

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SIGNED: Melinda W. Burke

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

Naomi Reich

NAOMI REICH
Associate Professor of Home Economics

3/26/80
Date

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ABSTRACT

Thirty-one handicapped males and females from ages six to sixteen volunteered to complete a sixteen-page questionnaire dealing with their clothing problems and preferences. These volunteers were recruited through public school systems in the state of Arizona. Because the sample size was quite small, no sophisticated statistical tests were conducted. Frequency distributions were used to determine trends pertaining to each specific objective.

Details of problems encountered in purchasing regarded inconsistencies in sizing; difficulty of alterations; and design features such as sleeve style, neck style, and fastenings. Features easiest to manipulate, such as the raglan sleeve, ribbed cuff, and lowered neckline were identified. Preferred fabrics were one hundred percent cotton and blends of cotton and polyester. Easy care and comfortable fabrics were important to those sampled.

CHAPTER I

INTRODUCTION

The effect of clothing on the individual should not be minimized. It is a vehicle for expression of the personality and it affects the development of self concept. Clothing and appearance can greatly influence the degree of acceptance one feels in a given situation. Horn (1968, p. 97) says that "clothing helps to establish the identity of the individual to himself and to others with home he interacts." Clothing also "provides a means for self-expression and aesthetic enjoyment, a way to conform or not conform, a way to suggest wealth and prestige, an outlet for creative energies, and much else" (Newton, 1973, p. 29).

For the child, clothing has additional importance. The experience the child has with clothing can affect his feelings of confidence and influence the development of his self concept and personality (Ryan, 1966). Appearance is extremely important to the child as appearance will partially determine the degree of social isolation or acceptance and popularity the child feels among his peers (Allen, 1973).

For the nearly six million handicapped children in the United States (from age 5-19) there are additional

clothing concerns and problems, especially if that child is in the public school in a regular classroom (Dapper, 1974). The Education for All Handicapped Children Act in 1975 mandated a free, public education be provided to the 10% of the United States students, ages 5 to 19, that are handicapped ("Education for All Handicapped Children Act of 1975," 1975). Since this Act, there has been an effort to mainstream those handicapped students capable of integration into regular classrooms with non-handicapped students.

This integration of handicapped and non-handicapped students has been positive in many ways. However, for the handicapped student that feels self-conscious about his appearance among his non-handicapped peers, some unique clothing problems could develop. "No matter what a person's physical capacities, he does not want to appear different from other people" (Reich, 1976, p. 290). The handicapped student must struggle with the complicated problem of finding clothing that will adequately meet all his wants and needs. He may want clothing similar to that of his peers to reinforce his feeling of social acceptance (Forbes, 1971; Gamwell and Joyce, 1966). He may, on the other hand, need clothing specifically tailored to his disability which, as a result, may emphasize his handicap among his non-handicapped classmates (Macartney, 1973).

To assist the handicapped student in dealing with the clothing problems and limitations he experiences, these

problems and limitations must be clearly defined. There has been research in the area of clothing for the handicapped child that has attempted to determine these clothing satisfactions and dissatisfactions (Boettke, 1963; Forbes, 1971; Jordan, 1971; Johnson, 1972; Friend, 1970; Ahrbeck and Friend, 1976). Often, the parent of the handicapped child is surveyed to determine what they feel the clothing problems are (Boettke, 1963, Jordan, 1971; Friend, Zaccagnine, and Sullivan, 1973). Research that would communicate more directly with the handicapped child is needed (Jordan, 1971). There is a need also for more research to determine the types and characteristics of design preferred by the handicapped (Jordan, 1971). The following study contributes in both of these areas.

Once these clothing satisfactions and dissatisfactions are clearly defined, it is essential that this information get to those who need it: the parent, the educator, and the handicapped student. It is hoped that by presenting not only the problems in clothing, but the preferences as well, these individuals will be able to work together to creatively deal with the handicapped child's clothing needs.

In summary, clothing can have a powerful influence on one's self concept and feelings of acceptance. This is true for both the handicapped and non-handicapped individual. With the current trend toward mainstreaming of the

handicapped student, it is imperative that the clothing satisfactions and dissatisfactions be identified to enable the teacher, parent, and child to deal with these specialized problems. There has been much research done in this area but, according to Jordan (1971), there is a need for more research communicating directly with the handicapped child about his specific clothing problems.

Statement of the Problem

The purpose of this study was to describe via survey the clothing satisfactions and dissatisfactions of physically handicapped students from age six to sixteen. It was anticipated that problem areas in fit, design, and alteration would be identified. It was further anticipated that relationships between the above clothing problems and types of disabilities would be defined.

The handicapped students to be surveyed were limited to those enrolled in public schools in Arizona. The sampling unit was individual students stratified by age, sex, and type of clothing.

Specific Objectives

1. What were the common clothing problems regarding fit and design among the physically handicapped students?
2. Were there common design or fit problems among those handicapped with common physical limitations?

3. Were there specific design features and garments preferred by the handicapped and were these garments the easiest to manipulate in dressing?
4. Was there adequate information concerning clothing for the physically handicapped available to the parents and children?
5. Were there common preferred fabric characteristics among the physically handicapped in the sample?

Definition of Terms

The following are definitions of terms as used in this study:

Comfort--A state of being free from pain or distress caused by ill-fitting clothing.

Disability--"A physical limitation that hinders the physical movements to such an extent [that there may be] difficulty in dressing" (Johnson, 1972, p. 3).

Durability--"The ability to last in spite of frequent use or wear" (Ewald, 1975, p. 7).

Ease--Additional fabric allowed within a garment to allow for freedom of movement.

Kimono sleeve--A sleeve "cut in one with the garment or a part of it, such as a yoke" (The Vogue Sewing Book, 1973, p. 274).

Mainstreaming--"Enrolling and teaching exceptional children in regular classes for the majority of the school day under the charge of the regular class teacher" (Milbaver, 1977, p. 44).

Pattern modification--Altering a pattern to fit a specific figure problem.

Physical handicap--". . . bodily disorder, malfunction, or injury which limits mobility or renders normal physical activity impossible" (Schuster, 1970, p. 5).

Raglan sleeve--A sleeve that "joins the bodice in a diagonal seam extending to the neckline area, providing a smooth, round silhouette . . ." (The Vogue Sewing Book, 1973, p. 258).

Rehabilitation--The process of improving a handicapped individual's self-esteem and self-acceptance in an effort to restore that individual to a level of useful, constructive activity and achieve some degree of independence.

Self-help aids--Those devices used by a handicapped individual to assist in dressing.

Set-in sleeve--A sleeve "which joins the garment in a seam that encircles the arm over the shoulder" (The Vogue Sewing Book, 1973, p. 274).

Assumptions

In this study, the following assumptions or generalizations were made. These assumptions were not to be tested in the study.

In this study it was assumed that each student would answer the questionnaire truthfully. If the child's parents assisted the child in filling out the questionnaire, it was assumed that they would be truthful, and accurately record the clothing items of their child.

Delimitations

The following factors were identified as possible threats to the external validity of this study. These factors should be considered in assessing the generalizability of the findings and the conclusion of the study.

1. Since this study deals only with the clothing problems of the child from age six to sixteen, the findings of this study cannot be generalized to any other age group.
2. The entire population of handicapped children is not known, therefore, the sample may not be representative.
3. The sample was drawn from children in public schools and the clothing problems of these students may not be the same as those of students in private schools or institutions.

4. The climate in Tucson, Tempe, Mesa, and Scottsdale, Arizona, may necessitate attributes not necessary in clothing in other geographic areas.
5. Current fashion trends may affect clothing satisfactions and as these trends change, so might the clothing satisfactions.

Limitations

The following factors were identified as possible threats to the internal validity of this study. These factors should be considered in assessing whether the findings realistically report the clothing satisfactions and dissatisfactions.

1. No control sample of non-handicapped children was used, so it is not known what clothing problems of the handicapped child are also problems of the non-handicapped child.
2. The age of the child that responded to the questionnaire varies and this difference in age and developmental state of the child may have some effect of the clothing problems and limitations.
3. There may be other variables such as socioeconomic background, family size, living conditions, etc. that affect the clothing problems of the physically handicapped student and these were not controlled in this study.

4. It is not known whether the response was given by the parent or the child and therefore the point of view will change depending upon who is responding to the questionnaire.

CHAPTER II

REVIEW OF RELATED LITERATURE

Much research has been done in the area of clothing for children and clothing for the handicapped. There nevertheless remains much to be done. In this review of literature, pertinent past research has been cited with the hope that in the process, areas of needed additional research will surface.

This review is composed primarily of four parts: (1) the needs that clothing fulfills among children, both handicapped and non-handicapped; (2) the function of clothin clothing for the handicapped child; (3) the specific fit and alteration problems that have been identified by research; and (4) the importance of clothing in rehabilitation.

The Needs That Clothing Fulfills Among Children

The child learns at an early age the importance of clothing in his life through the imitation of parents and peers (Hurlock, 1964). There is much variation in the interest that children from age six to sixteen show in their clothing but generally by age eight the child realizes that to dress too differently from one's peers may result in ridicule (Ryan, 1966). It is this awareness of the social

acceptance of dress, coupled with the motor abilities of the child, that influence at what age the child can dress himself (Gesell, 1977). The non-handicapped child can usually dress himself, with some guidance and direction, by age six (Ryan, 1966).

When the child is able to dress himself completely, his feelings of independence and self-confidence are increased (Bare, Boettke, and Waggoner, 1962). This need for independence is one of the most important needs met by clothing. This should be encouraged by the parent, by providing clothing that is easy to manipulate, so as to facilitate easy dressing (Rea, 1950). Research has shown this feeling of independence in dressing to be important to elementary school children (Miller and Ryan, 1960).

The child learns also that clothing can be used to fulfill another need, the need for attention (Hurlock, 1964). This attention, however, must be positive in nature. A child would rather be ignored than be ridiculed for his dress (Ryan, 1966). The need for social acceptance is also reflected here. Children are influenced by the clothing they wear. If the clothing is very different from others, it may adversely affect his social acceptability (Rea, 1950).

As the child develops, this need for social acceptance is recognized as the need for identification. The preadolescent child likes to be associated with a particular club, group, or gang (Ryan, 1966). "It is said that the

10 year old sometimes esteems his gang or his club more than his family" (Gesell, 1977, p. 218). As the adolescent years approach, the child finds another need that is fulfilled best through his clothing: the need for individuality (Gesell, 1956). By this age the adolescent feels more sure of his likes and dislikes and can make clothing decisions for himself. His choices generally conform with those of his peers, but they may be radically different from his parents.

As the child develops, the interest he has in clothing changes. The child from six to eight is concerned primarily with conforming to the dress of his peers, but he has no real preferences for design or styles (Ryan, 1966). From eight to ten tyere is a marked increase in interest in clothing with the child often requesting specific styles or colors (Gesell, 1977). From age ten to twelve peer group pressure becomes a most important factor in determining styles. Girls at this age are usually more concerned with what is worn than boys (Gesell, 1956). Clothing decisions are made both by the parent and the peer group. Roach and Eicher (1965, p. 81) state ". . . persons with whom an adolescent interacts on a personal, intimate basis, exert relatively greater influence upon his clothing behavior than those . . . of an impersonal, more formal nature."

Research has shown that during adolescence, appearance is important in determining peer group social

acceptability (Allen and Eicher, 1973). From thirteen to sixteen years the adolescent becomes more meticulous about his appearance. His clothing interest reaches its height during this period and he becomes concerned with the feel and fit of clothing in addition to its appearance (Gesell, 1956).

The Function of Clothing for the Handicapped Child

It is important to remember that the clothing needs and wants of the handicapped child are the same as for the non-handicapped child, but these needs and wants may not be as easily filled by clothing (Bare et al., 1962). Independence in dressing is as important for the handicapped child as for the non-handicapped, perhaps more so. The lack of independence may be "a great bar to employment and a full life, as well as an increasing daily load on [the] family" (Gamwell and Joyce, 1966, p. 10). If the child can dress himself, his feelings of self-confidence will be increased and he will feel perhaps he is not quite so different (Bare et al., 1962). This independence in dressing can be encouraged by providing the child with clothing that is easy to manipulate. The handicapped child also needs guidance, understanding, and patience, and enough time to practice dressing skills (Bare et al., 1962).

Handicapped children also need the positive attention and social acceptance that clothing can help provide.

Many handicapped children may not wish to wear adapted clothing that they feel may emphasize their handicap Macartney, 1973). The clothing they wear should look as normal as possible (Gamwell and Joyce, 1966). Even the more severely handicapped child may prefer to be assisted in dressing and dress normally, rather than wear adaptive clothing and dress without aid (Forbes, 1971). "Because handicapped children are already different from the rest of their age group, it is especially important for them to have clothing which does not also set them apart" (Ryan, 1966, p. 224).

Clothing can help the handicapped child in shaping his feelings about his own individuality. How the handicapped child feels about himself can be influenced by the type of handicap, the timing of the handicap, and the reaction of others to the handicap (Hurlock, 1964). The development of a positive self-concept in the handicapped child can be encouraged by using clothing to minimize the visibility of the handicap and reduce the possibility of a negative reaction by others to the handicap.

Fit and Alteration Problems Identified by Research in Clothing for the Handicapped

Research has been done in many areas of clothing for the physically handicapped. There have been studies on the handicapped adult female (Scott, 1959; Gamwell and Joyce,

1966; Ahrbeck and Friend, 1976; Feather, 1976), studies on the handicapped adult male (Gamwell and Joyce, 1966; Ewald, 1975), and studies on the handicapped child (Boettke, 1963; Friend, 1970; Forbes, 1971; Jordan, 1971; Johnson, 1972; Friend et al., 1973). As a result of this research, the handicapped person's clothing satisfactions and dissatisfactions have been defined.

The aim of much of this research has been to identify the negative, dissatisfying characteristics of clothing and to investigate alternative designs. Clothing for the physically handicapped individual "can be a source of pain, hardship and embarrassment" (Macartney, 1973, p. 1). Scott in 1959 had 70 handicapped homemakers evaluate eight types of garments. There were some design attributes preferred more than others such as moderately full skirts preferred to slim skirts, and kimono sleeves preferred to set-in sleeves. The homemakers were concerned also with durability, comfort, and care of the garments (Scott, 1959). Other research has shown some preferred design attributes to be raglan sleeves, front openings, and a preference for wearing one garment rather than two (Gamwell and Joyce, 1966).

In this research, Gamwell points out that in selecting clothes for the handicapped one must consider the type of the handicap, the attitude of the individual, the help available, and the location where dressing occurs (Gamwell

and Joyce, 1966). All of these variables affect the degree of the clothing problem. These variables also begin to show the variance within the population of handicapped persons.

Ewald, in her study on the physically handicapped male wearing an artificial limb, found that men as well as women were concerned with fit and durability in the clothing they purchase. The men in this study felt that excessive abrasion in their garments due to the assistive devices worn was a major clothing problem (Ewald, 1975).

There have also been some comparative studies undertaken designed to compare the clothing attitudes of handicapped and non-handicapped university students. One study found that physically handicapped men and women differed from the non-handicapped in their attitudes on clothing fashion, management, comfort, and durability attitudes (Hurlock, 1964).

While much research has been done on the physically handicapped child and his clothing problems, many of these studies have involved either small sample populations or have been case studies. These studies could, therefore, be subject to some criticism by reason of the fact that the variety of handicaps within the handicapped population is quite great. Boettke noted that among her sample of 93 handicapped children, one of the largest sample populations that has been studied, the most common physical problems were "lack of hand or arm control, paralysis in one or both

legs, lack of arm musclepower, use of one hand, general body weakness and body deformities" (Boettke, 1963, p. 639).

Because of this variance among handicapped children, the individual needs and abilities of the child must be considered when selecting clothing. Clothing should be comfortable, attractive, durable, and easy to manipulate. The design lines should be simple (Bare et al., 1962; Forbes, 1971; Gamwell and Joyce, 1966; Newton, 1973). The garment should be well constructed with an adequate seam allowance, and strong thread should be used. It is recommended that the clothing be purchased ready to wear and then the necessary modifications made (Reich, 1976).

Jordan asked a sample of 30 parents to evaluate a favority garment of their handicapped child. The parents were most satisfied with the garment's ease of care and comfort. They were least satisfied with the garment's ability to hide the handicap and the difficulty with which the garment was altered (Jordan, 1971). Research with individual cases has shown that attractive clothing can be designed to minimize the appearance of the handicap. However, this takes much expertise in clothing construction and pattern modification (Ahrbeck and Friend, 1976; Friend et al., 1973).

Boettke (1973) questioned the parents of 93 handicapped children to determine clothing problems. It was found that handicapped children have many problems with

openings and fastenings on garments. Children preferred to slip the garment over the head or use easily manipulated zippers, large buttons, hook and loop tape, or belts. Assistive devices, if used, often damaged clothing (Boettke, 1963). Clothing must often be reinforced in these areas of excessive abrasion to avoid tears (Reich, 1976).

As a result of the research that has been done, many suggestions have been offered to help deal with the clothing problems of the handicapped child. To help the child in dressing himself, the clothes should be made easily accessible. For the child that may not have sensation in all parts of his body, a full length mirror may be provided. The front and back of the clothing can be marked to help facilitate dressing. If self-help aids are used, they should be simple to operate (Gamwell and Joyce, 1966).

In the garments themselves, as few fastenings as possible should be used. Clothing styles should be simple and the fastenings easy to manipulate (Forbes, 1971). Experimentation is often necessary to find the most suitable fastening. Loops of material to use with buttons, hook and loop tape, or zippers with a pull ring are just a few of the fastenings that could be used (Forbes, 1971; Gamwell and Joyce, 1966).

Clothing and Rehabilitation

Dealing with the clothing problems of the handicapped is a complicated task, but if these clothing problems can be resolved it can be a great help in rehabilitation (Reich, 1976). Clothing can aid in rehabilitation if the clothing is minimizing the handicap and increasing the individual's self esteem (Jordan, 1971; Ahrbeck and Friend, 1976). The home economist has an important role to play in this rehabilitation because she can work with the entire family and not just the handicapped child (Trotter, 1969).

Clothing cannot begin to contribute to rehabilitation, however, until the family and child are equipped with enough information to deal with clothing problems. ". . . clothing problems of handicapped children have been left . . . to the parents to solve" (Friend et al., 1973, p. 25). The research that has been done rarely reaches the physically handicapped. There is a need currently for a comprehensive, descriptive study defining the clothing satisfactions and dissatisfactions of the physically handicapped child. This information, once obtained, must be made available to those who need it the most. There is a need for a greater interchange of ideas and improved communication in this area. A central clearinghouse for information has been recommended (Forbes, 1971; Gamwell and Joyce, 1966; Jordan, 1971; Reich, 1976).

This information on clothing problems and limitations needed also to reach the educator. One of the goals of the Education for All Handicapped Children Act was an individualized educational program ("Education for All Handicapped Children Act of 1975," 1975). If the clothing needs and limitations of the physically handicapped student can be identified it will greatly help the educator in developing the appropriate individualized instruction. The University of Washington developed an instructional unit to help children in the process of buttoning (Edgar, 1977). Programs such as this could be developed in other areas once the skills and information needs of the handicapped students are identified.

CHAPTER III

PROCEDURE

This chapter contains a description of the population and the sample chosen from the population to study. It also contains the development of the questionnaire, pretesting the questionnaire, method of data collection and analysis of data.

Population

The target population for this study was all the physically handicapped students age six to sixteen inclusive, enrolled in selected school districts in Arizona. Specifically, the accessible physically handicapped population was drawn from the following districts (Walker, 1977):

	1978 Estimated Enrollment of Physically Handicapped
Amphitheater Elementary and High School	10
Mesa Unified Schools	12
Scottsdale Unified Schools	12
Tempe Elementary Schools	35
Tempe Union High Schools	6
Tucson Unified District #1	41
	116
Total Arizona	383

Sample

The sample consisted of those physically handicapped students from age six to sixteen inclusive who were designated in the previously mentioned districts. These districts were chosen because of their size, willingness to cooperate, and the time constraints of the researcher. The attempt was made for the sample size to be as near as possible to the total population of handicapped students within the selected districts. However, because of the poor response to the questionnaire, this was not possible. While a random sampling plan was not used to select the districts participating in the study, there seemed little reason to expect that the students would be greatly different from those in other public schools in the state.

Development of the Instrument

The instrument was adapted from a questionnaire for handicapped adults used by Reich and Shannon in their study "Information Systems for Clothing and Daily Living Needs of the Handicapped," funded by the Agricultural Experiment Station of The University of Arizona (Reich, 1977). The researcher with her advisor made some modifications in the questionnaire for clarity, and decreased the length to make it suitable for the sample (Appendix A). The data gathering instrument, proposal, and necessary forms were submitted to

the Human Subjects Committee of The University of Arizona for approval (Appendix B).

Pretesting the Questionnaire

The original questionnaire from which the instrument for this study was developed was pretested with a sample of 200 physically handicapped adults in Arizona. The questionnaire for this study was pretested for clarity with a sample of six graduate students in disciplines outside of Clothing and Textiles. These students were enrolled in a graduate course on evaluation development.

Method of Data Collection

Prior to distributing the questionnaire the appropriate administrators in the selected districts were contacted to assure their cooperation. After the initial contact was made the procedure that followed varied greatly from school to school and district to district.

Generally, contact had to be made with the directors of special education and it was up to this individual to determine how the consent forms and questionnaires would be distributed in his district. In some instances, where the researcher was unable to travel to the school district, the initial interview with the district was conducted over the telephone and the questionnaires were mailed to the district office to be distributed. In every instance, it was the school district, not the researcher, that ultimately sent

the questionnaire and consent form to the home of the physically handicapped students. The researcher, therefore, lost some control over exactly how, when, and to whom the questionnaires were sent. This was largely due to the school district regulations which prohibited the researcher from having direct access to the physically handicapped students. Two hundred and fifty consent forms and questionnaires were distributed to the various districts and thirty-one completed and signed were returned to the researcher during a period of twelve months. Where possible, the school districts were contacted a second time and the consent forms were distributed once again. The response from this second mailing was much lighter than from the first. If the student and parent were interested in participating in the study, they signed the consent form, completed the questionnaire, and returned both to The University of Arizona in self-addressed stamped envelopes provided.

Analysis of Data

Because the sample size was small, no sophisticated statistical tests were used. Frequency distributions were constructed to help identify trends pertinent to the specific objective.

CHAPTER IV

RESULTS

Following a discussion of the characteristics of the sample, results will be discussed in relation to the research questions. The sample used was small, thirty-one participants, so for this study no significance tests were used. Frequency counts were conducted and percentages calculated with the hope that some trends related to the research questions would be identified.

Characteristics of Subjects

Thirty-one physically handicapped students from age six to sixteen and their families, from Arizona, volunteered to participate in this study. Thirteen of the volunteers were residents in Tucson, Arizona; and the remaining eighteen were from Phoenix, Arizona and the surrounding communities of Tempe, Mesa, and Scottsdale. Five of the volunteers were in the fifteen to sixteen year old group, six were from twelve to fourteen, eleven were from nine to eleven, and nine were from six to eight.

Of these volunteers, fifteen were male and sixteen were female. Racially the respondents were Caucasian (twenty-seven volunteers) with one Chinese/Mexican, one Mexican-American, one Black, and one who did not specify.

The types of physical handicaps varied among the volunteers. Eleven of the males and twelve of the females stated they had congenital handicaps. Nine of those with congenital handicaps stated the type: one with Dondy Walker Syndrome, five with cerebral palsy, one that was blind, one with vitamin D rickets, and one with Dystoria Muscolorum Deformans. Three of the males listed diseases: perthes hip, arthritis, and spinal cord tumor. Four of the females listed diseases: perthes hip, Madame Louis Barr Syndrome, meningitis, and stroke.

Common Clothing Problems Regarding Clothing Among the Physically Handicapped

The handicapped students in the sample purchased most of their clothing. There were twenty-six respondents, or 84% of the sample that did not need specially designed clothing as a result of their handicap. However, 42% of the sample did need to have some alteration done on their clothing to make them more comfortable.

Table 1 indicates some of the problems the students had when shopping for garments and begins to point out why so frequently alterations are necessary.

Finding a ready made garment that fits properly was the most significant difficulty for 79% of the sample. The size difference found when shopping for ready to wear garments was also a problem for 73% of the sample. This seems to point out a lack of continuity and conformity in

Table 1. Difficulty in purchasing clothing.

Clothing difficulties	% No	% Yes
Problems in dressing	38	62
Fit of garment	21	79
Lack of comfort	30	70
Differences in sizing	27	73
Alterations required	44	56

N = 26

sizing among ready to wear manufacturers. There is no standard amount of ease allowed from manufacturer to manufacturer and therefore, a lack of fit and comfort can be a problem for handicapped as well as non-handicapped individuals.

There were specific problem areas with ready to wear clothing for many in the sample. Table 2 illusrates what some of the most significant problem areas were.

A lack of sufficient ease in ready to wear garments was the common feature in each variable, whether it was in the shoulder, waistline, or openings of the garment (Table 2). Because of the various fit and design problems encountered with ready to wear garments, the physically handicapped students frequently found alterations were necessary in some areas (Table 3).

Table 4 shows that there were areas on ready to wear garments that were often in need of repair or reinforcement

Table 2. Problems with ready to wear garments.

Problem	% No	% Yes
Ease in shoulder	42	58
Ease in waistline	43	57
Openings too small	35	65
Armhole and sleeve too tight	31	69

N = 26

Table 3. Clothing areas frequently needing alteration.

Clothing features	% No	% Yes
Shoulder & armhole	69	31
Add or decrease width in garment	48	51
Openings in garment	78	22
Length of garment	43	57

N = 28

Table 4. Clothing areas in need of reinforcement.

Clothing feature	% No	% Yes
Seams	46	54
Pockets	50	50
Buttons and Buttonholes	37	63
Zippers	50	50
Areas of severe wear	36	64

N = 25

for those sampled. Sixty-nine per cent of those sampled needed additional reinforcement for those areas on the garment that received greater amounts of use and abrasion, such as from a brace or wheelchair. Buttons and buttonholes received much wear, and for 63% of the students these areas also needed reinforcement.

There were design features that appeared to pose more difficulty in terms of fit and ease of dressing. From the design features listed there appeared to be some very definite trends in terms of what posed problems and what did not (Table 5). Among the various sleeve styles listed the long sleeve proved to be the most difficult to put on for 61% of the sample. An individual with a handicap in the neck, back, shoulder, or arm area had more difficulty putting on a long sleeve than a raglan sleeve, for example. The raglan speeve appeared the easiest to put on in this sample with only 17% stating they had some difficulty with this design feature.

Some cuff styles proved more difficult to manipulate than others. Eighty-nine per cent of the sample found the buttoned cuff difficult to put on. The elasticized cuff was difficult for 60% and the ribbed cuff for 54% of the students, respectively. A long sleeve with a buttoned cuff certainly would be a more difficult sleeve to manipulate than a short raglan sleeve. The long sleeve with a buttoned

Table 5. Clothing design features which pose difficulty in dressing.

Design feature	Total N	% No	% Yes
Long sleeve	26	38	62
3/4 sleeve	22	50	50
Short sleeve	24	67	33
Raglan sleeve	23	83	17
Buttonee cuff	27	11	89
Ribbed cuff	25	46	54
Elasticized cuff	25	40	60
Turtle neck	28	21	79
Jewel neck	26	42	58
Shirtwaist	26	73	27
Lowered V Neck	24	75	25

cuff provided more versatility since it can be rolled up or down depending upon the desire of the wearer.

In necklines, there were some styles that were clearly more difficult to put on. The turtleneck proved to be very difficult for 79% of the sample when dressing. The easiest neckline to manipulate was the dropped V or U neck. Certainly the dropped neckline created more ease around the head when putting on the garment which in turn eased dressing.

One area of central concern to the physically handcapped person dressing himself was the type of fastening on his clothing. The students sampled indicated that for 85% of them, hooks and eyes were the most difficult fasteners to manipulate (Table 6). One can understand this

Table 6. Difficulty with clothing fasteners.

Clothing fasteners	% No	% Yes
Buttons 1/2" or smaller	21	79
Buttons 1" or larger	36	64
Snaps	43	57
Hooks and eyes	15	85
Ties or eyelets and lacing	26	74
Hooks and loop tape	65	35
Belts and loops	33	67

N = 28

when one considers the small size of most of these fastenings. Buttons smaller than one-half inch in diameter were a problem for 79% of the sample and even larger buttons of one inch or larger were difficult for 64% of the sample. It was interesting to note that buttons, regardless of their size, were difficult to manipulate for over 60% of the sample. The fastenings that appeared the easiest to manipulate were hook and loop tape for 65% and snaps for 43% of the sample.

Common Clothing Design Problems Among Those Physically Handicapped Students with Like Disabilities

Among the 31 respondents to the questionnaire, five stated the cause of their handicap as cerebral palsy. There were many common physical limitations among the five (Figure 1).

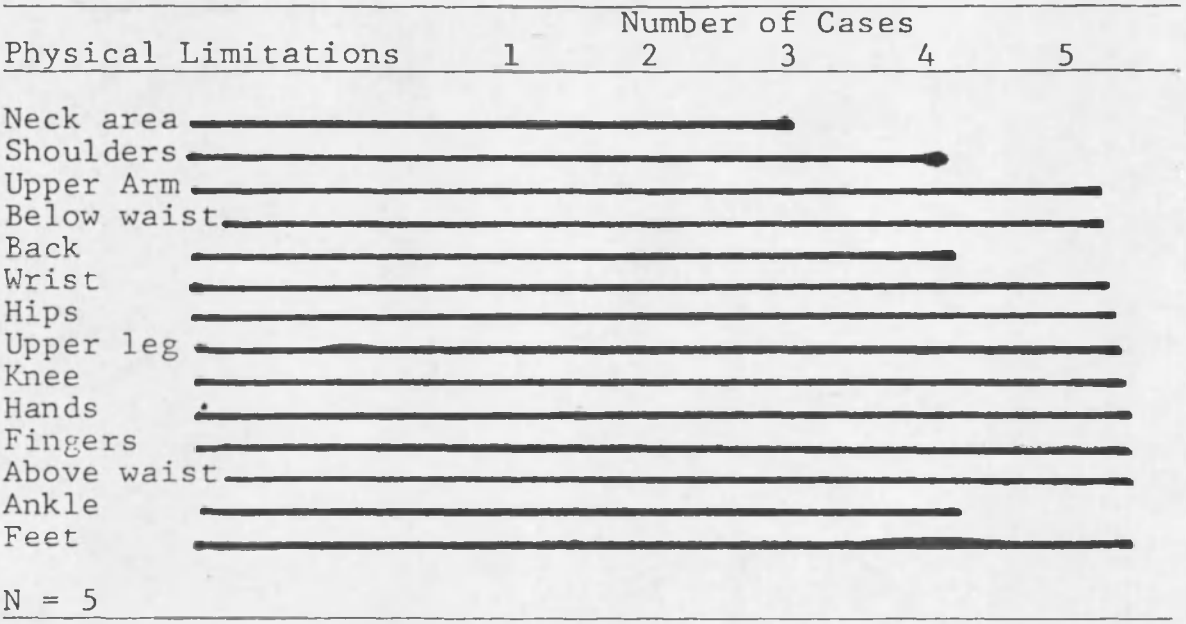


Figure 1. Common physical limitations among cerebral palsy students.

Among these five students, three were male and two were female. Four of the five used a leg brace of some type and two of the five were confined to a wheelchair. Table 7 lists the clothing design features by difficulty level whether positive or negative. The trends were consistent between these cerebral palsy students and the larger sample. Long sleeves and set-in sleeves provided the most difficulty in dressing while the raglan sleeves were the easiest to manipulate. The buttoned cuff, once again, was difficult to manipulate as was the turtleneck for all five of the students. The easiest fastening for these students was hook and loop tape, and buttons were the most difficult.

Table 7. Common clothing design difficulties among cerebral palsy students.

Design features	# No	# Yes
Long sleeve	0	5
Set-in sleeve	1	4
Raglan sleeve	3	1
Buttoned cuff	0	5
Turtle neck	0	5
Lowered neck	3	0
Buttons 1/2" or smaller	0	4
Buttons 1" or larger	0	4
Hook and loop tape	3	1

N = 5

Specific Design Features and Garments Preferred by the Physically Handicapped, and Garments that Proved to be Difficult in Dressing

As discussed in the previous section, several sleeve lengths, cuffs, and fastenings were found to be easier to manipulate than others (see Tables 5 and 6). The raglan sleeve, ribbed cuff, and lowered neckline were found to make dressing easier as was hook and loop tape as a fastening.

Table 8 illustrates features the physically handicapped sampled felt made dressing easier. Adjustable waistbands facilitated dressing for 80% of the sample. Adjustable waistbands allowed for expansion of the waistline for the seated figure without severe discomfort and alleviated the need for fastenings that made dressing more difficult. Front openings were clearly preferred for 81% of the physically handicapped students if openings were necessary. Sixty-eight per cent felt that elasticized openings also helped in dressing. Certainly an individual with limited movement in the arms, hands, and back would have an easier time putting on a pull on pant with an elastic waist than a trouser with a fly zipper and buttoned waistband.

The females in the sample indicated preferences for items of clothing that in some cases, included clothing that had a high degree of difficulty in dressing (Table 9 and Figure 2). Eighty-six per cent of the females

Table 8. Clothing features that would aid in dressing.

Clothing features	% Yes	% No	% Maybe
Pleat for additional room	17	46	37
Gussets	39	30	31
Adjustable waistbands	80	16	4
Front openings	81	11	8
Enlarged fasteners	54	23	23
Use of elastic	68	20	12

N = 31

Table 9. Preference among females for specific items of clothing.

Clothing items	N	% No	% Yes
Dresses without waistlines	14	14	86
Dresses with waistlines	14	21	79
Skirts	14	21	79
Blouses	14	7	93
Pullover sweaters	14	--	100
Cardigan sweaters	13	8	92
Shirts	14	14	86
Pants	14	7	93
Coats	14	21	79
Capes, ponchos	13	15	85
Bathing suits	14	--	100
Shorts	15	13	87

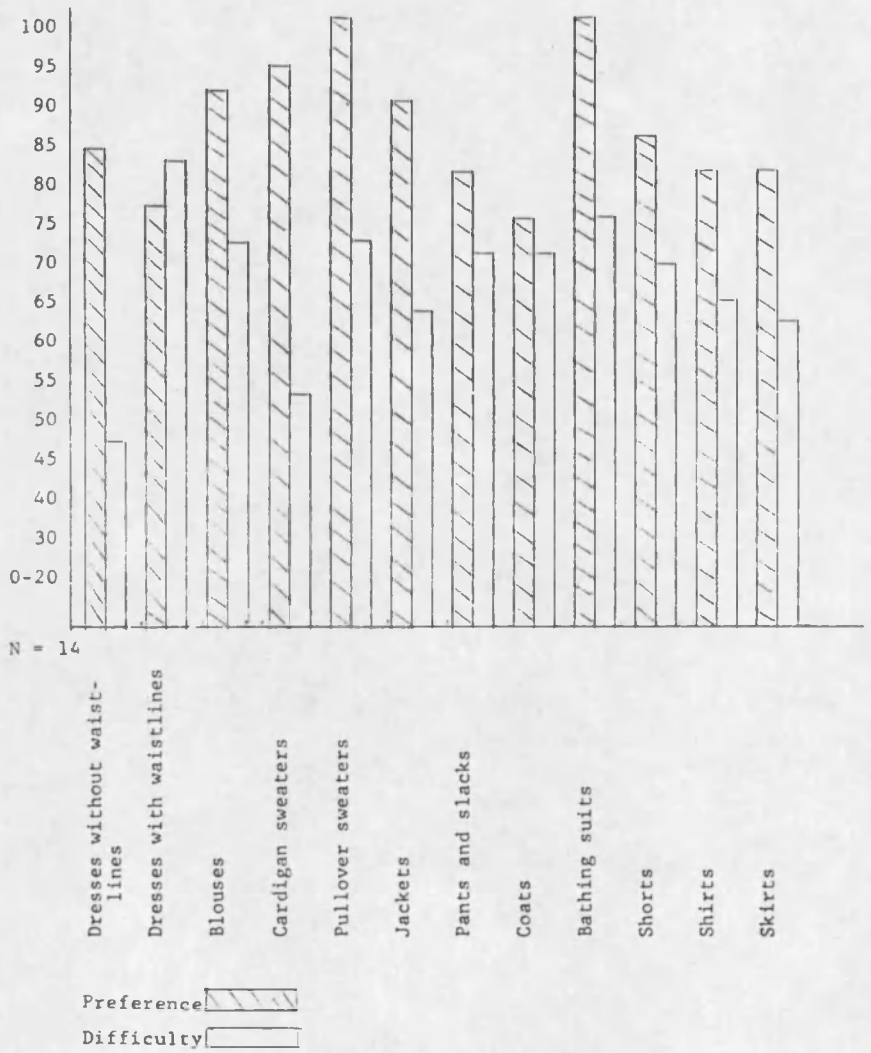


Figure 2. Per cent preferences for clothes versus difficulty to put on among females.

preferred dresses without waistlines and 79% preferred dresses with waistlines. However, dresses with waistlines provided difficulty in dressing for 86% of the females, and even dresses without waistlines were difficult for 50% of the sample. The higher preference for dresses without waistlines may be due to the fact that they seemed to be less difficult to put on. In other instances, the garments the females preferred to wear also were very difficult to put on. Pullover sewaters, for example, were preferred by 100% of the females responding even though 71% found this style difficult to put on. Cardigan sweaters were preferred for 92% of the females and provided some difficulty in dressing for 54% of the females. Other articles of clothing the females preferred were 93% for jackets and 81% for pants and slacks, although they were difficult for 64% and 71% respectively to put on.

Capes and ponchos were preferred by 85% of the females and only 15% found this type of clothing difficult to put on. Capes and ponchos were another good example of clothing that may be preferred partially because of the ease with which they were put on.

Based upon these results, capes, ponchos, and dresses without waistlines provided the least amount of difficulty in dressing for the females in the sample. There were, however, many articles of clothing that were preferred despite the difficulty with which they were worn.

This may be due to the students' desire to wear clothes that are in fashion. Pullover sweaters were a popular fashion item among students and the 100% preference for this sweater may indicate a desire among the handicapped students to dress similar to their non-handicapped peers.

Much of the clothing that was preferred by the males also provided some difficulty in dressing. The clothing that was most preferred, in order of preference, was pull on shirts, pants, coats, bathing trunks, shorts, and cardigan sweaters (Table 10). The clothing that proved the most difficult in dressing was, in order of difficulty, coats, pants, cardigan sweaters, sports shirt, sleeveless sweaters, and dress shirts (Figure 3). Here again one can see that three of the most preferred garments were also three of the most difficult garments in dressing. Once again peer identification seemed to come into play.

One garment that provided the least amount of difficulty in dressing was the tie (45%). However, only 30% of the males preferred this garment. This may be due to the fact that the young people in this sample did not frequently wear ties and therefore did not indicate a preference for it. It may be the 30% that did indicate a preference for ties, had some help in the home tying ties and therefore found little difficulty in putting them on. The questionnaire did not specify the type of tie and some of the students may have used clip-on ties.

Table 10. Preference among males for specific items of clothing

Clothing Items	Actual N	% No	% Yes
Pull on shirts	14	0	100
Pants and slacks	13	8	92
Coat	13	8	92
Bathing trunks	14	14	86
Shorts	14	14	86
Cardigan sweaters	13	15	85
Sport shirts	13	23	77
Pullover sweaters	13	23	77
Sports jacket	13	23	77
Dress shirts	13	38	62
Suit	12	50	50
Ties	13	69	31

N = 14

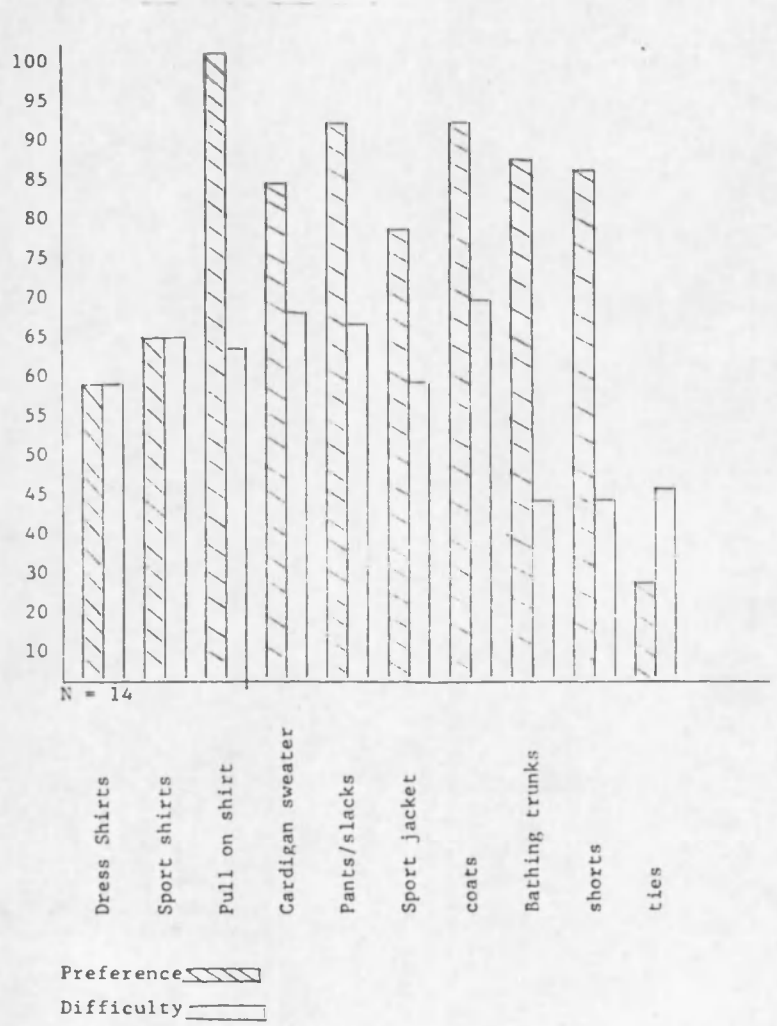


Figure 3. Per cent preference for clothing versus difficulty to put on among males.

The students in this sample were living with their parents and therefore there was someone readily available to assist, when necessary, in putting on more difficult garments. The high preference for those garments that were also difficult to wear may indicate a dependence on some individual to help in dressing. Indeed, 73% of the students indicated that someone helped them dress and 65% needed help in undressing themselves.

For both the males and females there was some dressing difficulty with underclothes. For females, the greatest difficulty was in putting on hose (Table 11). Seventy-eight per cent of the females responded that they had some difficulty. The action of pulling hosiery up over the foot, leg, and hip took an entire body effort and was extremely difficult for one with limited movement. Difficulty was experienced by 67% and putting on socks was difficult for 69% of the females.

Table 11. Dressing difficulty among females with undergarments.

Undergarments	Total N	% No	% Yes
Brassiere	9	33	67
Hose	9	22	78
Socks	13	31	69
Panties	13	46	54
Slips	11	27	73
Nightwear	13	54	46

For males, putting on socks was difficult for 73%, probably primarily because much bending of the back, leg, and arm was required in this activity (Table 12). The action of putting on socks was quite similar to that of putting on hosiery for females so it was understandable that both activities would be very difficult for the physically limited individual. Pajamas also posed difficulties for 60% of the males.

Table 12. Dressing difficulty among males with undergarments.

Undergarments	Total N	% No	% Yes
T shirts	15	60	40
Undershorts	15	53	47
Socks	15	27	73
Pajamas	15	40	60
Bathrobe	14	50	50

Availability of Adequate Information Concerning Clothing

It was the feeling among 83% of the respondents that information concerning clothing for the physically handicapped was not easily available. However, 63% of the physically handicapped students and/or parents did not feel they needed additional information to help them deal with their day to day living activities. So although clothing

information was not felt to be readily available, it appeared as though it would not be used if it was. However, this reaction may simply be due to a lack of awareness regarding available literature and resources. There may be more of a need than either the physically handicapped students or their parents recognized. For example, 81% of those sampled were not familiar with a stocking gutter and 58% were not familiar with long handled scissors or tongs. Both of these self-help aids could assist in reducing some of the difficulty when putting on hose or socks and shoes. But because these individuals were not even aware of such aids, they did not realize the aids were available and could help them with their clothing problems.

Table 13 points out in which areas this information was desired by those who felt more information was needed.

Table 13. Subject areas where more information was needed.

Area needing more information	N	Yes	No	% Yes	% No
Clothing	10	6	4	60.0	40.0
Dressing	12	7	5	58.3	41.7
Grooming	11	5	6	45.5	54.5
Self-help aids	13	9	13	69.2	30.8

The information needed most was first, self-help aids and secondly, clothing for special needs.

Common Preferred Fabric Characteristics Among the Physically Handicapped

The physically handicapped students in the sample had some very definite preferences regarding fiber content and care. As Table 14 shows, cotton was the preferred fabric for 100% of the sample, while 97% preferred blends of cotton and polyester. It was not surprising that these fabrics should be the most preferred when one considers the ease of care, durability, and comfort they have to offer especially in Arizona. Cotton fabrics were well suited to the southwest because of their absorbency, making cotton very comfortable during summer months. Polyester, a durable, resilient fiber increased the strength and abrasion resistance of cotton, and the easy care properties, without detracting significantly from the comfort factor.

Because of polyester's durability and easy care it was the fabric ranked third in preference by 89% of the students. Polyester fabrics can be very comfortable in milder temperatures and hold up well to abrasion. Polyester does not wrinkle easily and this may also contribute to its popularity. Acrylic was the fiber preferred next by 88% of the sample. Fabrics made from acrylic offer warmth without weight during cooler months and are relatively easy care. These factors may have contributed to its popularity.

Table 14. Common preferred fabric characteristics.

Fiber and characteristics	Total N	% No	% Yes
Fiber			
Cotton	28	0	100
Blends of cotton and polyester	29	3	97
Polyester	27	11	89
Acrylic	24	13	87
Nylon	23	22	78
Wool	25	56	44
Spandex	22	54	46
Care			
Handwash	21	52	48
Machine wash	29	0	100
Machine dry	29	3	97
No ironing required	30	3	97
Bleach	22	9	91
Dry clean	22	73	27
Disposable	21	86	14
Weight			
Lightweight knit	23	4	96
Lightweight wovens	21	14	86
Medium weight wovens	21	14	86
Double knits	21	24	76
Hand			
Feeling of warmth	26	8	92
Feeling of coolness	28	0	100
Smooth and slippery	23	22	78
Firm and stable	23	22	78
Coarse and rough	23	87	13

The least preferred fiber was wool, by 44% of the sample. Wool, a very comfortable fiber, offers warmth during cooler temperatures but does require either dry cleaning or handwashing. The sample indicated a preference for easy care fabrics and the extra care required of wool may account for it being less favored.

It was extremely important to the students in the sample that the clothes they wore be machine washable. One hundred per cent of the students stated a preference for machine washable clothing and 97% indicated a desire for clothing that can be machine dried. Ninety-seven per cent of them stated a preference for not having ironing required of their garments. Most of those sampled (91%) also stated a preference for their clothing to hold up under bleaching. These results seemed to indicate a desire among the students for easy care, wrinkle resistant, durable fabrics. This seemed fairly consistent with the preferred fabrics, although 100% cotton may need to be ironed frequently if it was unfinished and bleaching cotton frequently may severely reduce its strength.

Dry cleaning of clothing was not preferred among the majority of the students, only 27% indicated they would purchase clothing that needed to be dry cleaned. It was interesting to note that disposable clothing was the least preferred; only 14% stated they would prefer this type of clothing. Dry cleaning certainly was more costly than

machine washing and drying. Disposable clothing, also, may be perceived as more costly in the long run since it was not readily available and many consumers were not aware of what the cost of it would be.

The physically handicapped students in the sample showed a preference for lightweight knits over any of the fabrics presented. Ninety-six per cent of the sample preferred this weight knit and this may be the result of a concern for comfort. Lightweight and medium weight wovens were desired by 86% of the students. For a handicapped individual with restricted movement, a lightweight knit would be less likely to restrict movement further and more likely to stretch with any movement than a woven fabric. Double knits were selected by 76% of the sample and was the least favored among the fabrics.

Comfort again appeared to be the most important factor in the hand of the fabrics worn by the students. One hundred per cent of the students felt a feeling of coolness to be an important characteristic of the clothing they purchased and for 92% of the students a feeling of warmth was preferred. Seventy-eight per cent of the students preferred smooth and slippery fabrics, while coarse and rough fabrics were desired by only 13% of the students.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to investigate clothing problems among physically handicapped students from age six to sixteen, enrolled in public schools. Also examined were common clothing problems among those with like disabilities. Specific favored fabric characteristics among the students were compared. The need for additional information to improve day to day living activities was assessed.

As the sample of 31 participants was small, no sophisticated statistical tests were conducted. Based upon the results of the 16-page questionnaire trends in the above mentioned areas were identified through the use of frequency distributions.

Results of Objectives

Objective 1

What were the common clothing problems regarding fit and design among the physically handicapped students?

The data seemed to indicate a problem when purchasing ready to wear clothing because of inconsistencies in sizing among manufacturers. A lack of sufficient ease in ready to wear garments often made alterations necessary.

The most frequent area needing attention was the length of the garment. Adding or decreasing width within the garment was often a necessary alteration. It was also quite often necessary to repair or reinforce areas of severe wear, buttons and buttonholes, and seams on the garments.

The specific design features that posed the greatest difficulty in dressing were long sleeves with buttoned or elastic cuffs, turtlenecks, and various fastenings. Hooks and eyes were the most difficult fastening to manipulate. Buttons of all sizes were difficult, especially those less than 1/2-inch in diameter.

Objective 2

Were there common design or fit problems among those handicapped with common physical limitations?

Five of the students in the sample had cerebral palsy and the clothing problems of those five were compared. It was difficult to draw conclusions on the basis of five cases, however, the trends seemed consistent with the larger sample. Long sleeves and set-in sleeves were more difficult in dressing. The buttoned cuff was difficult to manipulate and turtlenecks were the most difficult neck opening to get into. Contrary to the larger sample, buttons of any size, and not hooks and eyes, were the most difficult fastenings to manipulate.

Objective 3

Were there specific design features and garments preferred by the handicapped and were these garments the easiest to manipulate in dressing?

The raglan sleeve, ribbed cuff, and lowered V or U neckline were all features that provided the least amount of difficulty in dressing. Hook and loop tape was the easiest fastening to manipulate. Other features the physically handicapped preferred were adjustable waistbands, front openings on garments, and the use of elastic.

For females, dresses without waistlines and capes or ponchos were garments they preferred to wear and also proved the least difficult in dressing. Other articles of clothing that were preferred in spite of the difficulty in dressing were pullover sweaters, cardigan sweaters, jackets, and pants.

For the males, much of the clothing that was preferred also provided some difficulty in dressing. The most preferred items were pullon shirts, pants, coats, bathing trunks, shorts, and cardigan sweaters. The clothing that provided the most difficulty in dressing was coats, pants, cardigan sweaters, sports shirts, sleeveless sweaters, and dress shirts.

Females appeared to have more difficulty with underclothes than males. Hosiery, socks, brassieres, and

slips all posed difficulties for females. The males had difficulty with socks and pajamas.

Objective 4

Was there adequate information concerning clothing for the physically handicapped available to the parents and children?

The majority of the students in the sample did not feel that information concerning clothing for the physically handicapped was readily available. However, a majority also indicated they did not feel they needed additional information concerning their handicap. Of those that did not want additional information, the information most needed was in the areas of self-help aids and clothing.

Objective 5

Were there common preferred fabric characteristics among the physically handicapped in the sample?

Comfort and ease of care played an important part in preferred fabric characteristics. The preferred fabrics were 100% cotton, blends of cotton and polyester, polyester, and acrylic. Wool was the least preferred fiber among the students.

Regarding care of their garments, it was most important that they be machine washable and machine-dried. There was a desire for wrinkle-resistant clothing since they

did not want to iron. Most of the students also indicated the desire for their clothing to hold up under bleaching.

Lightweight knits were the most preferred type of fabric among the students, woven fabrics were ranked second in preference. Comfort appeared to be an important consideration with 100% of the sample desiring a feeling of coolness from their clothing and 92% preferring a feeling of warmth.

Conclusions

Based upon the results of this study some very definite trends surfaced. There were some very strong similarities in the clothing problems of the physically handicapped students in the sample. The sizing of ready to wear clothing often made alterations necessary in the length of the garment and in decreasing or increasing width within the garment. Areas of severe wear, buttons, buttonholes, and seams also often needed reinforcing. Clothing selection among the handicapped would be much easier if the manufacturers would have a uniform fit and ease allowance. Quality construction is also of utmost importance.

Specific design features such as long sleeves were more difficult for the physically handicapped in dressing than others. Buttoned cuffs were difficult to manipulate. There was a preference for raglan sleeves and ribbed cuffs. Turtlenecks also proved difficult in dressing and there was

a preference shown for lowered necklines, such as a V neck or U neck. Some fastenings were more difficult to manipulate than others. Hooks and eyes and buttons of all sizes were difficult to fasten. Hook and loop tape appeared to be the easiest fastenings to manipulate. If parents were made aware of the most desirable clothing characteristics for the handicapped child, it could minimize greatly the clothing problems experienced.

Preference in the type of clothing worn was not always contingent upon the ease with which it could be put on. Dresses without waistlines seemed to be more popular among the females than dresses with waistlines and they also provided less difficulty in dressing. Capes and ponchos were also preferred, and these, also, were easy to put on. However, many types of clothes, such as pullover sweaters, cardigan sweaters, pants, and jackets were preferred despite the fact that they posed some difficulty in dressing.

The same was true of the males. Many of the garments preferred such as pullon shirts, pants, coats, shorts, and cardigan sweaters also were very difficult to put on. These results seemed to indicate that other variables such as identification with peers affect clothing preference beside the difficulty with which they were put on. These results seem to support the theory that handicapped children

prefer to have help in dressing and dress normally, than have some independence in dressing and wear specially adapted clothing.

Comfort and ease of care were very important considerations in fabric selection. The clothing should be machine-washed and machine-dried with little or no ironing required. Preferred fabrics were cotton, blends of cotton and polyester, and polyester.

Recommendations

Much research needs to be done in the area of clothing for the physically handicapped child. A questionnaire to further define the clothing problems of the handicapped child would be an effective way of acquiring data but the questionnaire should be short and concise, and conducted by either the researcher or qualified volunteers, utilizing an interview schedule.

An effort should be made to deal in depth with several case studies with like disabilities. Survey studies would be of value if conducted with a large sample size under strictly controlled conditions so as to eliminate the effect of other variables.

An in-depth study on the effects of self-image and peer identification on clothing preference among physically handicapped students would be a worthwhile study. More research also should be conducted on the clothing problems

among those with similar physical limitations. The effect of clothing on the self-image of the physically handicapped student mainstreamed into the public school and the role of clothing in improving that self-image would also be a worthwhile project.

APPENDIX A

QUESTIONNAIRE

PLEASE ANSWER THE FOLLOWING QUESTIONS AS ACCURATELY AS POSSIBLE. THERE ARE NO RIGHT OR WRONG ANSWERS SO JUST ANSWER WHAT IS RIGHT FOR YOU. IF YOU FIND ANY QUESTION DISTASTEFUL, DO NOT ANSWER.

A. THIS SECTION IS ASKING ABOUT YOUR NEEDS IN CLOTHING AND DRESSING. PLEASE CHECK THE ANSWERS THAT ARE RIGHT FOR YOU. YOU MAY HAVE MORE THAN ONE ANSWER TO EACH QUESTION.

N - Never F - Frequently

S - Sometimes A - Always

1. My clothing decisions are made by:

My parents	N S F A
Myself	N S F A
Friends	N S F A

2. I always go shopping

Alone	N S F A
With parent	N S F A
With friend	N S F A

3. My clothes, or fabrics for clothes, are bought in:

Department stores	N S F A	Mail order	N S F A
Specialty shops	N S F A	Thrift shops	N S F A
Boutiques	N S F A		

4. Which fabrics do you most like to wear?

Double knits	N S F A
Lightweight knits	N S F A
Sweater knits	N S F A
Lightweight wovens	N S F A
Medium weight wovens	N S F A
Other (Specify below)	N S F A

_____

N - Never F - Frequently

S - Sometimes A - Always

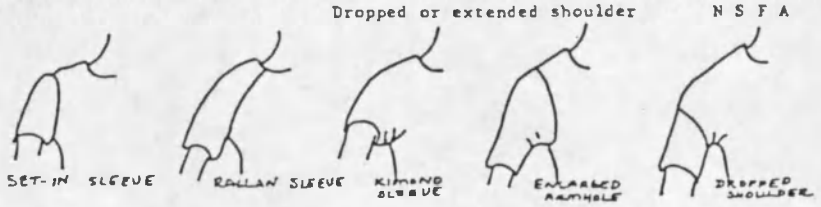
5. Do you have a difficult time when buying clothes because of:

Problems in dressing	N S F A
Fit of garment	N S F A
Alterations required	N S F A
Unsuitable designs	N S F A
Fabric characteristics	N S F A
Care required by garment	N S F A
Lack of comfort	N S F A
Differences in sizes	N S F A
I have no problem	N S F A
Other (Please specify)	N S F A

---

6. Which of the following sleeve styles are difficult for you to put on and take off? (See pictures below)

Long sleeve	N S F A
3/4 length sleeve	N S F A
Short sleeve	N S F A
Set-in sleeve	N S F A
Raglan sleeve	N S F A
Kimono sleeve	N S F A
Sleeve with an enlarged armhole	N S F A
Dropped or extended shoulder	N S F A



N - Never F - Frequently

S - Sometimes A - Always

7. Which of the following cuff styles are difficult for you to put on and take off? (See picture below)

Long sleeve with a buttoned cuff	N S F A
Long sleeve with a ribbed cuff	N S F A
Long sleeve with an elasticized cuff	N S F A

BUTTONED CUFF RIBBED CUFF ELASTIC CUFF

8. Are any of these neckline shapes difficult to put on or take off, or are they uncomfortable to wear? (See pictures below)

Turtle neck	N S F A
Jewel neckline	N S F A
Shirt waist	N S F A
Lowered V neckline	N S F A
Lowered U neckline	N S F A
Other (Specify below)	N S F A

TURTLE NECK JEWEL NECKLINE SHIRTWAIST V-NECKLINE U-NECKLINE

N - Never F - Frequently

S - Sometimes A - Always

9. When buying clothing or fabric for clothing do you prefer any of these types of fabrics?

Soft and fuzzy surface	N S F A
Smooth and slippery	N S F A
Coarse and rough	N S F A
Feeling of warmth	N S F A
Feeling of coolness	N S F A
Firm and stable	N S F A
Stretchy	N S F A

10. How do you prefer to care for the clothing you buy?

Handwash	N S F A
Machine wash	N S F A
Bleach	N S F A
Machine dry	N S F A
Dry clean	N S F A
Disposable	N S F A
No ironing required	N S F A

11. Would you buy clothing made from the following fibers?

Cotton	N S F A
Wool	N S F A
Nylon	N S F A
Polyester	N S F A
Acrylic	N S F A
Blends of cotton and polyester	N S F A
Spandex	N S F A
I buy clothing regardless of the fiber	N S F A

N - Never F - Frequently

S - Sometimes A - Always

12. Are you familiar with the fabric finishes below and would you buy clothing with these finishes if you could?

	FAMILIAR WITH		I WOULD BUY
Permanent press	Yes	No	N S F A
Soil release	Yes	No	N S F A
Anti-static finish	Yes	No	N S F A
Waterproof & water repellent	Yes	No	N S F A
Sanitized finish	Yes	No	N S F A
Controlled finish	Yes	No	N S F A
Color fastness	Yes	No	N S F A

13. Do you have to have your clothing altered because of your physical handicap?

N S F A

14. These alterations are done by:

Myself	N S F A
Parent	N S F A
Friend	N S F A
Tailor	N S F A
The store where I buy the clothes	N S F A

15. Do your clothes need repair or reinforcement in certain places?

Seams	N S F A
Pockets	N S F A
Buttons & buttonholes	N S F A
Zippers	N S F A
Areas of severe wear	N S F A

N - Never F - Frequently

S - Sometimes A - Always

16. Do you have any of the following problems in your ready-to-wear garments (the garments you buy in a store)?

Not enough ease in the shoulder area	N S F A
Not enough give in the waistline	N S F A
Openings too small	N S F A
Armhole and sleeve too tight	N S F A
Pocket problems	N S F A
Other (Please specify below)	N S F A

_____

17. Do you need special clothing because of your handicap?

Yes____ No____

If yes, are they purchased? N S F A

Are they custom made? N S F A

18. Do you have some difficulty in dressing yourself?

N S F A

19. Does someone need to help you dress yourself?

N S F A

20. Does someone need to help you undress yourself?

N S F A

21. Do you have any difficulty using the following clothing fasteners?

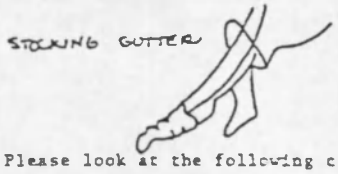
Buttons 1/2 inch or smaller	N S F A
Buttons 1 inch or larger	N S F A
Snaps	N S F A
Hooks and eyes	N S F A
Ties or eyelets and lacing	N S F A
Velcro	N S F A
Belts and loops	N S F A

N - Never F - Frequently

S - Sometimes A - Always

22. Are you familiar with these tools that can help you and would you buy any if you could?

	FAMILIAR WITH		WOULD BUY		
Stocking gutter	Yes	No	Yes	No	Maybe
Long handled scissors/tongs	Yes	No	Yes	No	Maybe
Grab bars in bathroom	Yes	No	Yes	No	Maybe
Raised toilet seat	Yes	No	Yes	No	Maybe
Shower head on flexible hose	Yes	No	Yes	No	Maybe



23. Please look at the following clothing features and mark your answers under the headings.

FEATURE	FAMILIAR WITH		WOULD IT HELP YOU IN PUTTING ON CLOTHES		
Pleat for additional room	Yes	No	Yes	No	Maybe
Gussets for more underarm room	Yes	No	Yes	No	Maybe
Adjustable waistbands	Yes	No	Yes	No	Maybe
Front openings (such as buttons or zipper in front)	Yes	No	Yes	No	Maybe
Enlarged fasteners (such as large buttons)	Yes	No	Yes	No	Maybe
Use of elastic	Yes	No	Yes	No	Maybe

BOYS PLEASE PROCEED TO QUESTION 31 ON PAGE 10

GIRLS PLEASE ANSWER THE QUESTIONS ON THE FOLLOWING PAGE

N - Never F - Frequently

S - Sometimes A - Always

24. Which of the following clothing items do you like the best and how difficult are the items to put on?

	PREFER	DIFFICULTY TO PUT ON
Dresses without waistlines	N S F A	N S F A
Dresses with waistlines	N S F A	N S F A
Skirts	N S F A	N S F A
Blouses	N S F A	N S F A
Pullover sweaters	N S F A	N S F A
Cardigan sweaters (button up the front)	N S F A	N S F A
Shirts	N S F A	N S F A
Jackets	N S F A	N S F A
Suits	N S F A	N S F A
Pants and slacks	N S F A	N S F A
Coats	N S F A	N S F A
Capes, ponchos	N S F A	N S F A
Bathing suits	N S F A	N S F A
Shorts	N S F A	N S F A

25. How often do you have to make alterations in your clothes in these areas?

Neckline	N S F A
Shoulder and armhole	N S F A
Dart positions	N S F A
Add or decrease width within the garment	N S F A
Openings in garment	N S F A
Length of garment	N S F A

N - Never F - Frequently

S - Sometimes A - Always

26. How much difficulty do you have with the following clothing features

	DIFFICULTY TO PUT ON
Back closure (such as zippers or buttons in back)	N S F A
Front closure (such as zippers or buttons in front)	N S F A
Side closure (such as zippers or buttons on the side)	N S F A
Wrap around style (such as a wrap around skirt)	N S F A
One piece garment that you pull down to take off	N S F A
One piece garment that you pull up over your head to take off	N S F A

27. Do you have any difficulty putting on the following items?

Brassiere	N S F A	Socks	N S F A
Girdle	N S F A	Panties	N S F A
Hose	N S F A	Slips	N S F A
		Nightwear	N S F A

28. Because of your handicap, are you unable to wear certain types of clothing that you would like to wear?

Yes _____ No _____

29. Do you make decisions about what to wear by:

What your parents want you to wear	N S F A
What your classmates are wearing	N S F A
What you like best	N S F A
What is easiest to put on	N S F A
Other _____	N S F A

N - Never F - Frequently

S - Sometimes A - Always

30. If you could change the type of clothing that you wear, would you?

Yes____ No____

If yes, how?_____

_____

_____

GIRLS PLEASE GO TO SECTION B ON PAGE 12

BOYS PLEASE ANSWER THE QUESTIONS BELOW

31. Which of the following clothing items do you like the best and how difficult are the items to put on?

	PREFER	DIFFICULTY TO PUT ON
Dress shirts	N S F A	N S F A
Sportshirts	N S F A	N S F A
Pull on shirts	N S F A	N S F A
Pullover sweaters	N S F A	N S F A
Cardigan sweaters (button up the front)	N S F A	N S F A
Sleeveless sweaters	N S F A	N S F A
Pants and slacks	N S F A	N S F A
Sport jackets	N S F A	N S F A
Suits	N S F A	N S F A
Vests	N S F A	N S F A
Coats	N S F A	N S F A
Bathing trunks	N S F A	N S F A
Ties	N S F A	N S F A
Shorts	N S F A	N S F A

N - Never F - Frequently

S - Sometimes A - Always

32. How much difficulty do you have with the following clothing features?

	DIFFICULTY TO PUT ON
Front closure (such as buttons or zippers in front)	N S F A
Partial closure (a closure that does not extend the full length of the garment)	N S F A
One piece garment that you pull down to take off	N S F A
One piece garment that you pull up over your head to take off	N S F A

33. How much difficulty do you have when putting on the following underclothes?

	DIFFICULTY TO PUT ON
T-shirts	N S F A
Undershorts	N S F A
Long johns (long underwear)	N S F A
Socks	N S F A
Night wear (pajamas)	N S F A
Bathrobe	N S F A

34. How often do you have to make alterations in your clothes in these areas?

Shoulder and armhole	N S F A
Waistline adjustments	N S F A
Openings in garment	N S F A
Length of garment	N S F A
Crotch area	N S F A

N - Never F- Frequently

S - Sometimes A - Always

35. Does your handicap prevent you from wearing certain styles that you would like to wear?

Yes____ No____

36. Do you make decisions about what to wear by:

What your parents say you should wear	N S F A
What your classmates are wearing	N S F A
What you like best	N S F A
What is easiest to put on	N S F A
Other	N S F A

37. If you could change the type of clothing you wear, would you?

Yes____ No____

If yes, how?_____

_____

_____

B. THIS SECTION OF THE OPINIONNAIRE WILL GIVE SOME BACKGROUND INFORMATION

1. Is information related to your disability and clothing problems easily available?

Yes____ No____

2. Do you need information to help you deal with your day to day living activities?

Yes____ No____

If yes, please note in which areas you need more information:

Clothing	Yes_____	No_____
Dressing	Yes_____	No_____
Grooming	Yes_____	No_____
Self help devices	Yes_____	No_____

N - Never F - Frequently

S - Sometimes A - Always

Are there any other areas you feel you need information? If so, please specify _____

_____

_____

3. Your age group is:

6 to 8 _____

9 to 11 _____

12 to 14 _____

15 or 16 _____

4. Your ethnic background is:

American Indian _____

Asian American _____

Black _____

Mexican American _____

Caucasian _____

Other _____

No reply _____

C. THIS SECTION OF THE OPINIONNAIRE IS ASKING FOR INFORMATION ABOUT YOUR PHYSICAL HANDICAP.

1. Do you have a physical handicap or other special need that causes problems in your day-to-day living?

Yes_____ No_____

2. Please list the main cause of your handicap

Congenital condition(Born with the problem) _____

Accident _____

Disease, please state what type _____

_____

N - Never F - Frequently

S - Sometimes A - Always

3. How long have you been having some trouble?

Less than 1 year _____ 5 to 9 years _____

1 to 2 years _____ 10 years or more _____

3 to 4 years _____

4. My handicap affects the following parts and joints of my body:

Neck area	N S F A	Hips	N S F A
Shoulders	N S F A	Upper leg	N S F A
Upper arm	N S F A	Knee	N S F A
Below waist	N S F A	Hands	N S F A
Upper back	N S F A	Fingers	N S F A
Lower back	N S F A	Above waist	N S F A
Elbow	N S F A	Lower leg	N S F A
Lower arm	N S F A	Ankle	N S F A
Wrist	N S F A	Feet or toes	N S F A

5. The body movements that I have trouble with are:

Head and Neck Movement	N S F A	Leg movement	N S F A
Shoulder movement	N S F A	Knee movement	N S F A
Back movement	N S F A	Ankle movement	N S F A

6. As a result of your handicap, do you use any of the following devices at any time?

Brace

Neck _____ Arm _____ Prosthesis _____ Cane _____

Body _____ Leg _____ Crutches _____ Walker _____

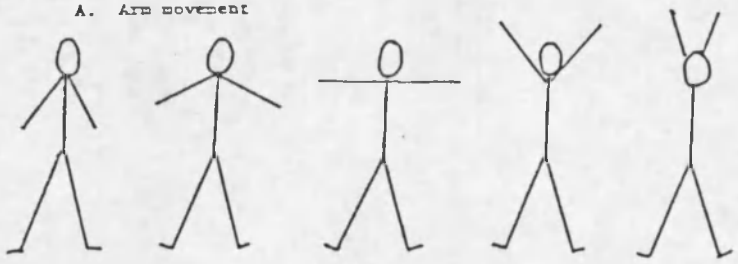
Other _____

N - Never F - Frequently

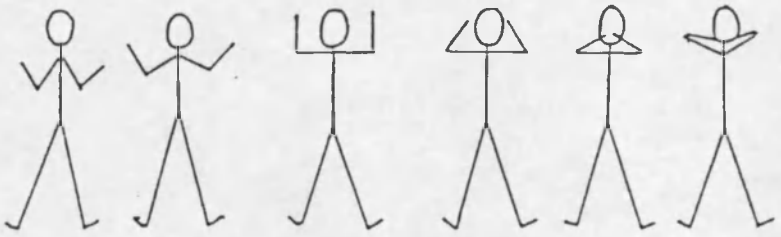
S - Sometimes A - Always

7. Circle the picture that shows the most you can move comfortably

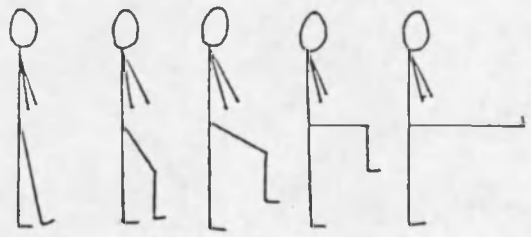
A. Arm movement



B. Elbow bending



C. Knee and Leg movement



Do you need some kind of support to keep from losing your balance when you use your legs?

Yes _____ No_____

8. Thank you so much for your participation in this opinionnaire. You have really been a great help. If there are any areas you don't think were covered well enough, or any other thoughts you would like to share, now's your chance! Any comments you make below will be greatly appreciated.

Once again, thanks for your help!

_____

_____

_____

_____

APPENDIX B

HUMAN SUBJECTS APPROVAL

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85724
HUMAN SUBJECTS COMMITTEE
ARIZONA HEALTH SCIENCES CENTER 2305

February 27, 1978

Ms. Melinda Waters Burke
Department of Home Economics
University of Arizona
Main Campus

Dear Ms. Burke:

I have reviewed your proposal entitled, "The Clothing Satisfactions and Dissatisfactions of the Physically Handicapped Student, Age 6 to 16," which was submitted to the Human Subjects Committee and concur in the opinion of the Departmental Review Committee that this is a minimal risk project. Therefore, administrative approval is granted effective February 27, 1978, with the understanding that no changes will be made in either the procedures followed or the consent form used (copies of which we have on file) without the knowledge and approval of the Human Subjects Committee and the Departmental Review Committee. Any physical or psychological harm to any subject must also be reported to each committee.

A university-wide policy requires that all signed consent forms be kept in a permanent file in the Deparmental Office to assure their accessibility in the event that university officials need the information and the principal investigator is no longer on the staff or unavailable for some other reason.

Sincerely yours,

Milan Novak

Milan Novak, M.D., Ph.D.
Chairman
Human Subjects Committee

MN:pd

xc: Edward Sheehan, Ph.D.
Departmental Review Committee

APPENDIX C

PARENTAL CONSENT FORM

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

COLLEGE OF AGRICULTURE
SCHOOL OF HOME ECONOMICS

CONSENT FORM

Hello!

I would like to ask your help in collecting information for an important study that I'm doing at the University. The objective of this study is to find out the clothing problems of the physically handicapped student from age 6 to 16. Once we identify what these clothing problems are, the information can be offered to parents, teachers and the handicapped individuals themselves.

To do this, I need your help. You, the student and you, the parent, are both key sources of information for this project. I would very much appreciate your help in filling out an opinionnaire dealing with the clothing problems of the handicapped. The opinionnaire is to be filled out by the parent and the student together, if possible, since some of the questions are directed more to the parent and others more to the student. The opinionnaire will take about thirty minutes of your time.

If you agree to participate, your responses will be completely confidential and no individual responses will be revealed. Your completed and returned opinionnaire will mean we have your consent to use the information provided. You may refuse to answer any of the questions and may withdraw from the project at any time without ill will of the University.

If you desire, you will be sent a summary of the study. If you wish to participate in the study, please sign this consent form and complete the attached opinionnaire. Both can be returned to me in the enclosed self-addressed, stamped envelope. The parent or guardian's signature is essential on the consent form, as well as the signature of a witness. The witness can be a spouse, relative or friend.

You should also understand that this consent form will be filed in an area designated by the Human Subjects Committee with access restricted to the principal investigator or authorized representatives of the particular department. If you should want a copy of the consent form a run will be made available upon request.

Thank you for your cooperation.

Melinda Waters Burke, Researcher

Naomi Reich

Dr. Naomi Reich, Advisor
Division of Clothing, Textiles
and Interior Design

Witness signature Date

Child's name

Parent's signature Date

Mailing Address Zipcode

SELECTED BIBLIOGRAPHY

Ahrbeck, Ellen Hanslman, and Shirley E. Friend. "Clothing--An Asset or Liability? Designing for Specialized Needs." Rehabilitation Literature, 37 (October 1976), 295-296.

Allen, Charlene Duch, and Joanne B. Eicher. "Adolescent Girls Acceptance and Rejection Based on Appearance." Adolescence, 8 (Spring 1973), 125-137.

Bare, Clari, Eleanor Boettke, and Neva Waggoner. Self-Help Clothing for Handicapped Children. Chicago: National Easter Seal Society for Crippled Children and Adults, 1962.

Boettke, Eleanor. "Clothing for Children with Physical Handicaps." Journal of Home Economics, 55 (October 1963), 639-640.

Dapper, Gloria. Educating Children with Special Needs. Virginia: National School Public Relations Association, 1974.

Edgar, Eugene. "Button Up." Teaching Exceptional Children, 9 (Summer 1977), 104-105.

"Education for All Handicapped Children Act of 1975," U. S. Code 1401 et seq. (1975).

Ewald, Carolyn. "Clothing Needs of Men with a Physical Disability Wearing Braces or Artificial Limbs." Master's thesis, University of Arizona, 1975.

Feather, Betty Lou. "The Relationship Between Self-Concept and Clothing Attitudes of Physically Handicapped and Able-Bodied University Men and Women." Ph. D. dissertation, University of Missouri, 1976.

Forbes, Gillian. Clothing for the Handicapped Child. London: Disabled Living Foundation, 1971.

Friend, Shirley E. "The Self Concept of Rehabilitation Students." Journal of Home Economics, 62 (October 1970), 614-616.

Friend, Shirley E., Judith Zaccagnine, and Marilyn Sullivan. "Meeting the Clothing Needs of Handicapped Children." Journal of Home Economics, 65 (May 1973), 25-27.

Gamwell, Ann M., and Florence Joyce. Problems of Clothing for the Sick and Disabled. London: Disabled Living Foundation, 1966.

Gesell, Arnold. Youth: The Years from Ten to Sixteen. New York: Harper and Brothers, 1956.

_____. The Child from Five to Ten. New York: Harper and Row, 1977.

Hallenbeck, Phyllis N. "Special Clothing for the Handicapped." Rehabilitation Literature, 27 (February 1966), 34-40.

Hasazi, Susan, and Robert York. "Changing Concepts of Special Education." Teacher, 95 (September 1977), 99-100.

Horn, Marilyn J. The Second Skin. Boston: Houghton-Mifflin Co., 1968.

Hurlock, Elizabeth. Child Development. 4th edition. New York: McGraw-Hill, 1964.

Johnson, Joyce E. "Play Garments for Disabled Children." Master's thesis, Colorado State University, 1972.

Jordan, Cheryl Lynn Wilch. "Some Garment Design Attributes that Contribute to Parental Satisfaction and Dissatisfaction in Clothing the Physically Handicapped Child." Master's thesis, Kansas State University, 1971.

Lamb, Jane M. "Clothing for Handicapped Children." Rehabilitation Literature, 38 (September 1977), 278-283.

Macartney, Patricia. Clothes Sense for Handicapped Adults of All Ages. London: Disabled Living Foundation, 1973.

May, Elizabeth Eckhardt, Neva R. Waggoner, and Eleanor Boettke Hotte. Independent Living for the Handicapped and the Elderly. Boston: Houghton-Mifflin Co., 1974.

Milbaver, Barbara. "The Mainstreaming Puzzle." Teacher, 94 (May/June 1977), 44-46.

Miller, Martha, and Mary S. Ryan. "Mothers and Daughters Select School Dresses." Journal of Home Economics, 52 (June 1960), 455-456.

Newton, Audrey. "Clothing: A Rehabilitative Tool for the Handicapped." Journal of Home Economics, 65 (April 1973), 29-30.

Rea, Lucille. "Clothing and Child Development." Journal of Home Economics, 12 (November 1950), 717-718.

Reich, Naomi. "Clothing for the Handicapped and Disabled." Rehabilitation Literature, 37 (October 1976), 290-294.

_____. "Information Systems for Clothing and Daily Living Needs of the Handicapped." Current research, University of Arizona, 1977.

Roach, Mary Ellen, and Joanne Eicher. Dress, Adornment and the Social Order. New York: John Wiley and Sons, Inc., 1965, 76-82.

Ryan, Mary S. Clothing: A Study in Human Behavior. New York: Holt, Rinehart and Winston, Inc., 1966.

Schuster, Jan M. "Preferred STyle Features in Dresses for Physically Handicapped, Elderly Women." Master's thesis, Kansas State University, 1970.

Scott, Clarice. "Clothing Needs of Physically Handicapped Homemakers." Journal of Home Economics, 51 (October 1959), 709-713.

Solomon, Edward L. "New York City's Prototype School for Educating the Handicapped." Phi Delta Kappan, 59 (September 1977), 7-10.

Trotter, Virginia. "Dimensions of Home Economists in Rehabilitation." Journal of Home Economics, 61 (June 1969), 405-407.

U. S., Congressional Record Service. Library of Congress. Key Facts on the Handicapped, by Edward R. Klebe. April 1, 1975.

The Vogue Sewing Book. New York: Vogue Patterns, 1973.

Walker, Dodie. State Department Office of Special Education, Phoenix, Arizona. Interview, December 1, 1977.