CLOTHING INTEREST AND SELF-PERCEPTION
OF FEMALE ADOLESCENTS WITH SCOLIOSIS
by
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This research investigated the relationships between clothing interest and self-perception among scoliosis patients and their non-handicapped peers. The objectives were (1) to investigate the differences in selected clothing interest factors and self-perception domains between female adolescents with scoliosis and non-handicapped female adolescents and (2) to investigate relationships between clothing interests and self-perception among female adolescents with scoliosis and non-handicapped female adolescents.

Data were obtained from 70 female adolescents of which 35 had scoliosis and 35 were non-handicapped. A clothing inventory, developed by Creekmore in 1963 and revised by Borsari in 1978, titled "Dimensions of Clothing Interest," was used to measure clothing dimensions of interest, conformity, modesty, psychological awareness, and self-concept. A second instrument, the "Self-Perception Profile for Adolescents", developed by Harter in 1988, was used to
measure five domains of self-perception which were: social acceptance, athletic competence, romantic appeal, physical attractiveness, and global self-worth.

Data were analyzed using t-tests, Pearson Product Moment correlations, and Fisher's z transformations. Similarities were noticed in clothing interest, conformity, and modesty. These findings indicated that, in general, all adolescents are concerned with appearance related factors and place importance on the role clothing plays in social situations. Differences were detected in areas which tapped the individual's self-perception. Adolescents having scoliosis consistently rated themselves lower than did the non-handicapped adolescents which demonstrated that the scoliosis group had a significantly lower self esteem. These results were consistent with other physical handicap related research which also indicated physical handicaps affect the individual psychologically as well as physically.
DEDICATION

I would like to dedicate this thesis to my parents, whose unyielding support and excitement have been inspirational in the pursuit of the Master's degree.
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Chapter I

INTRODUCTION

The adolescent years are a time of change characterized by turmoil and disruption, not only in the adolescent's life but also in the lives of his or her family members. Many tasks such as developing social relationships, self-supportive behavior, and decision making take place during this time and all are a necessary part of one's growth. Each person is affected differently and some appear to adjust to the transition into adulthood more easily than others. Even so, this period of life can not be taken lightly.

Adolescents can be likened to small children because of their curiosity and keen awareness of their surroundings. The vital difference is that adolescents have reached the time when their curiosity and desire for maturity (independence) causes them to act mostly without mature thoughts. Physicians refer to these years as the "growth spurt" years since physical development is more rapid than in any other life stage. For the physically able-bodied person this life stage is quite difficult because of the physical and psychological changes taking place, but for the physically disabled or impaired person, the difficulty in the whole process becomes magnified.

The adolescent is also confronted with the development
of a comfortable body image and a positive self-esteem (Zeltzer, 1978). The American culture emphasizes the worship of beauty, a "perfect" body, and physical attractiveness. Most of this attention is focused on the female. Terms common to today's generation are "a perfect ten", "body beautiful", "thin is in", and "look younger". Even the United States Army uses such a phrase in their recruitment advertisements, "Be all that you can be."

Medical procedures used for beauty purposes are not unusual. A person may elect to have a tummy tuck, a face lift, a make-over in addition to having their body steamed, wrapped, or buffed. He or she may also choose liposuction to remove fat. For the able-bodied person the cultural standards of beauty are difficult to achieve. In addition, the physically disabled may also have to deal with rejection from their peers because of their differences from a suggested norm (Schonfeld, 1963). "The inability to form a strong ego identity in adolescence leads to role confusion and to regression" (Goldberg, 1981, p. 89). Disabilities with physical disfigurement, such as paraplegia, spina bifida, and muscular dystrophy have more social stigma attached to them than do mental disabilities (Goldberg, 1981).

Scoliosis is disfiguring and may lead to adjustment problems related to the self-image and social interactions.
Scoliosis is the curvature of the spine and most often appears during the adolescent years and in females (Medtronic Incorporated, 1983). The main treatments for scoliosis involve bracing or surgery, with electromuscular stimulation being used in mild cases. Appearing different is the adolescent's greatest fear and physical disabilities like scoliosis increase the anxiety toward their body.

Attitudes toward a person's disability are mostly negative. Several studies have been reported in the literature relating to these negative attitudes. Among the major reported variables are (1) functionality versus organicity, (2) level of severity, (3) degree of visibility, and (4) degree of cosmetic involvement of the disability.

Clothing plays an intimate role in the way adolescents view their physical body (body image) and their inner self (self-concept). Perceptions of attractiveness are frequently based on outward appearances which relate directly to the clothing worn by the individual. Because people in this society are rarely unclothed or unadorned the role of clothing in social situations is a factor of self-concept and therefore, could be used as a positive element in the rehabilitative process of physically handicapped persons.

**Purpose of the Research**

Studies have been conducted concerning the adolescent's
body image and self-esteem and also concerning the perceptions of physical disabilities. Research continues to be expanded in the medical field on process treatments of scoliosis. The only research involving needs (other than that of physical correction) of the scoliosis patients relates to the alteration of paper patterns used in the construction of clothing, rather than considering the adolescent's attitudes, emotions, or desires. The interaction of these three components, body image, self esteem, and perceptions of physical disabilities, operates in the scoliosis patient's life daily and has been virtually ignored by researchers. The relationship of body image in one type of physical disability, namely scoliosis, and the possible relationship of these variables to attitudes about clothing was investigated in this research.
Chapter II

REVIEW OF RELATED LITERATURE

The review of literature will be divided into five sections. Physical disabilities in general will be discussed first with scoliosis detailed in the following section. The next section explains adolescent development and the relationship of physical disfigurements to the growing process. Theories related to body image and research on clothing and aspects of the self-concept are covered in the fourth section. Finally, the role of clothing therapy in relation to the rehabilitation process of the disabled adolescent is discussed.

Physical Disabilities

In a society where physical attractiveness is highly valued, individuals with visible physical disabilities appear to be at a relative disadvantage in social relations, particularly in initial-contact situations. Not only do persons with a physical handicap view their disability negatively, but the general public (non-disabled persons) does also (Pinter, Eisenson, & Stanton, 1941).

Research data have revealed several factors that relate specifically to these negative attitudes.

1. Functionality versus the organicity of the
disability. A dichotomy was found to exist between the perception of personality traits based on whether the disability was functional (alcoholism) or organic (blindness, cancer) (Barker, 1964). Siller (1963) found that disabilities with the least degree of physical association were also those reacted to least negatively. In other situations, employers of persons with disabilities were surveyed and the results concluded that organic disabilities were reacted to by the employers more favorably than functional ones (Barker, 1964; Rickard, Triandis, & Patterson, 1963; Safilios-Rothschild, 1970).

2. Level of severity. Usually the more severe a disability is, the more negatively it is perceived (Shontz, 1962; Siller, 1963). Severity was found to be related to the degree of functional limitation involved.

3. Degree of visibility. The more visible a disability, the more negatively it was perceived by non-handicapped individuals (Shontz, 1962; Siller, 1963).

4. Degree of cosmetic involvement. The more the disability involves cosmetic treatment and correction, the less favorable the disability is perceived (Siller, 1963). The cosmetic appearance was found to be related directly to the aesthetic characteristics of the person.

These variables are directly related to the scoliosis
patient, whether the condition is treated or not (Linveh, 1982; Pinter, Eisenson, & Stanton, 1941). Although some cases do not require correction due to the mildness of the manifestation, the significance of the impact on those being treated or needing treatment warrants further research.

The apparel industry has been viewed negatively by physically handicapped people because of the inadequacy of meeting their particular needs (Kaiser, 1985). Physically disabled persons are unlikely to share common physical needs in clothing regarding fit and ability to dress themselves. Due to the diversity of this group there is little specially adapted clothing available, but some market segments provide more choices than others. Feather, Martin, and Miller (1979) reported that physically handicapped students were less satisfied with their clothes than were able-bodied students. In general, persons with physical deviations from the norm have less favorable attitudes in relation to the following clothing variables: fashion, management, comfort, and durability (Kaiser, 1985). Bailey (1983) found the same facts to be true of overweight women and Kersch (1984) found them true of tall women.

The special clothing needs of people with physical disabilities may include fit, durability, ease of care, ease of mobility, and self-help features (Kaiser, 1985). Clothing
researchers have focused on many of these factors and have developed special features that can meet many of the needs. Adaptive features have included special fasteners and special designs (especially for people confined to a wheelchair). Dedmon (1974) adapted commercial patterns for the physically handicapped scoliosis patient who wears a Milwaukee brace. Due to the advancements in technology and treatment resulting in changes in the corrective brace, this research is no longer applicable.

Physically disabled persons tend to have special social needs in relation to appearance (Kaiser, 1985; Linveh, 1982). A physical disability can become a novel stimulus for perceivers, and the desire to observe this stimulus conflicts with a social restraint against staring. This conflict can lead to uncomfortable or controlled interactions between physically disabled and non-disabled persons (Comer & Piliavin, 1972; Kleck, 1968; Kleck, Ono, & Hastorf, 1966). Madan (1962) found that a person who deviates from the physical norm may have difficulties with social relations. In addition Shontz (1962) concluded that feelings of rejection and essential difference from others also pose difficulties. Therefore, clothing for the physically handicapped person should serve the wearer's physical needs without providing further stigmatization. Visual deviation
from the norm can serve as a stigma source for the observer (Goffman, 1963). Clothing should be as normative as possible so that it will not call further attention to the physical disability. Physical disabilities may create difficulties with respect to the fit or general appearance of one's clothing. This is of particular concern to the scoliosis patient.

Elliott, Ziegler, Altman, and Scott (1982) hypothesized and positively concluded that stigmatized persons may react to their condition by: (1) concealment of the source of the stigma; (2) deflection of attention away from the stigmatizing attribute and toward a less discrediting attribute; (3) compensation by emphasizing an interest or ability unrelated to the source of stigma; and/or (4) capitulation, or becoming apathetic and/or unobtrusive as possible in social situations. Kaiser, Freeman, and Wingate (in press) found these appearance related reactions to be true also. Clothes concealed disabilities for students who had different sized legs and were missing arms. Students reported wearing clothes that camouflaged their disabilities. Other students reported wearing T-shirts with slogans and messages in order to have their clothing be of interest rather than their disability. Others emphasized a fashion interest that drew attention to their clothing choices. In
general, most of the students involved in the study tried to
dress in clothing that was as normative as possible, so as to
not attract undue attention. Clothing also played an
additional role in that the people with disabilities viewed
themselves more positively when their clothing was closer to
the perceived norm.

Scoliosis

Scoliosis is a physical condition of the spine resulting
in a curvature (Medtronic Incorporated, 1983; The Scoliosis
Association, 1979). The spinal curvature most often is
lateral, but may also be front to back causing a hump or be
twisted causing the body to rotate. The latter results in
variations of lordosis and kyphosis (closely related to
scoliosis). Scoliosis is not new to the medical profession
although new treatments are found each year.

The cause of scoliosis remains a mystery, but the
effects are known and can be treated. There are four types
of distorting curves: thoracic, thoracolumbar, lumbar, and
double-major (See Item 1 in Appendix A). The thoracic curve
is a single curve and the most common. If or when left
untreated, the curve could cause heart and lung problems
which result from a deformation of the rib cage. The
thoracolumbar curve is more elongated and causes less
deformation than the thoracic and lumbar. Many people have this curve without knowing it, since it is a gradual change over the length of the spine. The lumbar curve is similar to the thoracic curve, except it is in the hip area. A loss of symmetry occurs and lower back pain may result. The double-major curve distorts the spine more than the others due to the presence of two curves, but is called balanced. This is due to the balancing effect of the two opposite curves. The body has a tendency to appear normal in mild cases. A raised shoulder and raised opposite hip result, and rib deformity can result also (Medtronic Incorporated, 1983).

Scoliosis is not a disease, infection, poor posture, or the result of malnutrition. Although the cause is unclear, most doctors believe it is genetically oriented. About 80-90% of the scoliosis patients have a type called "idiopathic", which means cause unknown (The Scoliosis Association, 1979). Other causes may be birth defects and muscular or neurological diseases which usually accompany further defects.

The Scoliosis Research Society of The American Academy of Orthopedic Surgeons reported "10% of the adolescent population have some degree of scoliosis" (Medtronic Incorporated, 1983, p. 2). Of those having some scoliosis (one out of ten or 1,000,000 youth in the United States)
about 2 1/2% will require medical treatment (The Scoliosis Association, 1979). Females are more likely to have scoliosis than males and comprise 80% of the patients treated (Medtronic Incorporated, 1983). Scoliosis generally occurs at three different periods and has been labeled accordingly: Infantile, Juvenile (4 to 10 years), and Adolescent (11 years to maturity). Of the three types, adolescent scoliosis is most prevalent accounting for 70% of the cases (Medtronic Incorporated, 1983). Medically, there is no reason given for the age at which scoliosis occurs (Durham, 1988; Medtronic Incorporated, 1983; The Scoliosis Association, 1979). It is thought that the hormonal changes taking place during adolescence may intensify the chance of occurrence. Clayson and Levine (1976) found that for adolescent girls, scoliosis has the greatest impact on their sense of worth to others, and for boys, it impacts on their own self-worth.

Sometimes the curvature is slight and can go uncorrected with the patient experiencing little to no difficulties. However, treatment can not always be avoided. Scoliosis treatment involves cosmetically correcting the abnormality with bracing, electrical stimulation, or surgery. Patients with a curve measuring 20 - 40 degrees usually wear the body brace. The brace will guide and hold the spine into the correct position during the child’s growth. In the initial
stages of treatment the patient is allowed two hours each day out of the brace for bathing and exercise. As the child matures the time in the brace shortens until the physician believes the patient's curve has been corrected as much as possible and the child has stopped growing (Durham, 1988; Fenner, 1984).

Until recently, the most common corrective brace used was the Milwaukee brace (Item 2, Appendix A). Although it was effective for treatment, the brace was cumbersome and did not allow clothing to fit properly. Most doctors felt that this brace did more harm to the patient's self-concept and psychological growth than it did physical good (Clayson, 1980; Clayson & Levine, 1976; Durham, 1988; Levine, 1980; Popper, 1985; Roaf, 1977; Roaf, 1980). The newest brace (Item 2, Appendix A) is less obtrusive than its predecessor because it is made of molded plastic and fits from under the arms to the hip, whereas its predecessor was constructed of metal, molded plastic, and leather and extended from under the chin to the lower hip (Durham, 1988; Levine, 1980; Popper, 1985). The new construction can be hidden under loose fitting clothing making it somewhat less of a nuisance (Durham, 1988). This treatment is effective when the curvature is moderate, but some doctors believe that it may not be sufficient (Durham, 1988; Fenner, 1984).
Electrical stimulation eliminates the social problems involving the brace as well as the damage to clothing. In 1983 the Food and Drug Administration approved this form of scoliosis therapy. The treatment involves wiring the patient to an electrical muscle stimulator at night while sleeping (Fenner, 1984; Levine, 1980). The muscles near the spine are stimulated with electrical pulses several times each minute. The contractions enable muscles to pull and strengthen to counteract other muscles pulling the spine out of line. The treatment continues until the patient reaches bone maturity (Fenner, 1984; Popper, 1985).

For more severe cases of scoliosis, surgery is required (curvature degrees of 40 and above). The most widely used procedure is the implantation of the Harrington Rod (Item 2, Appendix A). A stainless steel rod is attached to the spinal column with hooks and pins in order to hold the spine permanently. After surgery patients wear a body cast for six months and the back becomes unnaturally flat. There are new techniques that eliminate these problems but there is a great danger of paralyzing the patient during the operation (Fenner, 1984; Medtronic Incorporated, 1983; Popper, 1985). Very few doctors have used these new techniques and many insurance companies will not insure these methods (Durham, 1988). Surgery could be prevented and possibly eliminated by
early detection of a spinal curvature (Durham, 1988; The Scoliosis Association, 1979).

Roaf (1977) researched the effect of scoliosis on the patient's life and concluded that treatment does some harm, operations mutilate, and braces and casts imprison. The researcher pointed out that there is a delicate balance existing between the psychological harm and the hoped for good.

**Adolescents and Clothing**

The path from child to adult is often characterized by turmoil and irony. Turmoil is prevalent as the child breaks parental dependence and learns personal independence; irony exists because parental independence is replaced by peer dependence (Kaiser, 1985). Peer acceptance is vital to an adolescent's socialization, self-esteem, and body image. Clothing plays a significant role in this peer acceptance. It is essential for an adolescent to dress similarly to his or her peers. A dominant factor in adolescence is clothing interest and importance (Gibbins, 1969). In high school, conformity to the "norm" was found to be more conducive to peer acceptance than individuality (Creekmore, 1980). Conformity in clothing is important, not just to adolescents but to others as well. Furthermore, several studies have
indicated that strangers respond more favorably to people who are conventionally, as opposed to "differently", dressed (Crassweller, Gordon, & Tedford, 1972; Schiavo, Sherlock, & Wicklund, 1974). However, adolescents being conventionally dressed is vital to their social adjustment. Obviously, if everyone refused to conform, there would be chaos. There is some sense of order maintained by knowing what standards of dress are normative (Kaiser, 1985).

Researchers have found that clothing is a factor of group dynamics. Littrell and Eicher (1973) suggested that a cohesive group easily may recognize when a new individual seeking membership will "fit" into the group. They studied female high school friendship groups over a four-year period and examined reciprocal friendship structures (that is, those in which choices of friendship were returned), mutual pairs (a reciprocated choice of two members), and isolates (individuals who had no reciprocated choices of friendship). They observed that when isolates held opinions on dress, appearance, and social acceptance similar to those of the groups to which they chose to belong, the isolates were more likely to become members of those groups than when they held unlike opinions. The movement from social isolation, then, to social acceptance was facilitated by (1) a higher degree of cohesiveness in the group to which one aspired and (2) the
display of dress, appearance, and social-acceptance opinions shared by that group. The following response by freshman girls to a question on the acceptance of a new girl wanting to get in with the popular girls indicates the significance of the second facilitating factor above:

When a new person arrives at the school they are either accepted or rejected because of the manner of dress, general looks, and the way they conduct themselves. Therefore, it would be wise for a new girl to pay close attention to all three of these criteria. She would direct her interests toward the popular groups by dressing as well as they do (Littrell & Eicher, 1973, p. 197).

Self-Concept and Body Image

The term "self-concept" has long been debated as to what it is although there is widespread agreement of its importance. Self-concept was defined by Storm (1987) as the mental system of organizing one's perceptions and concepts about the self, attitudes toward and appraisals of the self, and those beliefs, feelings, and ideas related to the self. The self-concept is a function of the apparent self (the nonphenomenal) and the phenomenal self.

The apparent self is the individual's selected public presentation. This self can be (and is usually) changed to present the individual's best guess as to the appropriateness of his or her image based on the evaluation of the audience and other environmental factors (Clayson, 1980; Storm, 1987).
The phenomenal self is a term used to indicate the conscious self, or real self. Because it is conscious, it is the individual's self identity (Clayson, 1980; Coopersmith, 1967; Rosenberg, 1979; Storm, 1987). The concept of the phenomenal self represents the way an individual feels about his or her body. This picture may or may not be in agreement with the perceptions of others. Even when the images are distorted, the feelings about one's self affect his or her relationship with others. There appears to be a relationship between body satisfaction and self-esteem which becomes disturbing when one is dissatisfied with his or her body (Burger, 1976; Harter, 1985, 1986, 1987, 1988a, 1989; Snyder, 1975). Burger (1976) found this assumption to be true, in that women who felt dissatisfied with their bodies had a lower sense of self-esteem. Body image is seen as a collective set of images and feelings since childhood and may include future projections (Fisher, 1968).

The self-concept is multidimensional, covering all constituents of the self (the physical self, the intellectual self, the social self, the loving self, and the emotional self). Negative attitudes in any one of these areas can undermine the global self-worth, or overall self-concept. However, it is important to realize that each dimension varies as to its relative importance to the individual and
changes according to the situation and stage of the individual's development (Harter, 1987, 1988b; Storm, 1987).

One of the major constituents in the actual as well as the phenomenal self is the body image (Fisher & Cleveland, 1958). Body image has been defined as a collective set of images and feelings since childhood and may include future projections (Fisher, 1968). Currently, body image (or the somatic self) is thought to be one of the earliest parts of the self-concept to develop. If this holds to be true, then body image may be the foundation of the self-concept. Since appearance is such a significant part of social interactions its impact would be powerful regardless (Fisher, 1973; Rosenberg, 1979). There is, in fact, considerable evidence that supports the contention that a negative body image can undermine the general self-concept, especially of a woman (Fisher, 1973), just as a positive body image can enhance self-concept (Secord & Jourard, 1953; Jourard & Secord, 1955).

Clayson (1980) stated that an understanding of the theory of body image is vital to orthopedic medicine. He defined body image as the mental representation of one's own body with special emphasis on how one thinks he or she looks to others, including body structure and body functioning.

The functional elements of the body image theory are as
follows. The stimulus to the self is the first element. Only on the body is self-stimulation by touch circular, meaning that the body as a whole is involved in the simplest contact. Corrective braces used in the treatment of scoliosis continually are in contact with the body and therefore constantly disrupt the body's boundary.

The second element is the stimulus to others. Physical appearance and physical attractiveness are of central concern to the adolescent. For example, unattractive children have been found to be more severely punished than attractive children (Berkowitz & Frodi, 1979). The physical self is the first point of contact between two individuals and acts as the main point of evaluation in basing first impressions. Among the disabled, appearance can be a stigma which closes and/or hinders many opportunities. Children who are teased about some part of their body or its functioning tend to be dissatisfied with their body (Berscheid, Walster, & Bohrnstedt, 1973). Such teasing is especially prevalent during puberty as the body develops secondary sex characteristics. During the period young adolescents tend to have increasingly more negative and less stable self-concepts (Simmons, Blythe, Van Cleave, & Bush, 1979).

The expressive element, or physical functioning of the body is the last element. The body is the medium through
which the adolescent experiences his or her individuality. A scoliosis patient may not only experience altered body sensations due to pain and impaired physical functioning, but may also respond negatively to the psychological meaning of the body. Often a faulty or misshaped personality results. Researchers have indicated that when the individual had a physical handicap, he or she tends to have a more negative self-concept (Harter, 1986, 1987; Krider, 1959). This appears to be more pronounced for female adolescents having a highly visible handicap (Meissner, Thoreson, & Butler, 1967), which suggests that appearance also continues to be a factor for females and, in fact, may be the most important one (Feather et al., 1979).

Actual appearance is not the central issue; it is the individual's perceptions of his or her appearance and of how others view it that is important. Therefore, individuals living in a community that does not react negatively to their handicap would not be expected to view their handicap as negative. In most communities, dress that reduces the visibility of a handicap would probably help the individual to develop and maintain a non-handicapped self-concept. The use of dress may be a way handicapped children have found to overcome their physical differences and therefore, may lead to an increased awareness of their clothes (Cannon, 1969).
The relationship between dress and the physically handicapped individual will be discussed further in the section on clothing therapy.

Clothing is often described as a "second skin" (Kaiser, 1985). Throughout life clothing functions as an extension of the body and often communicates nonverbally for the wearer. Whenever an object is brought into contact with the body, the conscious existence of the self is extended, thus extending the concept of the skin to be that of the clothing (Shontz, 1974). In the case of scoliosis, the body concept becomes distorted due to the treatment device (the brace) between the body and the clothing. The patient's bodily shape is changed along with the fit of the clothing. For the scoliosis patient, the brace becomes the "second skin".

Fisher and Cleveland (1968) described the social and psychological contexts of body imagery by introducing the concept of body image boundaries. This concept refers to an individual's sense of defensive barriers and has implications for interpersonal relations.

Closely related to body image is the concept of body cathexis, which is the degree of satisfaction one has with his or her body. Body cathexis has been found to be positively related to self-cathexis, or self-satisfaction (Secord & Jourard, 1953). As stated earlier, the more
visible a physical handicap is, the greater the degree of dissatisfaction one has with his or her body. Therefore, physically handicapped people could have a lower body cathexis rating.

The physical self and the interface between clothing and body image are of primary importance in understanding the role of clothing in relation to self-perception. Social standards with regard to self-perception and standards of physical attractiveness influence the way that the body image is perceived. Self feelings about the body play a major role in clothing preferences and attitudes (Kaiser, 1985).

Clothing may help to strengthen a weak body image. Compton (1964) found this to be true in the case of mentally disturbed patients. Individuals whose body size changed or was changing may experience inaccurate or distorted body images. Scoliosis patients experience changes in the shape and size of their body due to the corrective brace and in shape due to surgical procedures.

Self-enhancement also plays a major role in the concept of body image. Festinger's Cognitive Dissonance Theory (1957) centers on the idea that people will do a variety of things to achieve consistency in the psychological worlds. If two pieces of the person's self concept do not fit together, individuals will make alterations in the image
others perceive (Durham, 1988). The scoliosis patient must retain the corrective brace in order for the corrective process to be successful and, therefore, he or she must resort to using clothing to achieve consistency. Festinger (1957) suggested that the person can restore consistency by changing opinions, changing behavior, changing available information, or distorting perceptions. The scoliosis patient could potentially use clothing components to present a unified whole to the psychological and physical worlds.

**Clothing Therapy**

The clothing needs of the physically handicapped individual go beyond the concept of functionality; included in the clothing decision is fashion (Baker, 1955). Fashionable clothing is especially important to the adolescent (Kaiser, 1985). Therefore, scoliosis patients may find clothing to be of importance to their self-concept and social interactions. All of us, both men and women, recognize that clothes which "do something for you" are an asset. If anything clothes are even more important to the person with a physical disability, for they help to minimize the negative appearance of the disability (Rusk & Taylor, 1959). Bare, Boettke, and Waggoner (1962) found that comfortable clothing which is manageable is important to the
development and rehabilitation of handicapped children. Friend, Sullivan, and Zaccagnini (1973) identified the clothing needs of the physically handicapped to be clothing that (a) fits bodies which are not standard in size or shape, (b) will be strong enough to withstand abrasion from braces or mechanical aids, (c) allows for easy movement, (d) has openings that can be reached, and (e) is attractive and in fashion.

"Fashion therapy" is a term applied to the use of clothing as a treatment aid in the rehabilitative process. It has been commonly used with success in the treatment of mentally ill and depressed patients. The therapist recognizes clothing and physical appearance as an aspect of mental health and that with positive manipulation it can help to restore feelings of individual self-worth (Baker, 1955). The program originated at the Napa State Hospital in San Francisco and has been implemented into many therapy programs nationwide. Related to the program was the research by Ryan (1966) where it was found that less secure individuals have more interest in clothing and therefore, have a greater need and place more emphasis on clothing than individuals with the most self confidence. Scoliosis research has not utilized the rehabilitative potential available through the use of fashion therapy programs.
Summary

Although much research has been done with physically handicapped individuals including effects of handicaps on self-concept, little has focused on the specific needs of adolescent scoliosis patients. This researcher found no evidence that clothing attitudes have been compared to body concepts of this special population.
Chapter III

STATEMENT OF THE RESEARCH PROBLEM

Scoliosis is a problem that psychologically and physically affects those who have it. Researchers indicated that adolescents have an acute awareness of themselves and others and view negatively physical differences from a norm. Since clothing was identified as the most important variable in value judgments to adolescents, it was hypothesized by this researcher that clothing could be used as a positive method in treating the psychological aspect of a handicap while medical procedures treat the physical aspect of a handicap. Therefore, the purpose of this study was to investigate the differences between female adolescents with scoliosis and non-handicapped female adolescents and to investigate the relationships between clothing interest and self-perception among scoliosis patients and their non-handicapped peers.

Two objectives were developed to guide the research in conducting this study. They were:

Objectives

1. To investigate differences between female adolescents with scoliosis and non-handicapped female adolescents among selected clothing interest factors and self-perception domains.
2. To investigate relationships between clothing interest and global self-perception among female adolescents with scoliosis and non-handicapped female adolescents.

Hypotheses

The following statistical hypotheses, stated in the null form were postulated for the study:

1) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to clothing interest.

2) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to conformity in clothing.

3) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to modesty in clothing.

4) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to psychological awareness of clothing.
5) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to social acceptance.

6) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to athletic competence.

7) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to physical appearance.

8) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to romantic appeal.

9) There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to self-concept.

10) There are no significant relationships between clothing interest and self-perception among female adolescents physically handicapped with scoliosis and non-handicapped female adolescents.
Limitations

Because of the exploratory nature of this research, implicit limitations were acknowledged. Randomization in the selection of the treatment (scoliosis) sample was not possible. Scoliosis patients who met the qualifications of the study were specifically contacted to participate. Therefore, the sample was a captive one. The sample size was limited by the scarcity of subjects who met the set qualifications and by their willingness to participate in the study. Although the control sample was randomly collected, matching of the control sample to the treatment sample was deemed necessary to minimize internal biases.

Due to the lack of randomization any inferences about clothing interest and self-perception that can be made as a result of this study apply only to the sample of scoliosis patients and the subjects in the control group. Generalizations to other populations could not be made.

The limitations inherent in the nature of attitude scales must also be recognized. The Likert-type scale used in the clothing related questions in this study not only lacked the objectivity that may be characteristic of other measuring devices, but it was also vulnerable to response set biases. There is no scientific way of knowing whether the five point scoring system used represented equal intervals or
whether an individual who marked "agree" on an item possessed twice as much interest as the individual who marked "disagree" on the scale. The self-perception profile was designed to avoid the problems inherent in Likert-type rating scales. The statements used in the self-perception profile legitimize each choice to the subject, thereby allowing the subject to provide answers without feeling stigmatized by a particular choice.

Care must be taken in interpreting the results of all attitude scales. Since attitude scales do not represent true interval measurement, any summation of such a scale must be used with these limitations in mind. Like any attitude scale,

The scores could not be used to say how much more favorable one subject was than another nor could these scores be compared with other scores obtained from a second administration of the scales to the same group to determine whether there had been changes in attitudes (Fetterman, 1968, pp. 18-19).

Assumptions

The basic assumptions of this study were:

1. Attitudes can be measured even though questions of validity remain unsolved.

2. Because of the anonymous nature and the privacy in answering the questionnaires, influence of the responses by peers was minimal.
3. The "Dimensions of Clothing Interest" questionnaire and the "Adolescent Self-Perception Profile" are reliable and valid for testing the variables of this research.

Definitions

**Scoliosis**: A curvature in the spine.

**Body Image**: A term used to describe the mental picture one has of himself or herself. Body image and self-perception are used interchangeably by this researcher.

**Dimensions of Clothing**: Subscales or factors of clothing importance, such as general clothing interest, modesty, conformity, the use of clothing to support the self-concept, and psychological awareness of the effects of clothing on others (Toerien, 1987).

**Clothing Interest**: The attitudes and beliefs about clothing, the knowledge of and attention paid to clothing, the concern and curiosity a person has about his own clothing and that of others (Gurel, 1974).

**Awareness of Clothing**: A reflection of the subject's sensitivity to clothing as a stimulus as it affects the assessment of others and self (Creekmore, 1971).

**Importance of Clothing**: A global concept of generalized worth of clothing (Creekmore, 1971).

**Conformity in Clothing**: Dressing, thinking, and feeling
about clothing like the majority of the group or subgroup (Creekmore, 1971).

**Modesty in Clothing:** Dressing conservatively according to socially approved standards and concealing sexual parts of the body (Creekmore, 1971).
Chapter IV

PROCEDURE

The purposes of this study were to investigate the difference between female adolescents with scoliosis and non-handicapped female adolescents among clothing interest factors and self-perception domains and to investigate relationships between clothing interest and self-perception between the two groups. The decisions and procedures utilized in this investigation will be discussed in the following order: selection of the instruments, selection of the sample, method of data collection, and statistical analysis of the data.

Selection of the Instruments

Dimensions of Clothing Interest

The questionnaire used in this research to measure clothing attitudes is a revision of the "Importance of Clothing" questionnaire developed by Creekmore and five graduate students at Michigan State University in 1968. In 1974, Gurel subjected Creekmore's instrument to a factor analysis which concluded that the instrument was valid and reliable. Since 1968 underlying dimensions of clothing interest have remained constant over time, although subscale and factor titles have varied among researchers. In 1978,
Borsari revised the "Importance of Clothing" questionnaire. To accomplish this revision, the items identified by Gurel (1974) to be low loading and non-discriminating were reviewed, rewritten or eliminated, and retested for reliability and validity. Construct validity and claims for reliability for the revised version of Creekmore's questionnaire were demonstrated by Borsari (1978). The instrument was also retitled to the "Dimensions of Clothing Interest". To measure attitudes about clothing this instrument was chosen due to its reliability and validity. Point biserial coefficients between item assignments to factors and factor loadings were utilized to determine reliability and validity of the instrument (Borsari, 1978; Gurel, 1974). There was a highly significant relationship (p < .001) between each factor and the factor loadings. The correlations ranged from .706 to .780 for the factors (Gurel, 1974). Also this instrument was originally developed for an adolescent sampling pool and it has been determined that it did, in fact, measure the overall concept of interest in clothing.

The "Dimensions of Clothing Interest" questionnaire consists of 57 statements, each to be answered on a 5-point Likert-type scale. Together the statements form five different dimensions: interest, conformity, self-concept,
modesty, and psychological awareness. One factor, which had been unnamed since the original questionnaire, was recommended by Borsari (1978) to be eliminated due to its weakness and failure to measure any one concept of clothing interest. This researcher used the five named subscales and did not include the unnamed factor as suggested. The questionnaire appears in Appendix B along with a factor listing of the questions. A description of each factor is detailed below.

1. **Interest.** This factor taps the adolescent's frequency or extent of participation in selected clothing behaviors.

2. **Conformity.** This factor assesses the adolescent's direct behavior in dressing, thinking, and feeling about clothing like the majority of his or her reference group or subgroup.

3. **Self-concept.** This factor measures the adolescent's global opinion of his or her general worth as an individual.

4. **Modesty.** This factor evaluates the degree to which the adolescent dresses conservatively according to socially approved standards to conceal the sexual parts of his or her body.

5. **Psychological awareness.** This factors reflects the
adolescent's sensitivity to clothing as a stimulus as it affects the assessment of others and his or her self.

**Self-Perception Profile for Adolescents**

The "Self-Perception Profile for Adolescents" (Harter, 1988c) is based on its predecessor, the "Self-Perception Profile for Children" that Harter developed in 1985. The children's version evaluates five domain specific judgments of competence/adequacy in addition to the global self-worth. This instrument (Self-Perception Profile for Adolescents) was upwardly extended to include the original five domains from the children's profile (scholastic competence, athletic competence, physical appearance, social acceptance, and behavioral conduct) plus three additional domains. These added domains reflect concerns of adolescents and are job competence, close friendship, and romantic appeal.

Each subscale provides a separate score, thereby allowing one to examine a profile of the adolescent's valuative judgments across domains. The underlying element in the construction of the instrument was the "assumption that an instrument providing separate measures of perceived competence or adequacy in different domains, as well as an independent assessment of one's global self-worth, would provide a richer and more differentiated picture than those

The adolescent version of the "Self-Perception Profile" contains 45 questions in nine separate subscales tapping eight specific domains plus global self-worth. For the purpose of this research every domain was not reported upon. However, to insure validity and reliability of the instrument, the entire questionnaire was administered. The domains used by this researcher were social acceptance, athletic competence, physical appearance, romantic appeal, and global self-worth. An explanation of each domain follows. The complete instrument is reproduced in Appendix C. Questions, subdivided by domain, can also be found in Appendix C.

Content of each domain:

1. **Social Acceptance.** This subscale surveys the degree to which the adolescent is accepted by peers, feels popular, has a lot of friends, and feels that he or she is easy to like.

2. **Athletic Competence.** This subscale ascertains the adolescent's perceptions of his or her athletic ability
and competence at sports, e.g., feelings that one is good at sports and athletic activities.

3. **Physical Appearance.** This subscale rates the degree to which the adolescent is happy with the way he or she looks, likes one's body, and feels that he or she is good-looking.

4. **Romantic Appeal.** This subscale evaluates the teenager's perceptions that he or she is romantically attractive to those in whom he or she is interested, is dating the people he or she would like to be dating, and feel that he or she is fun and interesting on a date.

5. **Global Self-worth.** These items estimate the extent to which the adolescent likes himself or herself as a person, is happy the way he or she is leading one's life, and is generally happy with the way he or she is. Thus it constitutes a global judgement of one's worth as a person, rather than domain specific competence or adequacy.

**Biographical Data Sheet**

A background biographical data sheet was developed to obtain demographic data from each subject participating in the study in order to match the control sample and the treatment sample. The information requested included age,
Selection of the Sample

Protocols for this study were collected from 35 adolescent females with scoliosis and 35 adolescent females without any physical handicaps.

The treatment sample was defined as those female adolescents between 10 and 19 who had been diagnosed as having scoliosis and were currently wearing or had worn a brace for the treatment of scoliosis. The sample was collected from Pulaski, Roanoke, Harrisonburg, Richmond, and Blacksburg, Virginia using orthopedic physicians, school nurses, and advertisements to identify individuals with scoliosis. A convenience sample was then used.

The control sample consisted of non-handicapped students of Pulaski, Roanoke, Harrisonburg, and Richmond high schools and Virginia Tech in Blacksburg, Virginia. A random sample was collected and then matched by the researcher to the treatment sample. Matching the two samples was performed to control internal biases.

The characteristics of the samples are described in Chapter 5.
Collection of Data

The following data were collected from each subject:

1. Information from five subscales of the Dimensions of Clothing Interest Questionnaire: interest, conformity, modesty, psychological awareness, and self-concept.

2. Information from five subscales of the Self-Perception Profile for Adolescents: social acceptance, athletic competence, physical appearance, romantic appeal, and global self-worth.

3. Biographic data concerning age, year in school, and home town.

Method of Data Collection

Permission to use the scoliosis patients was obtained from their individual physicians and parents in accordance with Virginia State Regulations. To use the area high school students, permission was granted by the principals of each school. Identical instructions were given to all subjects by the researcher. (See Appendix E).

The clothing inventory and self-perception questionnaires were given to each subject with the knowledge that they were participating in a thesis research project. Although no explanation of the instruments or the research was made at the time of the data collection, information was made available to each participant upon their request. A cover letter to the participants accompanied each questionnaire and provided brief information for the research.
and future contact with the researcher by the individual subject. A parental permission letter also accompanied each questionnaire. The cover letters appear in Appendix F.

The data were scored and then transferred onto the Virginia Tech mainframe computer system for accurate statistical analysis.

Pretesting the Instruments

Since the use of the "Dimensions of Clothing Interest" questionnaire and the "Self-Perception Profile for Adolescents" had been decided upon for this research, no pretest was considered necessary because the instruments had been shown to be valid and reliable. No changes were made in either instrument.

Analysis of Data

Due to the revisions in the clothing inventory made by Borsari (1978) only one item remained in reverse form (number 44). Several items were in reverse form in the self-perception profile but were compensated for by using the data coding sheet that accompanied the questionnaire. Therefore, only one item had to be rescored, which was done before the data were entered into the computer program.

The instruments were completed by each participant as
they read each question then ranked it according to the appropriate rating scale for the questionnaire. The following Likert type scale was used in scoring the "Dimensions of Clothing Interest" questionnaire.

- Almost always, very few exceptions: 5
- Usually, majority of the time: 4
- Sometimes: 3
- Seldom, not very often: 2
- Almost never, very few exceptions: 1

The "Adolescent Self-Perception Profile" employed a structured alternative format in which the child was presented questions that offered two choices. Based on the first decision, two more choices were given. Depending on which of the four alternatives were selected, a score of 1 to 4 was assigned. A score of 1 reflected low perceived competence or adequacy and a score of 4 reflected high perceived competence or adequacy. The researcher scored the data after the questions were answered. This format allowed the subject to answer without knowing what score he or she was to receive.

Independent two sample t-tests were used to determine whether the differences between the sample means were statistically significant. The level of significance was set at the .05 level. Significance levels of .01 and .001 were
also reported. Pearson correlation coefficients were calculated (separately for each sample) to determine possible relationships between the dimensions and comparatively between the questionnaires. The coefficients of determination ($r^2$) were calculated because of the ability to indicate the proportional reduction in variability between two dimensions. The $r^2$ value also allows for determining practical inferences about dimensional correlations (Netter, Wasserman, & Kutner, 1985). Fisher's $z_r$ transformation was performed on the correlation coefficients. This test was used to determine whether differences in the correlation coefficients were significant. The Fisher's $z_r$ transformation was computed manually using a table to determine $z_r$ values (Ferguson, 1976). All rejection levels were set at the .05 level of probability. Significance levels at .001, .01, and .05 were reported.
Chapter V

FINDINGS, RESULTS, AND DISCUSSION

The first purpose of this study was to investigate the differences between female adolescents with scoliosis and non-handicapped female adolescents in relation to clothing interest variables and self-perception variables. The second purpose was to investigate relationships between clothing interest and self-perception among female adolescents with scoliosis and non-handicapped female adolescents. Results were found through interpretation of the statistical analyses.

This chapter presents the results of the statistical analyses and discusses their implications prior to the individual discussion of the objectives and hypotheses. The results of the statistical analyses follow the description of the samples. The final discussion reviews the comparisons of the results of this study with related research.

The statistical analyses used in this study were as follows. Independent two sample t-tests were used to test the null hypotheses to determine whether observed differences between the sample means were significant. The Pearson Product Moment Correlation coefficients were calculated to
measure the strength of the relationship between two variables (the factors from each questionnaire). The correlation coefficients (r) and the coefficients of determination (r²) were reported. The Fisher's z transformation was performed on the correlation coefficients to test whether differences between the samples were significant.

The Sample

The research samples used in this study consisted of females from the ages of 13 to 19. The control group was matched to the treatment group using information on the biographical data sheet. Data were collected during April 1989. Some questionnaires were eliminated due to incomplete information. Therefore, both samples consisted of 35 female adolescents. The biographic information is presented in Table 1.

Age and Class Standing

Because of the nature of the data collection, the subjects fell within a wide age range: 13 - 19. High school students comprised 60% of the sample and of the high school group 34% were juniors or seniors.

Residence

Due to the lack of a large sample in any one geographic location, data had to be collected from individuals
Table 1

**Bibliographic Information of Samples**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control Sample</th>
<th>Scoliosis Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>14</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
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<td>18</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>19</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100%</td>
</tr>
<tr>
<td><strong>Class Standing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th grade</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>9th grade</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>10th grade</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>11th grade</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>12th grade</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>College freshman</td>
<td>11</td>
<td>31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blacksburg</td>
<td>11</td>
<td>31</td>
</tr>
<tr>
<td>Pulaski</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Roanoke</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>Harrisonburg</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>Richmond</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Note.** Total subjects = 70.
throughout Virginia. The Roanoke-Pulaski-Blacksburg group totalled 74% of the sample. The Harrisonburg group totalled 17% and the Richmond group totalled 9%.

Statistical Procedures

Means and Standard Deviations

Each of the factor means and standard deviations are presented in Table 2. Review of the table shows that, in general, the means fluctuated around the value of 2.7 for the scoliosis sample and 3.1 for the control sample. The control sample was consistent with previous research means. Viewing the two instruments and two samples separately, means on the "Adolescent Self-Perception Profile" averaged 2.3 for the scoliosis sample and 3.0 for the control sample. Means on the "Dimension of Clothing Interest" questionnaire averaged 3.1 for the scoliosis sample and 3.2 for the control sample. The means suggested and statistical analysis indicated that the individuals in the scoliosis sample rated themselves lower on self-perception domains and nearly alike on clothing interest factors as compared to their non-handicapped peers. The standard deviations ranged from .652 to .854 for the scoliosis sample and from .450 to .976 for the control sample. Although these scores may seem highly variable, such findings were consistent with previous research in the
behavioral sciences. Factors that could have led to the wide variation include the sample size, differences in home life and growth processes, and the environment on the day of answering the questionnaires.

**t-test Procedure**

For each subject, five self-perception scores and five clothing dimensions were computed. Two sample independent t-tests were performed on each of the ten identified factors in order to test the hypotheses. For the purposes of this study a left sided, one tailed t-test was used with the level of significance set at .05. Significance levels of .01 and .001 were also reported. Table 2 contains t-test scores and probabilities.

The t scores showed that the scoliosis sample had significantly smaller means than the control group on all of the self-perception factors and one clothing factor, self-concept. The self-perception variables were significant at the .001 level and the self-concept variable was significant at the .05 level. Low t scores were calculated for clothing interest, clothing conformity, modesty in clothing, and psychological awareness of clothing indicating that the sample means were not significantly different for these four variables.
Table 2

**T-test Analysis of Variables of Scoliosis and Control Samples**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Scoliosis</th>
<th>Sample</th>
<th>t score</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{x} )</td>
<td>s</td>
<td>Control</td>
<td>( \bar{x} )</td>
</tr>
<tr>
<td>social acceptance</td>
<td>2.74</td>
<td>0.67</td>
<td>3.32</td>
<td>0.47</td>
</tr>
<tr>
<td>athletic competence</td>
<td>1.73</td>
<td>0.71</td>
<td>2.82</td>
<td>0.66</td>
</tr>
<tr>
<td>appearance</td>
<td>2.16</td>
<td>0.65</td>
<td>2.77</td>
<td>0.56</td>
</tr>
<tr>
<td>romantic appeal</td>
<td>2.24</td>
<td>0.67</td>
<td>3.07</td>
<td>0.51</td>
</tr>
<tr>
<td>self-worth</td>
<td>2.49</td>
<td>0.85</td>
<td>3.12</td>
<td>0.45</td>
</tr>
<tr>
<td>clothing interest</td>
<td>3.07</td>
<td>0.65</td>
<td>3.28</td>
<td>0.70</td>
</tr>
<tr>
<td>clothing conformity</td>
<td>3.07</td>
<td>0.85</td>
<td>3.19</td>
<td>0.78</td>
</tr>
<tr>
<td>self-concept</td>
<td>3.23</td>
<td>0.85</td>
<td>3.52</td>
<td>0.48</td>
</tr>
<tr>
<td>modesty</td>
<td>3.04</td>
<td>0.80</td>
<td>3.02</td>
<td>0.91</td>
</tr>
<tr>
<td>psychological awareness</td>
<td>3.17</td>
<td>0.79</td>
<td>3.03</td>
<td>0.97</td>
</tr>
</tbody>
</table>

*Note.* *p* < .01 and **p** < .05.
Pearson Product Moment Correlation Procedure

Pearson product moment correlations were calculated separately for the two samples to determine the interrelationships among the factors. Several correlation coefficients \( r \) were significant at the .05, .01 and .001 levels. Although significant rs may properly lead to rejection of the null hypotheses, a more meaningful concept in interpretation of these data was that of the magnitude of correlation rather than the significance levels. The magnitude of correlation is referred to as \( r^2 \).

It should be noted that correlation coefficients of a high magnitude (.750 and above) are seldom found in the behavioral sciences other than as reliability coefficients on standardized testing instruments (Gurel, 1974). For the purposes of the study the following operational definitions of small, medium, and large effective sizes of the correlation coefficients were:

- **small** \( r = .100 \) \( r^2 = .01 \)
- **medium** \( r = .300 \) \( r^2 = .09 \)
- **large** \( r = .500 \) \( r^2 = .25 \)

(Cohen, 1969, p. 76).

The matrix of correlation coefficients \( r \) for the scoliosis sample appears in Table 3. The scoliosis sample contained 26 coefficients that were significant at the .05 level of probability comprising 58% of the total
Table 3

Scoliosis Sample Pearson Correlation Coefficients Matrix (r)

<table>
<thead>
<tr>
<th></th>
<th>ATH</th>
<th>APP</th>
<th>ROM</th>
<th>WORTH</th>
<th>INT</th>
<th>CON</th>
<th>SELF</th>
<th>MOD</th>
<th>AWARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC</td>
<td>.278</td>
<td>*.644</td>
<td>x.476</td>
<td>*.634</td>
<td>.042</td>
<td>-.189</td>
<td>.012</td>
<td>-.017</td>
<td>-.170</td>
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<tr>
<td>ATH</td>
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<td>*.566</td>
<td>x.458</td>
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<td>-.384</td>
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Note.

SOC = Social acceptance
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APP = Appearance
ROM = Romantic Appeal
WORTH = Self-worth
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CON = Clothing conformity
SELF = Self-concept
MOD = Modesty in clothing
AWARE = Psychological awareness of clothing

Significance levels are reported as follows
* = .001
x = .01
@ = .05
correlations. Thirteen correlations were also significant at the .001 level of probability (29%). There were 13 coefficients of .500 or higher indicating strong relationships. Table 4 reports the coefficients of determination ($r^2$) values for the scoliosis sample. Some factors were more clearly related to only one factor than were others; however, all factors had a strong relationship to at least one factor. Table 5 shows the high correlations that were identified in the scoliosis sample. Both $r$ and $r^2$ values were reported. Twelve of the thirteen high correlations were significant at the .001 level with the thirteenth significant at the .01 level.

The correlation coefficient ($r$) matrix for the control sample is found in Table 6. Unlike the scoliosis sample, only 11 coefficients were significant at the .05 level of probability and only 2 were significant at the .001 level of probability. Again differing from the scoliosis sample, 2 coefficients were correlated at the .500 level or higher. The two high correlation coefficients for the control sample were also high in the scoliosis sample. They were clothing conformity to clothing interest and psychological awareness of clothing to modesty. The $r$ and $r^2$ values for the high correlation coefficients for the control sample appear in Table 7. In the control sample, 6% of the correlation coefficients were .500 or higher and 27% of the correlation
Table 4

Scoliosis Sample Coefficients of Determination Matrix ($r^2$)

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<th>INT</th>
<th>CON</th>
<th>SELF</th>
<th>MOD</th>
<th>AWARE</th>
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<td>.000</td>
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<td>CON</td>
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</table>

Note.

SOC = Social acceptance
ATH = Athletic competence
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WORTH = Self-worth
INT = Clothing interest
CON = Clothing conformity
SELF = Self-concept
MOD = Modesty in clothing
AWARE = Psychological awareness of clothing
Table 5  
**Large Correlations for Scoliosis Sample**

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<tr>
<td>to appearance</td>
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<td>.299</td>
</tr>
<tr>
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<tr>
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<tr>
<td>to romantic appeal</td>
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<td><strong>Clothing conformity:</strong></td>
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<tr>
<td>to clothing interest</td>
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<td>.446</td>
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<td>.574</td>
<td>.329</td>
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<tr>
<td><strong>Self-concept:</strong></td>
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<tr>
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</tr>
<tr>
<td>to conformity</td>
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<td>.472</td>
</tr>
<tr>
<td>to modesty</td>
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<td>.332</td>
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</table>

*Note.* Large correlations are defined as $r = .500$ and $r^2 = .250$. 
Table 6

Control Sample Pearson Correlation Coefficients Matrix (r)

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<th>WORTH</th>
<th>INT</th>
<th>CON</th>
<th>SELF</th>
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<th>AWARE</th>
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</tr>
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</table>

Note.

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CON = Clothing conformity
SELF = Self-concept
MOD = Modesty in clothing
AWARE = Psychological awareness of clothing

Significance levels are reported as follows
* = .001
x = .01
@ = .05
Table 7

Large Correlations for Control Sample

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<tr>
<th>Variables</th>
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<td>Psychological Awareness:</td>
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<td>to modesty</td>
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</table>

Note. Large correlations are defined as $r = .500$ and $r^2 = .250$. 
coefficients were .300 to .499. The coefficients of determination matrix ($r^2$) is located in Table 8.

**Fisher's $z_r$ Transformation Procedure**

The Fisher's $z_r$ transformation was calculated to determine whether the differences in the correlations for both the scoliosis sample and the control sample were significant. The $z_r$ scores are recorded in Table 9. Eleven of the 45 possible correlations were determined to be significantly different at the .05 level (one was significant at the .01 level). By observing the relationship between the correlation coefficients ($r$) in the control sample and the scoliosis sample, inferences were made and correlations of particular interest were explained.

In response to the appearance - social acceptance correlation, female adolescents in the scoliosis sample tended to place more importance on the pair ($r = .644$) than did the control sample ($r = .090$). The correlation was determined to be significantly different by the $z_r$ value of -2.711. The self-concept - clothing interest correlation was $r = .668$ for the scoliosis sample and $r = .295$ for the control sample (with $z_r = -2.061$). The self-concept - clothing conformity correlation was $r = .574$ for the scoliosis sample and $r = .126$ for the control sample (with $z_r = -2.150$). The scores demonstrated that appearance
### Table 8

**Control Sample Coefficients of Determination Matrix ($r^2$)**

<table>
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<tr>
<th></th>
<th>ATH</th>
<th>APP</th>
<th>ROM</th>
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<th>INT</th>
<th>CON</th>
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WORTH = Self-worth  
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CON = Clothing conformity  
SELF = Self-concept  
MOD = Modesty in clothing  
AWARE = Psychological awareness of clothing
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</table>
related factors were directly related to self-worth for individuals in the scoliosis sample.

Results

Results pertinent to this research, concerning the clothing interest and self-perception of female adolescents with scoliosis and non-handicapped female adolescents, will be divided, for purposes of discussion, into sections based on the two objectives and the ten hypotheses proposed at the beginning of this study.

Objectives

Objective 1: To investigate differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to clothing interest factors and self-perception domains.

Differences between the two samples for each factor of clothing interest and each domain of self-perception were investigated by comparing both samples' statistical analysis scores. Analyses employed were two sample independent t-tests, Pearson product moment correlations, and Fisher's $z_r$ transformations. Results of these analyses will be discussed under Hypotheses 1 through 9. Thus Objective 1 was accomplished.

Objective 2: To investigate relationships between clothing interest and self-perception among female adolescents with scoliosis and non-handicapped female adolescents.

The results of the statistical analyses were used to investigate the relationships between the dimensions of
clothing interest and global self-worth. The analyses used were the Pearson product moment correlation and the Fisher's \( z_r \) transformations. Hypothesis 10, to be discussed below, will indicate the accomplishment of Objective 2.

Hypotheses

**Hypothesis 1:** There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to clothing interest.

In order to test the significance of the differences between groups for the clothing interest factor, the two sample independent t-test was performed on the means of both samples. The t-test indicated that the means were not significantly different leading to the conclusion that all adolescents participating in this study were similarly interested in clothing aspects. The Fisher \( z_r \) score detected a difference in the correlation between clothing interest and romantic appeal. Although this analysis was statistically significant, there was no identifiable practical significance for the interpretation. The final conclusion included the value of a practical significant of the test statistics and therefore led the researcher to the decision of failing to reject Hypothesis 1.

**Hypothesis 2:** There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to conformity in clothing.
To test the differences in the sample means for the conformity variable, a two sample independent t-test was employed. The results indicated that there were no significant differences between the sample means. However, Fisher's $z_r$ transformation of the correlations involving the conformity variable identified a difference in the psychological awareness of clothing variable. Psychological awareness of clothing appears to be heightened for scoliosis patients in this sample but was held from consideration at this time due its later discussion in Hypothesis 4. Conformity as a single variable did not show significant differences between the two samples. Based on these results Hypothesis 2 failed to be rejected.

**Hypothesis 3:** There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to modesty in clothing.

An independent t-test was performed to test the differences between the sample means in regard to modesty. Findings indicated that no significant differences were detected. Before a conclusion was drawn concerning the modesty variable, intercorrelations between modesty and the nine other variables were considered. Fisher's $z_r$ scores identified no significant differences between modesty correlations tested in this research. Therefore, Hypothesis 3 failed to be rejected.
Hypothesis 4: There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to psychological awareness of clothing.

There was no significant difference in the sample means as analyzed by the two sample independent t-test. Scattered significant differences among correlations between psychological awareness and the other variables were detected. One factor correlation, psychological awareness to conformity, had a higher coefficient than the other three variables demonstrating significant differences. The scoliosis sample r was .687 and the control sample r was .236 for the psychological awareness to conformity correlation. The conclusion from the significance of the correlation may indicate that scoliosis patients have an increased awareness of clothing which may be directly due to their physical differences from their peers. Since three of the nine correlation coefficients identified significant differences even though the t-test did not, Hypothesis 4 was rejected.

Hypothesis 5: There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to social acceptance.

Highly significant differences were detected in reference to social acceptance between the scoliosis sample and the control sample. The t-test identified a significant difference between the sample means at the .001 level. For
example, the \( z_r \) scores identified a significant difference between the appearance and social acceptance correlation (scoliosis \( r = .644 \), control \( r = .090 \), \( z_r = -2.711 \)). Appearance tended to affect the degree to which scoliosis patients felt they were socially accepted which indicated that they placed a much higher importance in the correlation than did the control group. Hypothesis 5 was rejected.

**Hypothesis 6:** There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to athletic competence.

Differences between the scoliosis sample and the control sample were found with all of the statistical analyses. The independent t-test was significant at the .001 level. Self-concept and conformity correlations to athletic competence were also significantly different. Therefore, Hypothesis 6 was rejected.

**Hypothesis 7:** There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to physical appearance.

Analysis of the sample means by the two sample independent t-test concluded that a significant difference existed between the samples at the .001 level. Strong differences in the samples' correlations were detected for physical appearance to social acceptance and to psychological awareness. Moderate differences were detected for self-worth
and self-concept, conformity, and modesty. These results led to the conclusion that physical appearance was more important to the scoliosis patients in this sample than it was to the individuals in the control sample. Based on these findings Hypothesis 7 was rejected.

Hypothesis 8: There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to romantic appeal.

Means and correlations of the variable romantic appeal were significantly different for the two samples in this study. The means tested by the two sample independent t-test were significantly different at the .001 level. Strong differences were detected in the three correlations of romantic appeal to clothing interest, conformity, and psychological awareness. Three other correlations tended to be moderately different even though they were not statistically different. They were romantic appeal to social acceptance, self-concept, and modesty. In the practical interpretation, the latter three correlations were considered to be useful in concluding that Hypothesis 8 was rejected.

Hypothesis 9: There are no significant differences between female adolescents with scoliosis and non-handicapped female adolescents in reference to self-concept.

The means of the samples tested were significantly different for the self-concept variable at the .05 level.
Correlations of conformity, athletic competence, and clothing interest with the self-concept variable were also significantly different for the samples. Moderate differences in correlation were detected in the appearance, social acceptance, romantic appeal, modesty, and psychological awareness variables. Since there were significant differences in the sample means of the self-concept variable and three correlation coefficients detected significant differences along with noticeable differences in the remaining correlation coefficients, Hypothesis 9 was rejected.

Hypothesis 10: There are no significant relationships between clothing interest variables and self-perception domains in female adolescents physically handicapped with scoliosis and non-handicapped female adolescents.

Due to the similarities in the self-concept and self-worth variables, conclusions were made considering both. Pearson product moment correlation coefficients and Fisher's z, transformations were performed to analyze Hypothesis 10. The analyses detected that the relationships between the clothing interest, self-concept, modesty, and psychological awareness variables and the self-concept variable were significant. Fisher's z, score indicated that the relationship between the conformity variable and self-worth was significantly different. Although all of the clothing
interest variables were related to self-concept as measured by the "Dimensions of Clothing Interest" questionnaire, the same correlations were not significant as measured by the "Adolescent Self-Perception Profile". Since Hypothesis 10 was directed toward the total analysis of the self-perception variables, Hypothesis 10 was rejected.

Comparisons with Previous Studies

Specific comparisons relating to the use of the two instruments and to administering them to a sample of individuals having scoliosis were not directly possible because of the absence of research into this particular topic prior to the study by this researcher. However, many comparisons can be made by considering the instruments individually.

Most researchers in clothing interest and behavior have consistently reported that appearance was the most important aspect of clothing behavior. The importance of appearance has been reported in earlier studies (Gibbins, 1969; Gurel, 1974; Kaiser, 1985; Litrell & Eicher, 1973). This finding has held true for many different populations and a variety of measuring devices. Adolescents have also been recognized as placing more importance on appearance than any other age group. The results of this study agreed with previous
research about the importance of clothing appearance as an aspect of clothing behavior and self-perception. An interesting finding was noticed in that females in the scoliosis sample placed a significantly higher importance on their appearance than did the control group.

Previous studies have recognized that modesty varied culturally and over time (Gurel, 1974). These particular issues were not addressed in this study. This researcher found that modesty tended to be less important for the control sample than for the scoliosis sample, but the differences were not statistically significant.

In agreement with Gurel (1974), the college women in the present study were not concerned with conformity in dress. This finding held true for the scoliosis and control samples. The high school women responded in a similar manner with still no significant differences in conformity among the two samples. However, the scoliosis sample differed significantly from the control sample in reference to appearance, athletic competence, romantic appeal, and both of the self-worth and self-concept variables therefore, placing more importance on the value of conformity under particular situations.

Past researchers have concluded that adolescents do not place an importance on the psychological awareness of
clothing (this variable was titled Theoretical Concern by Creekmore in 1963). This research agreed with Gurel (1974) in that psychological awareness ranked mid-way in importance. The present study detected no differences in psychological concern between the samples.

There have been noticeable clustering tendencies for social acceptance, romantic appeal, and physical appearance (Harter, 1988c). Research has concluded that adolescents feel that physical attractiveness may lead to greater acceptance of popularity among their peers, as well as greater perceived romantic appeal. Current findings showed significant differences between the scoliosis sample and the control sample. Although the clustering tendency was retained in both groups, individuals with scoliosis placed a much greater importance (significant at the .001 level) on physical attractiveness, social acceptance, and romantic appeal. There appears to be causality in a handicap affecting an individual's self-perception. Such conclusions are also found in past research (Kaiser, 1985; Linveh, 1982; Madan, 1962; Shontz, 1962).

Athletic competence was noticed to be perceived differently among the samples in this research. Adolescents with scoliosis consistently rated themselves lower which tended to indicate that their particular handicap may be a
stigma or deterrent to participation in sports. There was no other research in which comparisons of athletic competence could be based upon at the time of this research.

Self-worth as measured by the "Self-Perception Profile for Adolescents" and self-concept as measured by the "Dimensions of Clothing Interest" questionnaire held consistent results for both samples used in this research. Past researchers have reported that handicapped individuals rate themselves lower on questions involving their concept about themselves than do non-handicapped individuals (Burger, 1976; Goffman, 1963; Pinter et al, 1941). Findings in this research were consistent with these studies.

Correlations among the self-perception domains and self-worth consistently indicated a strong relationship between physical appearance and self-worth (Harter, 1988c). The inference made was that attractiveness was important to an individual's sense of self-worth. Related inferences were based on non-handicapped adolescents. The current research revealed romantic appeal to be more highly correlated than physical appearance or social acceptance for individuals in the control sample. However, correlations among the scoliosis sample were significantly different from the control sample. The ranking of importance of the self-perception variables that correlated with self-worth for the
scoliosis sample were social acceptance, physical appearance, romantic appeal, and athletic competence. Earlier researchers established such correlations as tenable and this was held consistent by the scoliosis sample.
Chapter VI

CONCLUSIONS

Studies have been conducted concerning the adolescent's body image and self-esteem and also concerning the perceptions of physical disabilities. Much research has highlighted physically handicapped individuals including effects of handicaps on self-concept, while little has focused on the specific needs of adolescent scoliosis patients. Research continues to be expanded in the medical field on process treatments of scoliosis rather than considering the adolescent's attitudes, emotions, or desires. The interaction of these three components, body image, self esteem, and perceptions of physical disabilities, operates in the scoliosis patient's life daily and has been virtually ignored by researchers in the past. Therefore, this research was undertaken to focus on the clothing attitudes and self-perception of adolescents with scoliosis.

Summary of Findings

A clothing instrument developed by Creekmore in 1968 and revised and retitled as "Dimensions of Clothing Interests" by Borsari in 1978 was used to measure clothing interests. A second instrument, the "Self-Perception Profile for Adolescents", developed by Harter in 1988, was used to
measure self-perception domains. Data were collected by the administration of the questionnaires by physicians and the researcher. The questionnaires were administered to a sample of adolescent females who were currently wearing or had worn a corrective brace for the treatment of scoliosis and a matched sample of non-handicapped female adolescents. The sample included only subjects between the ages of thirteen and nineteen.

For each subject, five clothing dimensions and five self-perception domains were tabulated. The clothing dimensions were: interest, conformity, modesty, self-concept, and psychological awareness. The self-perception domains were: social acceptance, athletic competence, physical appearance, romantic appeal, and global self-worth. Independent two sample t-tests were used to test the null hypotheses to determine the significance of observed differences in the sample means for each of the ten identified factors. Pearson Product Moment Correlation coefficients were calculated to measure the relationship between the factors of each sample. Correlation coefficients and coefficients of determination were reported. The Fisher's $z_r$ transformation was performed on the correlation coefficients to test whether the observed differences between the samples were significant. Significance was determined at
Hypothesis 1 stated that there were no differences between adolescents with and without scoliosis in reference to clothing interest. For the samples tested, no differences were found; therefore, Hypothesis 1 failed to be rejected. The same conclusions held true for Hypothesis 2 and Hypothesis 3 which tested differences in reference to conformity and modesty, respectively. Hypothesis 4, which related to the psychological awareness of clothing was rejected. The conclusion made was that individuals with scoliosis tended to be more aware of clothing because of their altered body cathexis. Hypotheses 5 through 8 were rejected because significant differences were found by the t-tests (significant at the .001 level). The z transformations of the correlation coefficients also detected significant differences. These hypotheses related to the differences between the scoliosis sample and the control sample in reference to social acceptance, athletic competence, physical appearance, and romantic appeal. Adolescents with scoliosis tended to have a significantly lower self-perception of themselves than the non-handicapped adolescents did in this study. Hypothesis 9 stated that no differences exist between the samples in reference to self concept. Significant differences were found at the .05 level.
which confirmed the conclusions of Hypotheses 5 though 8; therefore, Hypothesis 9 was also rejected. Hypothesis 10 stated that no relationships existed between clothing interest and self-perception among the scoliosis and non-handicapped samples. Pearson Product Moment Correlation coefficients revealed a clustering of thirteen social concept correlations in the scoliosis sample whereas the control sample did not. The interpretation of these findings indicated that there were underlying factors in the scoliosis sample that compounded the significance of the social variables. Significant differences were detected between the scoliosis and the control sample and therefore, Hypotheses 10 was also rejected.

Summary

A brief review of the statistical findings reveal similarities in clothing interest domains and differences in self-perception domains between adolescents with scoliosis and non-handicapped adolescents. For example, similarities were noticed in clothing interest, conformity, and modesty. These findings indicated that, in general, all adolescents are interested in clothing and place importance on the role clothing plays in social situations. Differences were detected in areas which tapped the individual's self-
perception. Adolescents having scoliosis consistently rated themselves lower than did the non-handicapped adolescents which directly indicated that the scoliosis group had a significantly lower self esteem. These results were consistent with other research related to physical handicaps which also indicated physical handicaps affect the individual psychologically as well as physically.

Humans are complex creatures. The need for medical personnel, therapists, and school guidance counselors to consider the psychological aspect of physically handicapped adolescents is as important to overall health as is physical treatment. Equally important is educating non-handicapped individuals in ways to change their negative attitudes toward the physically handicapped.

The findings in this study should be beneficial to social workers, physicians, and therapists who work directly with individuals having scoliosis. In addition, parents would benefit from this study as they would be more knowledgeable as to the depth that their child may be affected by their physical condition. Non-handicapped individuals would also benefit from the knowledge imparted through this study so that they could restructure any negative attitudes about physical handicaps. The scoliosis individual and others individuals with physical handicaps
would be the ultimate beneficiaries upon receiving the cooperative efforts of society as a whole.
Chapter VII

SUGGESTIONS FOR FUTURE RESEARCH

The results of the research reported in this thesis suggest the possibility of valuable research into other topics important to adolescents with scoliosis may be necessary.

1. A comparison of various clothing styles for scoliosis patients may demonstrate validity for the use of clothing as a therapeutic aid in the treatment of scoliosis.

2. The instruments used in this study should be used with a larger sample in order to reveal information about age and the degree of severity of scoliosis and also to determine the degree to which the findings of this research hold true in various segments of the population.

3. A replication of this study using various handicapped populations would test the significance of the obtained similarities and differences between the factors and correlation found by this researcher.

4. Various scoliosis treatment methods, including none and surgery, could be tested using the same instruments to reveal information about these groups.

5. In depth interviews of the individuals used in this
study could lead to discovering the underlying factors at work in the scoliosis patient's life. Particular attention should be given to the clustering tendency of the social variables of both instruments.


Item 1
Scoliosis Curves

Thoracic Curve
Thoracolumbar Curve
Lumbar Curve
Double-major Curve
Item 2
Scoliosis Correction Methods

Milwaukee Brace

Current Brace

Harrington Rod
(surgical method)
DIMENSIONS OF CLOTHING

1. I try to dress like my friends so that others will know I am part of the group.
2. I feel more a part of the group if I am dressed like my friends.
3. I try on clothes in shops just to see how I will look in them without really planning to buy.
4. I wonder why some people wear clothes that are modest.
5. I get bored with wearing the same type of clothes all the time.
6. When people are dressed unsuitably, I wonder why they are dressed that way.
7. I enjoy trying on shoes of different styles and colors.
8. I avoid wearing certain clothes which do not make me feel distinctive.
9. I am more careful with my clothing than my friends are with their clothing.
10. It's fun to try on clothes with different accessories to see how they look.
11. When I buy a new article of clothing I try to buy something similar to what my friends are wearing.
12. I wonder what makes some clothes more comfortable than others.
13. I try to figure out why people look better in their clothes than others.
14. I would rather miss something than wear clothes that are not appropriate.
15. I look at accessories while shopping to see what I might use together.
16. I try on some of the newest clothes each season to see how I look in the styles.
17. I feel embarrassed when I see someone in a low cut dress or blouse.
18. I feel embarrassed to see someone in clothes that are too tight.
19. I spend a good deal of time coordinating the colors of items in my wardrobe.
20. I wear different clothes to impress people.
21. Unlined sheer dresses, blouses, or shirts reveal too much of the body.
22. I wonder why some clothes make me feel better than others.
23. I decide on the clothes to wear according to the mood I'm in that day.
24. I wear a raincoat or carry an umbrella to protect my clothes in rainy weather.
25. I buy clothing to boost my morale.
26. I hesitate to associate with people whose clothes seem to reveal too much of their body.
27. I experiment with new of different hairstyles to see how I will look.
28. I like to be considered outstandingly well-dressed by my friends.
29. I have something to wear for any occasion that occurs.
30. I feel uncomfortable when some forgets to close a zipper.
31. I get new clothes for a special occasion if the clothes I have are not the type my friends will be wearing.
32. Certain clothes make me more sure of myself.
33. When I buy a new garment I try many different accessories before I wear it.
34. I go some distance to find shops with fashionable clothing.
35. I try for pleasing color combinations in my clothing.
54321 36. I am aware of being more friendly and outgoing when wearing certain clothes.

54321 37. I try to buy clothes with well-known labels.

54321 38. I plan and prepare clothes to wear several days in advance.

54321 39. When new styles appear on the market, I am one of the first to buy them.

54321 40. I am curious as to why people wear the clothes they do.

54321 41. I clean and store my out-of-season clothing.

54321 42. I keep my shoes clean and neat.

54321 43. I feel and act differently if I am wearing my best clothing.

54321 44. I wear what I like even though some of my friends do not approve.

54321 45. I have gone places and felt uncomfortable because my clothes were not similar to others.

54321 46. I ask my friends what they are wearing to an event before I decide what to wear.

54321 47. I look over my wardrobe before each season so that I know what I have.

54321 48. I try to keep my wardrobe up-to-date.

54321 49. I read magazines and newspapers to find out what is new in clothing.

54321 50. I wear "dress-up" clothes to make an ordinary occasion seem more exciting.

54321 51. I have a long-term plan for purchasing more expensive items of clothing.

54321 52. I like to know what is new in clothing even if my friends are uninterested and even though I would not wear it myself.

54321 53. I am interested in why some people choose to wear unusual clothes.

54321 54. I carefully coordinate the accessories that I wear with my clothing.

54321 55. I have more self-confidence when I wear my best clothes.

54321 56. I am uncomfortable when my clothes are different from all others at a party.

54321 57. I enjoy wearing unusual clothing even though I attract attention.
ITEM 2

QUESTION ASSIGNMENTS BY FACTORS ON
DIMENSIONS OF CLOTHING INTEREST QUESTIONNAIRE

<table>
<thead>
<tr>
<th>Interest</th>
<th>Conformity</th>
<th>Self-Concept</th>
<th>Modesty</th>
<th>Psychological Awareness</th>
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APPENDIX C
## What I Am Like

### SAMPLE SENTENCE

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<tr>
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<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
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<td>a)</td>
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### Sentence Examples:

1. Some teenagers feel that they are just as smart as others their age.
   - Other teenagers aren’t so sure and wonder if they are as smart.

2. Some teenagers find it hard to make friends.
   - For other teenagers it’s pretty easy.

3. Some teenagers do very well at all kinds of sports.
   - Other teenagers don’t feel that they are very good when it comes to sports.

4. Some teenagers are not happy with the way they look.
   - Other teenagers are happy with the way they look.

5. Some teenagers feel that they are ready to do well at a part-time job.
   - Other teenagers feel that they are not quite ready to handle a part-time job.

6. Some teenagers feel that if they are romantically interested in someone, that person will like them back.
   - Other teenagers worry that when they like someone romantically, that person won’t like them back.

7. Some teenagers usually do the right thing.
   - Other teenagers often don’t do what they know is right.

8. Some teenagers are able to make really close friends.
   - Other teenagers find it hard to make really close friends.

9. Some teenagers are often disappointed with themselves.
   - Other teenagers are pretty pleased with themselves.

10. Some teenagers are pretty slow in finishing their school work.
    - Other teenagers can do their school work more quickly.

11. Some teenagers have a lot of friends.
    - Other teenagers don’t have very many friends.

12. Some teenagers think they could do well at just about any new athletic activity.
    - Other teenagers are afraid they might not do well at a new athletic activity.
<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>BUT</th>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Some teenagers wish their body was different</td>
<td>BUT</td>
<td>Other teenagers like their body the way it is.</td>
<td></td>
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<tr>
<td>14.</td>
<td>Some teenagers feel that they don't have enough skills to do well at a job</td>
<td>BUT</td>
<td>Other teenagers feel that they do have enough skills to do a job well.</td>
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<tr>
<td>15.</td>
<td>Some teenagers are not dating the people they are really attracted to</td>
<td>BUT</td>
<td>Other teenagers are dating those people they are attracted to.</td>
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<tr>
<td>16.</td>
<td>Some teenagers often get in trouble for the things they do</td>
<td>BUT</td>
<td>Other teenagers usually don't do things that get them in trouble</td>
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<tr>
<td>17.</td>
<td>Some teenagers do have a close friend they can share secrets with</td>
<td>BUT</td>
<td>Other teenagers do not have a really close friend they can share secrets with</td>
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</tr>
<tr>
<td>18.</td>
<td>Some teenagers don't like the way they are leading their life</td>
<td>BUT</td>
<td>Other teenagers do like the way they are leading their life.</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Some teenagers do very well at their classwork</td>
<td>BUT</td>
<td>Other teenagers don't do very well at their classwork.</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Some teenagers are very hard to like</td>
<td>BUT</td>
<td>Other teenagers are really easy to like.</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>Some teenagers feel that they are better than others their age at sports</td>
<td>BUT</td>
<td>Other teenagers don't feel they can play as well.</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>Some teenagers wish their physical appearance was different</td>
<td>BUT</td>
<td>Other teenagers like their physical appearance the way it is.</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Some teenagers feel they are old enough to get and keep a paying job</td>
<td>BUT</td>
<td>Other teenagers do not feel they are old enough, yet, to really handle a job well</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Some teenagers feel that people their age will be romantically attracted to them</td>
<td>BUT</td>
<td>Other teenagers worry about whether people their age will be attracted to them.</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>Some teenagers feel really good about the way they act</td>
<td>BUT</td>
<td>Other teenagers don't feel that good about the way they often act.</td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>Some teenagers wish they had a really close friend to share things with</td>
<td>BUT</td>
<td>Other teenagers do have a close friend to share things with.</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>Some teenagers are happy with themselves most of the time</td>
<td>BUT</td>
<td>Other teenagers are often not happy with themselves.</td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>Some teenagers have trouble figuring out the answers in school</td>
<td>BUT</td>
<td>Other teenagers almost always can figure out the answers.</td>
<td></td>
</tr>
</tbody>
</table>
Some teenagers are popular with others their age

Some teenagers don't do well at new outdoor games

Some teenagers think that they are good looking

Some teenagers feel like they could do better at work they do for pay

Some teenagers feel that they are fun and interesting on a date

Some teenagers do things they know they shouldn't do

Some teenagers find it hard to make friends they can really trust

Some teenagers like the kind of person they are

Some teenagers feel that they are pretty intelligent

Some teenagers feel that they are socially accepted

Some teenagers do not feel that they are very athletic

Some teenagers really like their looks

Some teenagers feel that they are really able to handle the work on a paying job

Some teenagers usually don't go out with the people they would really like to date

Some teenagers usually act the way they know they are supposed to

Some teenagers don't have a friend that is close enough to share really personal thoughts with

Some teenagers are very happy being the way they are

Other teenagers are not very popular.

Other teenagers are good at new games right away.

Other teenagers think that they are not very good looking.

Other teenagers feel that they are doing really well at work they do for pay.

Other teenagers wonder about how fun and interesting they are on a date.

Other teenagers hardly ever do things they know they shouldn't do.

Other teenagers are able to make close friends they can really trust.

Other teenagers often wish they were someone else.

Other teenagers question whether they are intelligent.

Other teenagers wished that more people their age accepted them.

Other teenagers feel that they are very athletic.

Other teenagers wish they looked different.

Other teenagers wonder if they are really doing as good a job at work as they should be doing.

Other teenagers do go out with the people they really want to date.

Other teenagers often don't act the way they are supposed to.

Other teenagers do have a close friend that they can share personal thoughts and feelings with.

Other teenagers wish they were different.
ITEM 2

Question Assignments by Dimensions on Self-Perception Scale for Adolescents

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<thead>
<tr>
<th>Social Acceptance</th>
<th>Athletic Competence</th>
<th>Physical Appearance</th>
<th>Romantic Appeal</th>
<th>Global Self-Worth</th>
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<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>9</td>
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<tr>
<td>38</td>
<td>39</td>
<td>40</td>
<td>42</td>
<td>45</td>
</tr>
</tbody>
</table>
APPENDIX D
BACKGROUND INFORMATION SHEET

1. Age_______

2. Year in School
   High School
   _____Freshman
   _____Sophomore
   _____Junior
   _____Senior
   College
   _____Freshman
   _____Sophomore
   _____Junior
   _____Senior

3. Home Town____________________
ITEM 1

Instructions for the Adolescent Self-Perception Profile

We have some sentences here and, as you can see from the top of your sheet where it says "What I am like," we are interested in what each of you is like, what kind of a person you are like. This is a survey, not a test. There are no right or wrong answers. Since teenagers are very different from one another, each of you will be putting down something different.

First let me explain how the questions work. There is a sample question at the top, marked (a). Read the question. This question talks about two kinds of teenagers, and we want to know which teenagers are most like you.

(1) So, what I want you to decide first is whether you are more like the teenagers on the left side who would rather go to the movies or whether you are more like the teenagers on the right side who would rather go to a sports event. Don't mark anything yet, but first decide which kind of teenagers is most like you, and go to that side of the sentence.

(2) Now the second thing I want you to think about, now that you have decided what kind of teenagers are most like you, is to decide whether that is only sort of true for you. If it's only sort of true, then put an X in the box under sort of true; if it's really true for you, then put an X in that box, under really true.

(3) For each sentence you only check one box. Sometimes it will be on one side of the page, another time it will be on the other side of the page, but you can only check one box for each sentence. You don't check both sides, just the one side most like you.

(4) OK, continue with these sentences on your own. For each one, just check one box, the one that is most true for you, what you are most like.

Thank you!
ITEM 2

Instructions for the Dimensions of Clothing Interest

The questions in this part of the survey are about clothing. We are interested in your preferences. Again, your answers will not be like anyone else's because teenagers are very different from each other. There are no right or wrong answers.

Beside each question you will find a series of numbers, 5 4 3 2 1. The higher the number, the more you agree with the question. Use the scale below to rate each question and circle your choice.

Scale:
5 - Almost always - very few exceptions
4 - Usually - majority of the time
3 - Sometimes
2 - Seldom - not very often
1 - Almost never - very few exceptions

Thank you!
APPENDIX F
ITEM 1
Letter to the Subjects

March 29, 1989

Dear Student:

I am a graduate student working on a Master's Degree in Clothing and Textiles at Virginia Tech. To complete the degree requirements, I am now collecting information about clothing preferences from individuals who have or who had scoliosis. As a teenager I had scoliosis and remember how difficult it was to find appropriate clothing.

Attached are two questionnaires which ask for your opinions only. Feel free to answer them honestly since your identity will remain confidential. The information that you can provide will be used to help other people with scoliosis. Your assistance is vital to the success of this project and will be greatly appreciated.

Thank you for taking time to fill out the questionnaires. They should take no more than 30 minutes to complete. Although I can not reveal the underlying purpose of the project at this time, I will be willing to discuss the results upon its completion. I can be reached through campus mail (101 Wallace Hall) or by phone (552-4892).

Sincerely,

Natalie Liskey
Graduate Student

Dr. Carolyn Moore
Chairman

Virginia Polytechnic Institute and State University
ITEM 2
Letter to the Parents

Dear Parent:

I am a graduate student in Clothing and Textiles at Virginia Tech. As a part of the curriculum requirements, I am working on a project that discusses the clothing preferences of adolescents with scoliosis. This topic interests me because I had scoliosis as an adolescent and wore a Milwaukee brace for five years. I remember experiencing many problems with clothing. Now it is my desire to help other adolescents with scoliosis.

It is for this reason that I am asking for your help. In order to collect more information about the specific clothing needs of individuals with scoliosis I need to ask the scoliosis individuals directly. With your permission, I would like to give your daughter a questionnaire that asks about peer groups and her clothing preferences. I will not request any information about her medical history or scoliosis. The information I am looking for is strictly her opinions.

As the information is confidential I will not ask your daughter to sign anything or give her name. This letter was given to your daughter by her physician and he will also handle the questionnaires. You need not worry about your confidentiality.

I can not stress enough how vital your participation is to the success of this project. Your assistance is greatly appreciated and will be used to help other adolescents like your daughter. Thank you for taking time to consider my request.

Sincerely,

Natalie Liskey
Graduate Student

Dr. Carolyn Moore
Chairman
The vita has been removed from the scanned document