# A STUDY OF BODY IMAGE REVISION IN SCHOOLAGE CHILDREN

by

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# CHAPTER I

## INTRODUCTION

Nurses are finding the concept of body image to be increasingly useful in assessing and understanding the patient and in planning and providing purposeful care (Murray, 1972). One important reason is related to the increase in knowledge and technical sophistication in medical and surgical intervention. With the development of more elaborate surgical techniques, anesthesia, therapeutic agents, and life support devices, more complex procedures and aggressive medical management are being undertaken. The result is an increasing number of patients surviving previously fatal conditions. Survival often involves changes in physical appearance or bodily functions. Patient adjustment to these changes may occur through a revision of body image (Henker, 1979; Norris, 1978; O'Brien, 1980).

Norris (1978) hypothesized "in illness and health there is a wide variety of messages about the body being constantly fed into the system, either for interpretation - acceptance with integration into the self or for rejection and revision" (p.9). These messages are the conscious and unconscious information, feelings and perceptions about the body as different and apart from all others. Ultimately these experiences are organized into one's body image which is basic to identity. Thus, it follows that alteration of the body's structure and function may disturb one's integrity

and create a psychologically threatening situation.

Currently, attempts to alleviate this psychological threat to the child experiencing a significant change in physical appearance or physiologic function, are aimed at minimizing adverse reactions to the associated hospitalization. A number of preadmission programs, visitation policy changes, play programs, and specially trained staff have been introduced. Despite the variety of these stress-reducing approaches in caring for the hospitalized child, one continues to see adverse behavioral responses.

These responses are not only observed during hospitalization, but noted to outlast hospitalization as well. Ferguson (1979) expressed concern that "...behavioral manifestations of distress appear to become more evident later after the child's discharge from the hospital, once the child is in the more psychologically safe environment of his own home" (p. 663). These problems with post-hospital adjustment may be related to body image. However, little is known about how the individual's perception of his own body is affected (Fisher, 1970). Norris (1978) expressed the idea that intervention in matters involving the body image is limited at present because of the need for more nursing research in this area.

Before body image can be identified as a variable affecting the post-hospital adjustment of children, the basic belief that responses to physical changes require

body image revision must be further investigated. It is necessary to determine whether a change in the body image results from dysfunctions that are sequelae of medical management or surgical intervention for chronic debilitating conditions. Findings may contribute to the practice of nursing in the following ways:

1. It may help nurses to work more effectively with the schoolage child within the hospital by improving their appreciation of body image concerns as they relate to developmental tasks.
2. It may help nurses to identify changes in bodily structure or function as stimuli related to body image revision in order to direct appropriate nursing intervention.
3. It may help nurses explore with the family possible responses of the child's body image to changes in physical appearance or function in order to foster continued healthy development in meeting the developmental crisis of industry versus inferiority.

Theoretically, it is hoped that this study will help clarify the diagnostic term "altered body image". This idea has been included as one of four subdiagnoses of "altered self-concept" in the generic Standards of Nursing Practice developed by the American Nurse's Association. The Third National Conference on the Classification of Nursing Diagnoses (1978) presents the diagnosis of "body image,

alteration of" through the following defining characteristics

1. Non-verbal response to actual or perceived change in structure and/or function
2. Verbal response to actual or perceived change in structure and/or function
3. Clinically validated by:
    a. Actual change in structure and/or function
    b. Preoccupation with the change or loss
    c. Missing body part
    d. Verbalization of negative feelings about the body
    e. Verbalization of fear or rejection by others
    f. Focuses on past strength, function or appearance
    g. Verbalization of fear of reaction of others
    h. Change in ability to estimate special relationship of body to environment
    i. Hiding or over exposing the body part
    j. Not looking at the body part
    k. Verbalization of feelings of helplessness
    l. Not touching the body part
    m. (Intentional or unintentional) trauma to non-functioning body part
    n. Verbalization of feelings of hopelessness
    o. Verbalization of change in life style
    p. Change in social involvement
    q. Verbalization of feelings of powerlessness

r. Emphasis on remaining strengths

s. Emphasis on remaining strengths - heightened achievement

Testing the diagnosis provides yet another opportunity to add to the standardization of a classification system of nursing diagnoses.

The major underlying assumption of this study is that altered bodily appearance or physiological function is accompanied by an alteration in the person's body image. The following chapters will discuss this issue more fully. Initially, the Review of the Literature will present the concept of body image. This will be followed by a discussion of developmental tasks of the schoolage child as related to body image. Finally, the postulated relationship of illness or altered physical condition to the child's body image will be examined.

## Review of the Literature

### Body Image

This discussion pertaining to body image will progress from a brief historical survey to a review of research which has been devoted to the study of an individual's attitudes toward his body. First, the evolution of the concept of body image will be presented. Then, the current definition of body image emerging from this historical perspective will be offered. Next, the concept of body image will be

differentiated from other similar concepts. Empirical studies relevant to the focus of body image will conclude this section of the literature review.

Formal discussions concerning body image began to appear in the early 1900's. Henry Head's neurophysiological approach explained body image through a postural-tactile model of the body. According to Head and Holmes (1912), past bodily experiences and present sensory impressions were organized in the parietotemporal areas of the cerebral cortex. It was thought that distortion of the individual's perception of his body was caused by neurological lesions in this part of the brain (Schwab & Harmeling, 1968; Simmel, 1966; Simon, 1971).

In 1935, Schilder was identified as a leader in generalizing beyond this neurological framework of body image. He felt that "the body image is based not merely on associations, memory, and experience, but also on intentions, will, aims, and tendencies" (pp. 287-288). In addition to these psychological factors, Schilder suggested various social factors influenced body image. He incorporated curiosity, expression of emotions, social relations, duty, and ethics into the concept of body image (Ritchie, 1973). Elaboration of Head's original model is summed up by Schilder's belief that body image was "that picture or schema of our own body which we form in our minds as a tridimensional unity involving interpersonal, environmental and temporal factors" (Kolb,

1959, p. 750).

Although Head and Schilder viewed body image through separate frameworks, they did share a common belief that there was no endpoint to its development. Both theorists felt that body image was dependent on an individual's experiences continuously registered throughout a lifetime. Anthony (1968) confirms this dynamic, open-ended belief by reporting that body image "...follows an orderly, maturational process and is constantly changing, undergoing reorganization and elaboration, depending on the individual's present and total life experiences" (p. 1105).

A contemporary definition of body image unfolds from this background of its conceptual development. This definition states that body image is a continuous, active perception of the body which is affected by physiological, psychological and sociological factors (Anthony, 1968; Brown, M.S., 1977; Brundage, 1979; Kolb, 1973; Murray, 1972; Norris, 1978; Ritchie, 1973). These factors are enumerated by Schonfeld (1964) as follows:

1. The actual sensory experience of the individual in regard to his body through the integration from earliest infancy of multiple perceptions, particularly visual and tactile; the actual subjective perception of the body, both as to appearance and ability to function.
2. The internalized psychological factors arising

from the individual's personal and emotional experiences.

3. The sociological factors, namely how his parents and society react to the individual and his interpretation of their reactions.
4. Attitudes toward the body derived from the individual's experiences, perceptions, comparisons and identifications with the bodies of other persons (p. 494).

The current definition of body image increases awareness of how central this concept is to any human experience. Perceptions of the body related intimately to larger conceptions of the self (Anthony, 1968). The terms "self concept" and "self esteem" have meanings similar to body image. For clarity, body image is to be distinguished from these two terms. Each of the common terms refers to a particular component of a person's total personality. M.S. Brown (1977) and Hamacheck (1972) refer to "self concept" as an individual's abstraction of ideas and attitudes about the kind of person the individual sees himself as being. Not only does one have ideas about who one is, but also emerging are certain feelings about who one is. "Self esteem" adds this evaluative dimension, the personal judgment of worthiness (Coopersmith, 1967). Hamacheck (1972) draws a comparison, "whereas self concept is the cognitive part of the self, we might view self-esteem as the affective portion of the

self" (p. 3). A part-whole relationship exists between body image, self-esteem and self concept in personality development.

This brief overview of the concept of body image and differentiation from other common terms forms the basis for the application of this idea. Application appears in research associated with body structure, physiologic functioning, body distortions, and body malfunctions. Body image appears to be relevant in a variety of situations.

Body image is pertinent to studies of the phantom phenomenon. This phenomenon is an illusion of a non-existant extremity following amputation. The tendency for the perceived phantom to gradually disappear demonstrates that body image does indeed undergo modification and revision (Kolb, 1959). An investigation by Simmel in 1966 supported Head's idea of an existing basic body scheme. Her investigation involved individuals with congenitally missing limbs, childhood amputees, and patients with leprosy having lost body parts surgically or through absorption. She incorporated developmental aspects of the body scheme and was able to support the belief that past sensory experience is a determinant of the emergence of the phantom. Through F.L. Brown (1964), knowledge about the care of the patient with limb amputation and adjustment to prosthetic appliances has also been expanded upon by application of the concept of body image.

Traub and Orbach (1964) attempted to measure "...how different sensory modalities contribute to the image that the person develops of his body" (p. 54). They introduced an adjustable distortion mirror to assess visual body perception as a component part of body image.

Extensive studies related to body boundaries and patterns of body perception have been conducted by Fisher and Fisher (1964) and Fisher and Cleveland (1958). They concerned themselves with the relationship of the definiteness of the body image boundary to various behavioral and physiological variables. Prominence of exterior and interior sensations of the body was also incorporated. Their finding, "...Overall, a picture emerged of the individual with definite boundaries as: more active, independent, communicative, and also more likely to channel excitation to the exterior layers of the body than the individual with indefinite boundaries" (p. 255).

There are a number of research projects incorporating body image. A variety of populations have been studied. Brantley and Clifford (1979) examined discriminability of body image variables between normal, cleft palate and obese adolescents. Wysocki and Whitney (1965) utilized the Draw-a-Person Test in assessing the body image of handicapped and nonhandicapped children. They found that handicapped children indicated in their drawings an area of insult which corresponded to their own conditions. Offord and

Aponte (1967) compared drawings and sentence completion responses of congenital heart children with normal children. Their findings reveal, "...the body distortion of a congenital heart child pertains more to his perception of the inside of his body than to the view of his external body" (p. 57). In 1963, Jaskar and Reed assessed body image organization of hospitalized and nonhospitalized adults. They concluded that "...non-hospitalized individuals obtain more appropriate body image scores and express more positive attitudes toward their bodies than do hospitalized Ss" (p. 185). Work by Fisher in 1968 examined the relationship of surgery to body perception. He found, "Body perception does vary during different phases of the surgical experience. General body awareness and boundary articulation are particularly likely to shift, but the shifts are of small magnitude" (p. 701). Surgical procedure is thought to present a problem of integrating change in a body part or process into the total body scheme. In addition, Norris' (1978) work identified sequelae of drug therapy such as moon face, hirsutism, changes in body contour as threatening to body image. A final example of the extent of the research relevant to body image is drawn from the work of Auxter, Zahar, and Ferrini (1967) with emotionally disturbed children. They found that a program of basic motor skill development and movement exploration brought about a significant gain in body image. This supported the idea that

heightened proprioreceptive input results in further development of body image.

Through a review of these empirical studies, one obtains documentation of the idea that chronic illness, debilitating conditions, or congenital anomalies are associated with body image disturbances. Specific situations have been identified: cleft palate and obesity (Brantley & Clifford, 1979), congenital heart disease (Leonard, 1972; Offord & Aponte, 1967), bodily illness and pain (Freud, 1952; Schwab & Harmeling, 1968), polio, cerebral palsy, club foot, congenital dislocated hip, spina bifida, scoliosis, funnel chest, osteogenesis imperfecta, recurrent bone cyst (Richardson, Hastorf, & Dornbusch, 1964; Wysocki & Whitney, 1965), diabetes (Richardson, et al, 1964). Also evident through review of these studies is the thought that interventions which occur in the hospital are assumed to change the body experience. These include: acquired physical disfigurement resulting from surgical intervention (Fujita, 1972; Henker, 1979; Watson & Johnson, 1958), reconstructive craniofacial surgery (Foust, 1980), amputation (Brown, F.L., 1964), renal transplant (Pang, 1975), surgical procedures in which the body part is disturbed such as with a colostomy, and side effects of drug therapy (Norris, 1978). These examples suggest that because medical and surgical interventions affect change in illness or current condition, then such intervention should be accompanied by a change in body

image.

How a schoolage child's body image is affected by these traumatic variables can only be understood by first discussing the particular developmental tasks appropriate to this age group. Belmont (1970) supports this premise, "The responses of a child to his illness are usually not determined by its actual severity. More significant are his own fantasies and interpretations of his illness, the stage of his personality development at that time, the degree of personality organization and development he has achieved, and the characteristic methods of defense against anxiety he has developed during his lifetime" (p. 477).

## Developmental Tasks of the Schoolage Child as Related to Body Image

This section will provide a description of the developmental tasks of the schoolage stage as they specifically relate to body image. In addition, the child's acquisition of knowledge about body parts will be integrated. These areas will then serve as background for discussion of potential body image concerns of the schoolage child.

There has been much work done in the area of child development with indepth knowledge of individual maturation. Hymovich and Chamberlin (1980) have acknowledged major developmental themes approached through multiple theoretical frameworks such as : psychoanalytic, psychosocial, crisis stages, cognitive, temperament, learning theory and de-

velopmental tasks. Sigmund Freud is generally associated with a psychoanalytic (psychosexual) approach to personality development and calls upon the id, ego, and superego as the major systems of personality development that proceed through the anal, phallic, latency and genital stages. Jean Piaget views the cognitive aspects of development through processes of assimilation and accommodation in four major stages of the thought process--sensorimotor, preoperational thought, concrete and formal operations. Skinner's learning theory emphasizes environmental shaping of behavior and approaches development through the concept of conditioning. Gesell and Ilg associate development with maturational theory and attention is focused on the expression of innate tendencies.

Clearly, it is possible to present child development from a variety of theoretical approaches. The preceding frameworks were briefly presented to illustrate this idea. No single theory is useful in all situations. In approaching discussion of body image development, one may find the work of Erik Erikson as a helpful organizing framework to interpret development of the schoolage child. Body image was previously defined as a continuous, active perception of the body affected by physiological, psychological and sociological factors. These components blend with Erikson's focus of development through a series of developmental crises presented as dichotomies to describe a central task occurring at each stage, acknowledgment of active involve-

ment with the environment and "...mutual regulation...with each person influencing the development of the other" (Hymovich & Chamberlin, 1980, p. 7).

Erikson has done extensive work related to personality development. He theorized an orderly sequence of development and called these the "Eight Stages of Man". Four of these eight stages are relevant to this study of the schoolage child. They will provide a general framework from which specific age-related information about children will be presented. According to Erikson (1964), by age 12, the child has accomplished (1) trust vs. mistrust, (2) autonomy vs. shame, doubt, (3) initiative vs. guilt and (4) industry vs. inferiority.

The fourth stage, industry vs. inferiority, occurs during the schoolage period from six to twelve years. The major theme of this stage of development is mastery. Mastery may be inferred from Erikson's (1964) abstract conclusion "If he (the child) despairs of his tools and skills or of his status among his tool partners, he may be discouraged from identification with them and with a section of the tool world. To lose the hope of such 'industrial' association may pull him back to the more isolated. The child despairs of his equipment in the tool world and in anatomy and considers himself doomed to mediocrity or inadequacy" (p. 260). A simpler interpretation of Erikson's fourth stage is provided by Hymovich and Chamberlin (1980).

They describe the polarity of this stage as one where

> ...The child is trying to resolve feelings of inferiority which are in essence caused by the fact of childhood. The method of resolution is to take advantage of all opportunities to learn by doing and to experiment with the skills and tools available. Abundant energies are devoted to self-improvement and conquest of people and things, with the drive to succeed always including a sense of the threat of failure...Excessive and unsuccessful competition with peers and siblings and failure in school can result in damage...to successfully complete this developmental task, a certain amount of success must be attained (p. 335).

This general framework provides one with an appreciation for the development of the child's awareness of ability and self. Within this framework, consideration must be given to the cognitive capacity of children as well as impact of social and environmental influences to complete the description of the schoolage child. Specific development of body awareness within these three areas of development will be integrated.

Goodenough's (1926) idea on cognitive ability of the schoolage child is succinctly presented by Grillot (1978)

> ...The marked mental growth that occurs during the middle childhood years is not simply the quantita-

> tive increase. It is not just that the person thinks better or more efficiently at twelve than he does at five. He thinks differently; there is a qualitative change...As time passes, and through repeated experiences, thinking can be done by means of concepts that maintain their identity no matter what the perceptual situation in which they are imbedded (pp. 7-8).

Specific application of this concept of intellectual development is applied to the child's acquisition of knowledge about body parts and bodily functions. Cognitively, children show a slow, steady rise in ability to list body parts and understand how they function and interact. M.S. Brown (1977) is in agreement with Gellert (1962) that a normal spurt of interest in learning about the body does occur around the age of 9-10 years. This appears to correspond with emerging intellectual ability seen by school teachers at this age. Gesell and Ilg (1946) also observed that this is usually a time of curiosity about nature studies, in general, and about the workings of the body in particular. Finally Grillot's (1978) study, "Children's Perceptions of Their Internal Body Parts and Functions," suggests that other variables may increase bodily awareness. These include "...a greater emphasis on health teaching in the school systems, the influence of television, advertising, and educational toys involving the body, or any combination of

these factors" (p. 8).

Empirical studies support the premise that cognitively children are keenly aware of their body and its function. Smith's study in 1977 discovered 65 percent of hospitalized children spontaneously cited organs involved in their illness. Porter (1974) conducted a study of 144 grade school children's perception of their internal body parts. Children between the age of six and eleven who were asked to draw and label their internal body parts were able to do so with surprising accuracy. Children generally used correct medical terms for all parts of the body with minimal reference to slang or lay terms to label internal organs. Children are able to visualize and draw the internal parts of the body with accuracy. Schilder and Wechsler (1935) in their study entitled, "What Do Children Know About the Interior of the Body?" reported that in general, children "gave correct answers" at a Mental Age of 11 years.

To complete the description of the schoolage child, attention is now drawn to social and environmental influences on development at this stage. Socially, children of this age are concerned with associative responses of others and with winning recognition. The family remains a strong influence in the child's continuing development. Relationships with parents involve further acquisition of values and competencies to be tried out with peers. In discussion of body awareness, Anthony (1968) supports this view, stating,

"...that children discover facts about their own body by talk and observation of others and that family conversations about health, appearance, or illness in the family may also increase the child's interest in his own body" (p. 1113). Simultaneously, social maturation is dependent upon the child's interaction with the expanding environment.

Children are moving away from their home through daily school activities. They are moving toward more peer group activities (Belmont, 1970). Consequently, they judge themselves harshly when comparing themselves to their peer group. The child in latency compares himself to his classmates and playmates and wishes to measure up and be proud of himself. Self concept is developed by seeing oneself as others see one and through a sense of belonging to peer groups. Much of the psychology of the individual is in fact a social psychology. The way in which one feels and behaves about many things depends in greater or smaller measure upon one's relationship with other persons (Wright, 1960).

So far the literature review has attempted to review the general concept of body image as well as developmental characteristics of the schoolage child. Attention will now focus on the third and final section of this review: the relationship of illness or altered physical condition to the child's body image.

## Relationship of Illness or Altered Physical Condition to the Child's Body Image

Body image has been presented as a total of the information, feelings, and perceptions about one's body as well as the bodily sensations one experiences. In addition, the individual's physical growth and personality development were previously highlighted and noted to be closely related to the concept of body image. Any pathophysiological process, medical treatment or surgical insult interrupts the function or structure of the body. Thus, these situations would appear to threaten the stability of body image.

Support of the preceding statement is drawn from previous research. Fisher and Seymour (1970) concluded, "Surgery is considered one of the most common situations in which normal individuals suddenly find their body integrity threatened" (p. 79). Wright (1960) reasoned that "...physical variations affect the psychological situation of a person by influencing the effectiveness of his body as a tool for actions or by serving as a stimulus to himself or others" (p. xiii). Jaskar and Reed (1963) found ill patients express more negative feelings toward their bodies and tend to focus dissatisfaction on the body part or function affected by the illness than do healthy persons.

As medical treatment for illness or surgical intervention draws attention to the body, consequent concerns with body intactness and integrity surface (Galligan, 1979).

Impending or actual traumatic or surgical disruption of body surface represents such a loss and strangeness as to offer a serious threat to body ego (Watson & Johnson, 1958). Demaio (1978) presented a case study of a 6-year-old boy hospitalized due to traumatic injury. She revealed his expression of numerous concerns regarding body representation. The youngster was noted to be particularly attentive to distortion or disfigurement of the body, intactness of skin surface and loss of body parts or contents of the body. The attitude of the child toward himself as an object appeared to be a dominant component of his emotional attention. This child's reactions to the experience of surgery and traumatic changes in physical configuration unveiled information concerning attention given to revision of body image following alterations in body structure.

This leads one to a major assumption made by Brundage (1979) related to body image. That is, "...physical disability or a change in bodily structure that results in altered function or appearance or both are accompanied by an alteration in the person's body image" (p. 512).

In general, conditions observed to have an impact on body image, body boundary and subsequent organization involve the presence of drug effects, illness, disfigurement or surgical interruption in some part of the body (Anthony, 1968; Fujita, 1972; Lincoln, 1978; Norris, 1978). Specifically, side effects of drug therapy such as moon

face, hirsutism, striated skin, or changes in body contour may threaten body image. Physical changes associated with pathophysiology may involve dealing with changes in body size and proportion such as in development of obesity, emaciation, atrophy due to failure of a body part or system to function. Disfigurement associated with burns or an obvious limb loss are other experiences in which a person's concept of his or her body image undergoes modification. In addition, there are surgical procedures in which the relationship of body parts is disturbed, such as with a colostomy or ileostomy. In other surgical procedures the loss of body parts or function, even if invisible to others, may involve a revision of the patient's body image. Examples of these would be loss of a lung or kidney, chronic renal failure, paraplegia.

Attempts have been made to classify physical changes in body structure or function as either temporary or permanent. Temporary changes are ones which the patient generally adjusts to and waits out the period of disturbance. However, major problems which seem to require body image alteration appear to be the result of permanent changes in structure. These changes may be readily visible, as in an amputation of an extremity or facial disfigurement. They may, however, not be visible at all, as in impaired renal or cardiac function. Whether visible or not, actual deficits in the structure, function, or appearance of the body may disturb

body image.

Because body image provides a base for identity, almost any change in the body structure or function may be viewed as a threat to the normal, maturing process. It would seem that the major developmental task facing schoolage children, resolution of feelings of inferiority, may cause them to be particularly vulnerable to body image revision. However, there is very little current research in this area. Specifically, there is little data available to support the idea that topological or physiological changes acquired as a consequence of illness, medical or surgical intervention during the schoolage developmental stage will result in a modification of body image. In order to investigate these phenomena, the following conceptual framework has been drawn upon for this study.

## Conceptual Framework

Two concepts are basic to the composition of this study. They are body image and developmental task. Each of these ideas will be presented individually prior to a discussion of their relationship to one another. This will be followed by a brief overview of application of this relationship to the study of children with bodily disturbances.

A review of the evolution of the concept of body image dates the original neurophysiological description and model back to the works of Henry Head in 1920. Since then, a

number of alternate theories have been generated through the works of Schilder (1959) and his psychological model, Fisher and Cleveland (1968) through their sociological model and integration of these distinct models by Schonfeld (1964), Anthony (1968), Simon (1971), Kolb (1973), M.S. Brown (1977), and Norris (1978). Acknowledging that there are several different ways of considering body image, the investigator chose to utilize the conceptual model proposed by M.S. Brown (1977).

M.S. Brown (1977) presents a symbolic model of body image that includes three levels of bodily experience and six interactions of these bodily experiences with influential environmental factors. Interaction between the levels of bodily experience and the environment takes place over a time span. Therefore, results of these interactions will differ according to the stage in the lifespan during which they occur.

Careful examination of Figure 1 reveals the three levels of bodily experiences as (a) the innermost somatic bodily experiences, (b) behavioral bodily experiences, and (c) topological bodily experiences. The innermost somatic experiences form the core of body image and are defined by Brown (1977) as "...bodily experiences derived from deep or systemic physiologic causes...from a neuromuscular sensation deep within the body" (p. 7-8). Neurologic, metabolic, endocrine, and hormonal sensations are considered here.

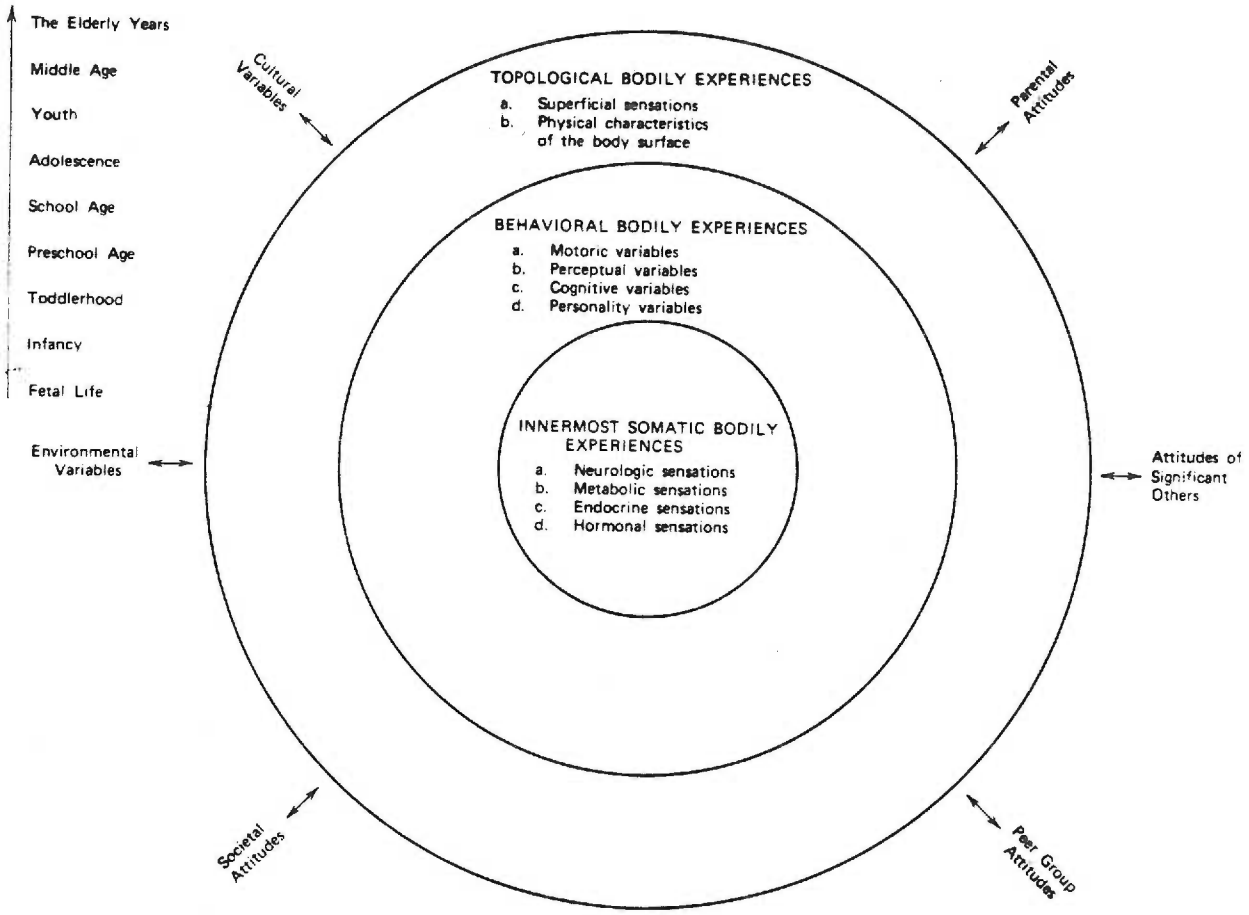


FIGURE 1

Brown's Nursing Model of Body Image

Somewhat less basic than the somatic experiences are the behavioral bodily experiences viewed in the second level of the model. Motoric, perceptual, cognitive, and personality variables are significant at this level. Brown highlights perceptual influences as the important factor at this level. The final level of bodily experiences are those emerging from the surface characteristics of the body. These are referred to as the topological experiences and incorporate superficial sensations as well as physical characteristics of the body surface. Brown proposes, "A very important concept in regard to the topological level of bodily experience is the concept of body boundary...how definite or indefinite a person experiences the boundary between his body and the rest of the world" (p. 9).

The influential environmental factors which are proposed as interacting with the three levels of bodily experiences include societal, parental, and peer group attitudes along with attitudes of significant others, as well as cultural and physical environmental variables. These interactions span a life time progressing from fetal life through the elderly years. Throughout the normal developmental sequence, Brown speculates that the components of body image approach qualitatively advanced states corresponding to advancing cognitive abilities.

Within Brown's conceptual model, the investigator chose to look at only one phase of the lifespan, the schoolage

period. The investigator also limited the focus of this study to portions of the levels of bodily experiences--the topological and innermost somatic responses. For purposes of this study the topological level includes only physical characteristics of the body surface. These are the structural changes which are readily visible and/or altered surface characteristics of the body. The level of innermost somatic bodily experiences will include sensorimotor, renal, cardiac variables, and altered patterns of elimination as well as the neurologic, metabolic, endocrine and hormonal sensations found in the model. Behavioral bodily experiences will not be addressed as they are beyond the scope of this study. Relevance of this second level would appear limited to nursing practice as it addresses cognitive and personality variables more appropriate for work within the educational and psychological disciplines.

Developmental tasks is the second concept basic to the content of this study. This concept provides a useful tool in identifying tasks arising near a certain period in the life of the individual. Developmental tasks serve as guidelines enabling individuals to know what is expected of them at a given age in their society. Clark (1966) expands on implications of this idea, "If you have achievement with a task this will lead to happiness with later tasks; while failure leads to unhappiness, difficulty with later tasks and disapproval of society. These tasks are accomplished to

satisfy biologic requirements, cultural imperatives and personal aspirations and values" (p. 803).

Major developmental themes have been proposed by a number of researchers, namely the psychoanalytical approach of Freud, learning theory and environmental shaping proposed by Skinner, Piaget's cognitive levels of development, and Erikson's dichotomous developmental crises presented in eight isolated stages. For purposes of this study, Erik Erikson's eight stages of personality development will be used as the general framework for looking specifically at the developmental tasks faced by the schoolage child as they relate to body image.

In this stage Erikson proposed that the major task is in developing either a sense of industry or a sense of inferiority. Crucial to developmental processes of this period is the child's sex role identity, learning how to interact with peers and development of various academic skills. In addition, the ten to twelve-year old is undergoing body changes and sensations of puberty.

The preceding discussion highlights two levels of bodily experiences and developmental tasks during a particular stage in life, the schoolage stage. Considering this information, one wonders if the body image of a schoolage child is disturbed by medical or surgical intervention related to long-term illness or debilitating physical condition, since any of these events may threaten accomplishment

of schoolage developmental tasks. Specifically, the question of this study is whether topological or physiological changes acquired as a consequence of medical or surgical intervention during the schoolage developmental stage will be correlated with changes in body image. This study will attempt to answer this question within the conceptual frameworks of body image and developmental tasks relevant to the schoolage phase.

## Statement of the Problem

Documentation has been provided that certain situations are associated with body image difficulties, e.g. congenital anomalies, long-term illness, handicapping conditions, obesity, and pain. Discussion has focused on changes in the course of an illness or physical condition imposed by medical and/or surgical interventions. With this background and given the preceding conceptual framework, the question then becomes, because medical or surgical interventions affect change in illness or current physical status, then is such intervention related to a change in body image? This question will be applied specifically to the schoolage child.

## Operational Definitions

The following operational definitions are offered for clarification of the question under investigation.

Body Image: The child's mental image of each of the various

parts or functions of his or her body as measured by Clifford's (1971) modification of Secord and Jourard's (1953) Body Cathexis Scale.

Situations Associated with Body Image Difficulties: The specific situations to be included in this study are structural changes which are readily visible or altered surface characteristics of the body. Examples would be changes in physical appearance as a result of handicapping condition, scarring, plastic surgery, incorporation of external prosthetic device, disorders of acute dismemberment, obvious altered patterns of eating, breathing, communicating, action and motion limitation. Additionally, altered physiological processes are associated with body image difficulties. Examples would be acquired disease states or congenital conditions that affect any part of the sensorimotor system including pain, sensorineural with seizure disorders, endocrine processes, renal or cardiac function, altered patterns of elimination.

Interventions Associated with Body Image Changes: Specific medical and surgical interventions will be included in this study. They include interventions such as reconstructive surgery, amputation, transplant, diagnostic procedures, and drug therapy producing a change in appearance as with alopecia, hirsutism, obesity, moon face.

# CHAPTER II

# METHODS

## Design

The purpose of this descriptive correlational study was to conduct a systematic investigation of the relationship between altered topological or physiologic function and a change in body image. The researcher did not introduce any treatments as variables. No randomization took place. Attention was focused specifically on the schoolage child with altered bodily appearance or physiologic function resulting from medical or surgical intervention. Even though the investigator did not infer a causal relationship between altered bodily appearance or physiologic function and a change in body image, it seemed appropriate to conceptualize a change in body image as the dependent variable and altered bodily appearance and/or physiologic function as the independent variable.

Rigid guidelines were established for subject selection and conclusions were restricted to correlational statements. This was done as the researcher realized an ambiguous cause-and-effect relationship leading to faulty interpretation was a serious weakness of this design due to its inability to randomly assign individuals to participation in the study. Internal validity was threatened.

The above characteristics are offered by Polit and

Hungler (1978) in a discussion of descriptive correlational studies. They present this type of ex post facto research as research in which "...the investigator engaged in the study has no control over the independent variables...there is no possibility for experimental manipulation or random assignment to groups...and the aim of which is to describe the relationship among variables rather than to infer cause-and-effect relationships" (p. 185).

## Subjects

A nonprobability approach was used to select the subjects in the sample. The subjects were selected for inclusion in the study according to the following criteria:

The schoolage, hospitalized child must have

a. Been in the fourth to sixth grade or between the ages of 9 and 12 years.
b. Been free from a psychological condition requiring consultation or special psychiatric care within the 12-month period prior to current admission.
c. Had long-standing physical problems such as chronic illness, debilitating condition or congenital anomaly.
d. Experienced altered bodily appearance or physiologic function as a result of medical or surgical intervention associated with current

hospitalization.

It was necessary to maintain criteria (c) and (d) to allow breadth to this study. The heterogeneity of subjects was essential for completion of this study within the investigator's time limitation.

## Sample

Due to the investigator's time constraints and bed capacity limitations of the setting, the sample size for this study was nine subjects.

## Setting

Subjects for this study were selected from Unit 14A of Doernbecher Memorial Hospital of the University of Oregon Health Sciences Center. This unit has a total census of 16 beds and services children ages 5-16 years. Total patient care is provided by 5 Registered Nurses and 1 Licensed Practical Nurse on the day shift. Evening and night shifts are staffed by 2-3 Registered Nurses, 1 Licensed Practical Nurse, and 1 Nurse's Aide. Typical diagnoses on this unit are in the area of oncology, chronic renal problems, a variety of long-term orthopedic conditions, and multiple injuries due to car accident. Parent visitation on Unit 14A is unlimited and mothers are encouraged to room-in with their child. Sibling and peer visitation are permitted.

In an attempt to minimize psychosocial upset, the unit provides open visitation policies as well as a viewing of a

preparatory videotape of the hospital. In addition, all children are oriented to the unit and introduced to the staff by the nurse caring for the child. This could vary from a walking tour to a "verbal tour" from the child's room, where the child is told the location of nurse's station, family room, and play room and instructed on how to call for assistance. The family is also given a brochure "Welcome to 14A" which essentially describes things to bring from home and proper labelling, availability of school teachers, visiting hours, bedtime hours, location of cafeteria, telephone and smoking policies, off-limit areas on the unit, and general rules about activity in the halls. Preparatory books specific to cardiac catheterization are available for the child admitted for such a procedure. If it is anticipated that the child will be spending time in the Pediatric Intensive Care Unit or Cardiac Care Unit, then a staff member from that respective unit will come to 14A and describe the special setting to the child and parent as well as tour the unit with them. All other preoperative teaching and intervention to minimize the impact of illness and hospitalization are individualized according to the nurse's care plan devised to meet each child's own needs.

To assist the nurse in identifying possible psychosocial problems, the child and parent are asked to complete a School-age Assessment Tool, covering such areas as family composition and dynamics, view of the child, school activities, socializa-

tion, eating/sleeping patterns, hospital preparation, and instructions to draw a picture of your family. The nurse then designs individualized care and intervention addressing the child's special needs or areas of anticipated psychosocial vulnerability. Part of nursing intervention sometimes includes a referral to the Child Life Therapy Program. This program provides added companionship and emotional support for the child. To foster a degree of continuity of care, this therapist also maintains contact with the chronically ill child through outpatient clinic visits and readmissions. The playroom on the unit is supervised by a volunteer who organizes arts, crafts, and movies. The volunteer does not engage in any special preparations or play therapy.

## Data-Gathering Instruments

The child's perceived body image was evaluated through utilization of Clifford's (1971) modified version of Secord and Jourard's (1953) Body Cathexis Scale (see Appendix B). Body Cathexis is defined by Secord and Jourard as "...the degree of feeling of satisfaction or dissatisfaction with the various parts or processes of the body" (p. 343).

Additional demographic data was recorded on a Subject Information Sheet (see Appendix C).

### Assessment of Body Image

Much of the previous research in the area of body image involved use of projective techniques to assess perceptions.

One of the most common ways of assessing the child's impression of himself is through the use of the human figure drawing. The investigator using this technique accepts a psychoanalytic framework, viewing the child's Human Figure Drawing as a projection of his internalized body image. According to this position, if the child has a body impairment or disability, it will be reflected in his drawing. In addition to the Draw-a-Person Test, the Rorschach Tests, interviews, observations of posture, gait, dress and body movement have also been utilized to assess body image perception. Only Secord and Jourard have attempted to measure a person's conscious attitudes toward his/her body through the Body Cathexis Scale, a self-report inventory.

The investigator chose the Body Cathexis Scale over these projective techniques to increase precision, accuracy, and objectivity of the assessment. The subjectivity involved in interpretation of projective data made them inappropriate to this study. The Body Cathexis Scale purports to directly appraise strength and direction of feelings a person has about various body parts or functions of the body by tapping conscious attitudes. Such an approach attempts to measure body-relevant attitudes. Several studies have been conducted to evaluate the body as an object among varied populations (Clifford, 1971; Jaskar & Reed, 1963; Jourard, 1957; Jourard & Remy, 1955, Pang, 1975; Secord & Jourard, 1953; Weinberg, 1960).

These trials usually involved some modification of the original 46-item scale. In 1971, Clifford's study of the adolescent's reactions to a changing and maturing body involved alterations of the Body Cathexis Scale. Item simplification was necessitated by use of the young adolescent population. The current investigator chose to utilize Clifford's 48-item modification of the Body Cathexis Scale with further incorporation of minor changes. These changes involved deletion of the item "myself", addition of "heart", "stomach", "muscles", and body eliminaiton terms--"pooping" and "peeing", and rephrasing of "energy level" to "amount of energy".

Clifford's (1971) Body Cathexis item "myself" was discarded as it did not refer to a specific body part or function and inference of self-concept may have been applied to the item. Previous review of the literature alluded to a distinction between body image and self concept. Addition of colloquial terms for defecation and urination facilitated communication through terms children are more familiar with. Addition of "heart", "stomach", and "muscles", is in accordance with Schwab and Harmeling's (1968) revision of the Body Cathexis Scale to complete the body concept. Rephrasing of "energy level" to "amount of energy" was done for simplification. These modifications produced a final 48-item Body Cathexis Scale.

Each of the Body Cathexis items was evaluated by the child according to Clifford's (1971) modified five-point scale to approximate schoolage level of cognition:

1 - I don't like it at all and I wish it could be changed.

2 - I don't like it.

3 - I have no special feelings about it one way or the other.

4 - I am satisfied.

5 - I am completely satisfied and I would not change it if I could (p. 121).

The original five-point representation of feelings toward the body was presented by Secord and Jourard (1953) as follows:

1 - Have strong feelings and wish change could somehow be made.

2 - Don't like, but can put up with.

3 - Have no particular feelings one way or the other.

4 - Am satisfied.

5 - Consider myself fortunate (p. 343).

Total body satisfaction scores were obtained for each child by summing the ratings assigned to each of the 48 items presented. The range of possible scores is 48 to 240. A low score on the Body Cathexis Scale implies dissatisfaction with body parts or bodily function, while a high score reflects satisfaction.

Reliability coefficients for the Body Cathexis Scale

signify satisfactory instrument stability. Secord and Jourard (1953) obtained a moderately high split-half reliability of .81 for the Body Cathexis Scale. This finding is consistent with a report by Jourard and Remy (1955) who computed a split-half reliability of .91, corrected by the Spearman-Brown formula. In addition, Weinberg (1960) offered a split-half reliability of .79. For 52 male students, test-retest coefficient of .72 for the Body Cathexis Scale was obtained by Johnson in 1956 after a 6 to 8 week interval.

Wylie (1974) briefly examined construct validity of this tool. She reports evidence of the discriminant validity of the scale for "measuring body relevant attitudes as differentiated from overall self-esteem or even from more general attitudes of satisfaction with others and the world in general" (p. 237). She adds that nothing can be said about the influence of irrelevant response determiners on construct validity. The scale is open to "faking or to more subtle social-desirability influences" (p. 237). Finally, Wylie (1974) offers "...their method of scoring by summing across disparate items is open to the familiar criticism that this assumes without warrant the equal salience and metric of each item. Although an internal factor analysis could at least suggest the degree to which all items had on a common factor, none is available" (p. 238).

## Additional Data

The literature supports that many factors could influence a revision in body image. Medical records provided data related to extraneous variables such as sex, diagnosis, duration of hospitalization, number of prior admissions, and previous psychological condition requiring consultation or special psychiatric care within the past 12 months. Time between initial diagnosis and current admission was determined through parent interview. A brief summary of the child's altered bodily appearance and/or function was completed by the investigator through direct observation and/or consultation with nursing staff providing immediate patient care. The summary included identification of altered body part or function, visibility and extent of involvement.

Other demographic data was obtained to facilitate contact with the subjects following hospital discharge. Specifically, this included address, phone, birthdate, marital status of parents and occupational status of the head of the household. All of the above information was recorded on the Subject Information Sheet.

## Procedure

Data was collected through observation, interview and administration of Clifford's (1971) revision of Secord and Jourard's (1953) Body Cathexis Scale. In order to confirm fourth grade knowledge of the body to determine appropriate-

ness of items selected for the modified Body Cathexis Scale, a trial run of the scale was administered. A group of 10 fourth grade students of the Kamehameha Schools in Honolulu, Hawaii served as the pilot-test population. Confirmation of the appropriateness of the scale was obtained. The children followed directions and completed the scale without question or need for clarification of body parts and functions presented.

Demographic data for the Subject Information Sheet was gathered during subject selection. This information was obtained primarily from the medical record. When necessary, interview and direct observation supplemented data gathering.

Because of the length of the Body Cathexis Scale, relative dullness of paper/pencil tasks, and a highly distractable hospital environment, the investigator chose to utilize an alternate testing technique which shortened time for completion and appeared developmentally appropriate as a "game" for the schoolage child. A sorting technique replaced the original written format.

A sorting deck consisting of five compartments was constructed. The compartments were labelled: (1) I don't like it at all and I wish it could be changed; (2) I don't like it; (3) I have no special feelings about it one way or the other; (4) I am satisfied; (5) I am completely satisfied and I would not change it if I could. These labels read from left to right and represent the five-point state-

ments of feelings of satisfaction or dissatisfaction toward the assorted parts or functions of the child's body. Each of the 48 body parts or processes appearing on the scale was printed on a 3" x 5" card. The 48 cards were then presented for sorting into the compartments in identical order as they appeared on the printed Body Cathexis Scale. Instructions given to the child were very similar to those prescribed for the written procedure. The child was told the sorting cards consisted of a number of words describing his or her body parts or processes. The child was instructed to place the card in one of the five labelled compartments according to how he or she felt about that item on the card at that point in time. The child was told that true feelings and opinions were being sought and that there were no right or wrong answers. Anonymity would be provided. They were to answer as they really felt. The importance of honesty and carefulness was emphasized.

This technique closely resembled that of a Q-sort methodology. According to Polit and Hungler (1978), Q-sorts are versatile in that

> ...Attitudes can be studied by asking subjects to sort statements in terms of agreement and disagreement or approval and disapproval...Used to great advantage in studying individuals in depth...to gain information concerning how individuals see themselves, as they perceive others see them, as they believe others would like

> them to be, and so forth...Q sorts have been used quite effectively to study the progress of people during different phases of therapy, particularly psychotherapy (pp. 392-393).

Developmental appropriateness of card sorting is offered by Perkins'(1958) report of reliability for children performing a more sophisticated Q sort. "Children in fourth and sixth grades have sufficient skills in understanding to enable them to use the Q sort instrument. This assumption suggests that children's reliability in using the Q sort may be related to reading level and mental age" (p. 224). Similarities between the sorting technique and Q sort methodology seem to indicate appropriateness of sorting as an alternate technique for measurement of attitudes. Perkins did not provide explanation relevant to Q sort and instruments which require verbal responses.

Scoring of the Body Cathexis Scale was identical to that prescribed for the written form of this instrument. Total body satisfaction scores were obtained by summing the ratings assigned to each of the 48 items. To reiterate, ratings corresponded with compartment placement. As the subject placed the sorting card on the deck, the investigator recorded responses on the Investigator's Score Sheet for the Secord and Jourard (1953) Body Cathexis Scale modified by Clifford in 1971. Thus, the total score and mean computations were made away from the study site. The child was

asked to perform the sorting of the Body Cathexis Scale within the first 24 hours of hospital admission and again at four to six weeks following discharge.

Although Patterson (1979) identified three weeks as the safest figure to give to parents for normal duration of post-hospital disturbance, the interval of four to six weeks between discharge and readministration of the Body Cathexis Scale was arrived at in accordance with crisis theory.

This theory states that crisis is usually experienced when one perceives a stressful event as a threat to equilibrium (Aguilera & Messick, 1974; Caplan, 1951; Williams, F., 1971). Caplan (1951) and F. Williams (1971) further defined crisis as self-limiting with a time period generally lasting from four to six weeks. During this period a person is psychologically vulnerable. Continued work in 1974 had F. Williams specifying situational crisis as stemming from

> ...sudden unexpected events such as hospitalization. The stressful event is an external one that threatens the individual's image of himself. It is usually caused by a loss of systemized support, one which enhanced his feelings of security and control. The individual perceives situational stress as a threat to maintenance of a role he considers vital to his self-image...The most common situational crisis is illness involving hospitalization. Failure of the body to perform its usual functions is also a threat (pp. 120-121).

In view of the self-limiting nature of hospitalization as a situational crisis, the investigator identified a four to six week interval as the time frame for readministration of the Body Cathexis Scale. At this time, reassessment of body image responses would be less likely influenced by the residual effects of the impact of hospitalization.

The four to six week follow-up contact with each subject was arranged through a home visit. Prior to the child's hospital discharge, consent and arrangements were confirmed between parent and investigator. Then, both at one week and again at one day prior to scheduled contact, the investigator called the parent as a reminder of the re-evaluation. In the event the family was without a telephone, a postcard was sent one week prior to date of follow-up visit.

To maintain anonymity, the Subject Information Sheet and Investigator's Score Sheet were coded numerically. A key to the numerical code assignment yielding subject names was kept separate from data collection sheets at all times. It was necessary to obtain subjects' names to facilitate post-hospital contact at the four to six week interval prescribed.

The investigator realized that the alternate sorting technique jeopardized reliability established for the written Body Cathexis Scale. Thus, an attempt was made to measure equivalence of these two parallel forms of the Body Cathexis

Scale. This was conducted in a pilot study with ten adults. Half of the adult group, Group A, was asked to complete the printed version of the Body Cathexis Scale, while the other half, Group B, completed the scale by use of the sorting technique. After a four-week interval, members of Group A, who initially completed the written scale were asked to repeat the scale utilizing the sorting technique and vice versa for members of Group B. In other words, two presumably parallel instruments were administered to each group with a four-week interval between testing. The equivalence approach was used to establish reliability of the sort instrument in yielding measurements of the same characteristics in the same subjects as the written form did.

The Pearson product moment correlation coefficient was obtained to determine the degree of association between the two sets of scores for each group. Pearson correlations were used in preference to the Spearman rho as the investigator was interested in determining the extent to which the same individuals occupied the same relative position, not rank, on the two test forms. A high positive Pearson r indicated that each individual obtained approximately the same score on both tests. Although use of a nonparametric measure is more appropriate because of the ordinal nature of the data, it has been argued in recent years that the use of correlational techniques with ordinal data entails only negligible error (Malec, 1977; Runyon & Haber, 1978).

Table 1 presents the equivalence approach to establishing reliability of the sort technique by summarizing measures of central tendency, dispersion and correlation obtained for both groups. The relatively high positive Pearson r correlations are significant at the .10 level confirming adequate reliability with the sort.

In addition to examining the general reliability of the sorted Body Cathexis Scale through the equivalence approach, an assessment of its stability was also made. This was done through a comparison procedure or test-retest situation to yield a reliability coefficient. To determine the extent to which consistent scores would be obtained on repeated administrations of the sort, a group of ten, normal fourth grade students from Hall Elementary School in Gresham, Oregon were asked to participate in a second pilot study (See Appendix D). These students were exposed to the administration of the sorted Body Cathexis Scale on two occasions. The test and retest were four weeks apart. Polit and Hungler (1978) identified the correlation coefficient between these two sets of scores as the reliability coefficient. Table 2 reveals the stability of the sorted Body Cathexis Scale through summary of measures of central tendency, dispersion and correlation. A correlation coefficient r=.79 was found to be significant at the .01 level with df=9. This relatively high reliability coefficient reflected satisfactory stability for the sorted scale. It may be recalled that

TABLE 1

Equivalence of Parallel
Forms of the Body
Cathexis Scale

| Group | Test Technique | Total Score | Mean Score | Range | S.D. | Pearson r | p |
|---|---|---|---|---|---|---|---|
| A (N=5) | Sort | 983 | 196.6 | 31 | 12.8 | .82 | .10 * |
| | Written | 971 | 194.2 | 45 | 14.77 | | |
| B (N=5) | Written | 910 | 182 | 54 | 19.60 | .80 | .10 * |
| | Sort | 897 | 179.4 | 42 | 14.73 | | |

* For df=3, r must be at least equal to .8054 to be significant at the 10 percent level.

TABLE 2

Stability of Sorted Body Cathexis Scale

| Test | Total Score | Mean Score | Range | S.D. | Pearson r | p |
|---|---|---|---|---|---|---|
| Pre- (N=11) | 1974 | 179.45 | 70 | 20.74 | .79 | .01 * |
| Post- (N=11) | 2109 | 191.73 | 67 | 21.93 | | |

* For df=9, r must be at least equal to .7348 to be significant at the 1 percent level.

Johnson (1956) obtained a reliability coefficient of .72 for the written Body Cathexis Scale.

A final approach in estimating the reliability of the sorted scale was completed through an assessment of its internal consistency. This was done to determine whether the change in scale administration from written to sort affected the homogeneity of the instrument and the extent to which all of its subparts were measuring the same characteristic. Data from the group of subjects participating in the pilot study of test-retest administration of the sort were used. Recall that with the written Body Cathexis Scale, Secord and Jourard (1953) obtained a moderately high split-half reliability of .81, while Jourard and Remy (1955) found a split-half reliability of .91.

For purposes of this estimate of internal consistency with a sorted Body Cathexis Scale, coefficient alpha or Cronbach's alpha was selected as the method for analysis. Polit and Hungler (1978) reported that coefficient alpha gives an estimate of split half correlation for all possible ways of dividing the measure into two halves. In this way the coefficient alpha eliminates a handicap of getting different reliability estimates with different splits as in the split-half approach. Coefficient alpha for the sorted test was .91 while coefficient alpha for the sorted retest was .93. Test and retest coefficients were computed to consider fluctuations over time as a source of unreliability.

Both alphas were of high value, reflecting a high degree of internal consistency for the sorted scale. Refer to Appendix E for presentation of the data used for this analysis.

## Analysis of the Data

To address the research question that medical or surgical interventions which affect change in illness or current physical status are related to a change in body image, the Wilcoxan Matched-Pairs Signed-Rank test was employed. This test was used to isolate magnitude as well as the direction of the differences between responses on the pre- and post-tests. This nonparametric test is designed for use with repeated measures yielding ordinally scaled data. The Wilcoxan Matched-Pairs Signed Rank test is considered one of the most powerful statistical tests in this category (Runyon & Haber, 1974). The alpha level chosen for analysis was .05.

Variation in Body Cathexis scores was considered in relationship to extraneous variables sought on the Subject Information Sheet. This was done with the assumption that these factors could influence a revision in body image. The student's t-ratio for related means was utilized in individual comparisons of sex, length of hospitalization, number of previous admissions, and time between initial diagnosis and current hospitalization to variation in Body Cathexis scores. A two-tailed test was selected because

the investigator did not assert the direction of change between pre- and post-tests. The alpha level for the two-tailed test was set at .05 with df=7.

# CHAPTER III

# RESULTS AND DISCUSSION

In this chapter characteristics of the sample will first be presented followed by an analysis of the findings related to the major research question. Next, analysis of the correlations between body image and other variables will be discussed. This will be followed by a general discussion of the results and how they relate to the literature and conceptual framework. Limitations of the study and implications for nursing practice will be the concluding sections of this chapter.

## Description of the Sample

Ten subjects for this study were selected between the period March 15, 1981 to June 14, 1981 according to the criteria outlined in the previous chapter. They comprised a sample of convenience in that all schoolage, hospitalized children who met the criteria for subject selection were included. Following hospital discharge one subject refused continued participation in the study. Thus, only nine schoolage children were retested in the home four weeks after discharge.

This sample was made up of six females and three males ranging in age from 9 years 6 months to 12 years. Four of the children were in the fourth grade and the remaining five

were in the fifth grade. As specified in the criteria for subject selection, none of the children had psychological conditions requiring consultation or special psychiatric care within the 12-month period prior to current admission.

All but one of the subjects had a history of previous hospitalizations. Only one of the subjects was in foster care while all others came from intact families. There was a wide range of time between the date of initial diagnosis of the physical problem related to current admission and date of the hospital interview. The range varied from 2 weeks to 8 years 7 months. Similarly, the length of hospitalization exhibited a high degree of variation from an overnight visit to a 40-day stay. A discussion of the possible influence of these variables on revision of body image follows in a later section of this chapter.

Diversity in sample characteristics was also reflected in an assortment of diagnoses. All diagnostic conditions fell within guidelines established in the subject criteria section as being long-standing physical problems e.g., chronic illness, debilitating condition or congenital anomaly. Table 3 identifies each subject's diagnosis, as well as presents a brief historical summary of changes in body appearance and/or function related to the diagnosis both before and after intervention, and type of intervention. This information is consistent with situations documented in the literature as being associated with body image

TABLE 3

Selected Characteristics of the Sample Related to Diagnosis

| Subject (N=9) | Diagnosis | Altered Bodily Appearance/ Function Related to Diagnosis Before and After Intervention | Type of Intervention |
|---|---|---|---|
| A | Staghorn Calculus $2^{O}$ to Cystinuria | BEFORE: Polydipsia, polyuria urinary incontinence, repeated urinary tract infections.<br>AFTER: Renal calculi dissolved To prevent further formation of calculi, high water intake with daily treatment of $NaOH_3$. Altered physiologic function--disordered renal tubular re-absorption of amino acids. | Medical<br>Suppressive Macrodantin THAM Therapy Complete bedrest Ureteral catheterization Repeated blood, urine & x-ray studies. |
| B | Perforated (L) Tympanic Membrane | BEFORE: Long-standing (L) posterior tympanic membrane perforation with mild low frequency conductive hearing loss, asthma with associated respiratory difficulties.<br>AFTER: T.M. perforation repaired. Resolution of mild conductive hearing loss. | Surgical<br>(L) Tympanoplasty |

| Subject (N=9) | Diagnosis | Altered Bodily Appearance/ Function Related to Diagnosis Before and After Intervention | Type of Intervention |
|---|---|---|---|
| C | Burkitt's Lymphoma | BEFORE: Decreased stamina and endurance, immunosuppressed, thin and frail-looking hair regrowth sparse following previous irradiation.<br>AFTER: Remains with less stamina and endurance, nausea and vomiting first six hours following chemotherapy. Multiple drug chemotherapy continues for next 2-3 years Physiologically--tumor involved with abdominal nodes and viscera. | Medical<br>IV--Chemotherapy every four weeks. |
| D | Ventricular-Septal Defect with Bacteremia | BEFORE: Weak, lethargic, achy joints, decreased appetite, weight loss, exercise intolerance.<br>AFTER: Asymptomatic congenital heart defect. Bacteremia resolved. Appetite, activity level returned to pre-illness state. | Medical<br>IV--antibiotics<br>Repeated blood studies |

| Subject (N=9) | Diagnosis | Altered Bodily Appearance/ Function Related to Diagnosis Before and After Intervention | Type of Intervention |
|---|---|---|---|
| E | Juvenile Laryngeal Papillomas | BEFORE: Tracheotomy affecting normal breathing, speech and voice quality; increased risk for respiratory infections<br>AFTER: Papillomas excised, however these laryngeal tumors recur frequently. Remains with abnormal voice quality and respiratory function due to tracheotomy. | Surgical<br>Excision of papillomas every 4-6 weeks |
| F | Chronic Atopic Dermatitis<br>Asthma | BEFORE: Face/upper extremities eczematous and inflamed. Petite with stature ↓10%, weight ↓3%. Medications induce vomiting. S.O.B., wheezing with sternal retractions.<br>AFTER: Essentially unchanged. Exposed areas of body dry, scaling, inflamed. Asthma persists without improvement | Medical<br>Topical Vaseline and cream to exposed skin surfaces daily.<br>Daily O.T.C. medihaler Bronchodilators |

| Subject (N=9) | Diagnosis | Altered Bodily Appearance/ Function Related to Diagnosis Before and After Intervention | Type of Intervention |
|---|---|---|---|
| G | Ulcerative Colitis | BEFORE: Initially with distended abdomen, anemic, pale anorexic, lethargic, abdominal pain, diarrhea, hematochezia, hematuria.<br>AFTER: May have impairment of physical growth, delayed appearance of secondary sex characteristics.<br>Physiologically: diseased mucosa and submucosa of the colon and rectum.<br>Abdominal complaints and bleeding not present. | Surgical<br>Emergency--to control bleeding<br>Medical<br>Transfused<br>Hyperalimentation with special diet to follow<br>Daily Azulfidine<br>Bedrest |
| H | Barter's Syndrome | BEFORE: Petite: Ht/Wt.↓10%<br>Lethargic, weak, exercise intolerance, chest pains<br>AFTER: Unchanged from preadmission status. Hospitalization primarily diagnostic | Medical<br>Indocin and K-Lor daily<br>Blood, urine, cardiac, thyroid studies. |

| Subject (N=9) | Diagnosis | Altered Bodily Appearance/ Function Related to Diagnosis Before and After Intervention | Type of Intervention |
|---|---|---|---|
| I | Growth Hormone Deficiency | BEFORE & AFTER:<br>Craniopharyngioma 11/75<br>Panhypopituitarism<br>Hypothyroidism<br>Adrenal insufficiency<br>Seizure disorder<br>Blind (R) eye<br>Growth retardation--bone age 96 months for C.A. 120 months<br>Hypertrophied gingiva<br>Urinary incontinence<br>Edema 2° to steroid therapy | Medical<br>Primarily diagnostic<br>Cortison, synthroid,& Dilantin therapy<br>IM--growth stimulant/ replacement hormone |

disturbances.

## Findings Related to the Research Question

The research question examines whether a change in body image occurred in relation to the documented changes in physical status resulting from medical or surgical intervention entered in Table 3. The Wilcoxan Matched-Pairs Signed-Rank Test was employed with pre- and post-Body Cathexis scores to determine any significant change in body image. Magnitude as well as direction of the differences between responses on the pre- and post-tests is important for isolating any significant change in body image. The Wilcoxan Matched-Pairs Signed-Rank test yielded a $T$ value of 38, whereas a $T$ of 5 or less is the critical value at the .05 level of significance for a two-tailed test for 9 matched pairs. No support for a significant change in body image was found. However it is noteworthy that seven of the nine subjects did express increased satisfaction following intervention. This may be taken as support of the idea that the types of interventions described in Table 3 affecting change in physical status are related to a change in body image. Table 4 summarizes these findings.

## Additional Analysis

### Findings Related to Body Image and Sex

The influence of subject's sex on variation in Body Cathexis scores was considered for both testing opportunities.

TABLE 4

Wilcoxan Matched-Pairs Signed-Rank Test
for Differences in Body Cathexis
Scores on Pre- and Post-Test

| Subject (N=9) | Pre-test Score | Post-test Score | Difference Between Scores | Ranked Differences * |
|---|---|---|---|---|
| A | 197 | 185 | 12 | 6 |
| B | 162 | 188 | - 26 | - 8 |
| C | 228 | 237 | - 9 | - 5 |
| D | 186 | 211 | - 25 | - 7 |
| E | 213 | 215 | - 2 | - 2.5 |
| F | 192 | 194 | - 2 | - 2.5 |
| G | 189 | 188 | 1 | 1 |
| H | 212 | 216 | - 4 | - 4 |
| I | 156 | 194 | - 38 | - 9 |

* Ranked differences analyzed by Wilcoxan Matched-Pairs Signed-Rank Test with T=38, N=9, $p > .05$, two-tailed test.

Analysis was completed through the student t-ratio for related means (See Table 5). The t-ratio of .62 on the pre-test and - .50 on the post-test were obtained between sex groups. The positive t-ratio on the pre-test indicated that females had a higher mean score than males, while the negative value on the post-test revealed a reversal with the male group yielding a higher mean score. Both t-ratios were found to be nonsignificant. An absolute t-value of 2.365 or more is required for significance at the .05 level.

Findings Related to Body Image and Length of Hospitalization

The influence of a second variable, length of hospitalization, on variation in Body Cathexis scores was also examined for both testing opportunities. To facilitate analysis, length of hospitalization was discussed in terms of long and short stay. Long term included hospitalization for longer than a 7-day period, while short term included hospitalization of 7 or less days. These were selected in view of the clustering of data, e.g. five of the children were hospitalized for a period ranging from 1 to 7 days, while the remaining four spent anywhere from 9 to 40 days in the hospital.

Analysis was completed with the t-ratio for related short and long term hospitalization means. The pre-test t-ratio was - .38, while the t-ratio on post-test was found to be .47. The negative t-ratio on the pre-test merely tells

TABLE 5

t-Ratio for Related Means of Body Cathexis Scores for Females and Males

| | Pre-test | | | | Post-test | | | |
|---|---|---|---|---|---|---|---|---|
| Group | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * |
| Female (N=6) | 196.66 | 20.41 | 2.24 | .62 | 201.33 | 18.99 | 2.24 | - .50 |
| Male (N=3) | 185.00 | 23.29 | 1.41 | | 206.66 | 9.10 | 1.41 | |

* df=7, $p > .05$, two-tailed test.

us that the mean for the short term group was less than the mean for the long term group, while a positive t-value on post-test highlights opposite placement. As with the findings related to sex, those related to length of hospitalization were not significant (See Table 6).

Findings Related to Body Image and Number of Previous Admissions

Consideration was also given to number of previous admissions as an extraneous variable which might influence Body Cathexis scores. Those subjects with fewer than three previous hospitalizations were grouped together for mean comparison with those with three or more previous admissions. The decision to identify three admissions as the point of differentiation reflects the clustering of the data. Six of the subjects had 0 to 3 previous admissions, while the remaining three had more than 10 prior hospitalizations.

The t-ratio for related means between these groups was calculated to be - 2.014 on pre-test and - 1.350 on post-test. The negative t-values indicate that the mean score for the group with fewer than three previous hospitalizations was lower than the group with more frequent admissions for both testing opportunities. Similar to the findings related to sex and length of hospitalization, these were not significant at the .05 level (See Table 7).

Findings Related to Body Image and Interval Between Initial Diagnosis and Current Hospitalization

The final variable considered in relation to Body

TABLE 6

t-Ratio for Related Means of Body Cathexis Scores for Subjects with Short vs. Long Term Hospitalization

| Group | Pre-test | | | | Post-test | | | |
|---|---|---|---|---|---|---|---|---|
| | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * |
| Short-term Hospitalization (N=5) | 190.2 | 27.99 | 2 | - .38 | 205.6 | 18.18 | 2 | .47 |
| Long-term Hospitalization (N=4) | 196 | 10.07 | 1.73 | | 200 | 13.66 | 1.73 | |

* df=7, $p > .05$, two-tailed test

TABLE 7

t-Ratio for Related Means of Body Cathexis Scores with Regard to Number of Previous Hospitalizations

| Group | Pre-test | | | | Post-test | | | |
|---|---|---|---|---|---|---|---|---|
| | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * |
| < 3 Admissions (N=6) | 183.67 | 19.36 | 2.24 | - 2.01 | 197 | 12.06 | 2.24 | - 1.35 |
| > 3 Admissions (N=3) | 211 | 14.76 | 1.41 | | 215.33 | 17.56 | 1.41 | |

* df=7, $p > .05$, two-tailed test.

Cathexis was the interval between initial diagnosis of the subject's chronic condition and current hospitalization. An interval of 0-12 months was considered short, while the interval longer than 12 months was determined to be long. A t-ratio for related means between groups with short and long intervals of time was found at - .79 on pre-test and - .13 on post-test. The negative value of both t-ratios indicates that the mean score for the short interval group was less than that of the long interval group on both occasions. These t-values were not significant at the .05 level (See Table 8).

## General Discussion of Findings

The theoretical framework of body image as presented earlier indicates that there are certain situations commonly thought to be associated with body image difficulties. These situations include congenital anomalies, long-term illness, handicapping conditions, obesity, pain (Brantley & Clifford, 1979; Freud, 1952; Leonard, 1972; Offord & Aponte, 1967; Schwab & Harmeling, 1968). The discussion in preceding chapters also identified medical and/or surgical interventions occurring in the hospital as frequently affecting body experiences by changing the course of an illness or physical condition (Fujita, 1972; Henker, 1979; Norris, 1978; O'Brien, 1980; Pang,1975; Watson & Johnson, 1958). Subjects participating in this study presented with diagnoses falling

TABLE 8

t-Ratio for Related Means of Body Cathexis Scores for Subjects of Short and Long Interval Between Initial Diagnosis and Current Hospitalization

| | Pre-test | | | | Post-test | | | |
|---|---|---|---|---|---|---|---|---|
| Group | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * | Mean | S.D. | $\sqrt{N-1}$ | t-ratio * |
| Short Interval (N=4) | 185.75 | 19.90 | 1.73 | - .79 | 202.25 | 11.58 | 1.73 | - .13 |
| Long Interval (N=5) | 198.40 | 22.17 | 2.00 | | 203.80 | 19.63 | 2.00 | |

* df=7, $p > .05$, two-tailed test

into at least one of these categories and were exposed to medical and/or surgical intervention which influenced the course of their illness or physical condition. For the most part, analysis of the data resulted in statistically nonsignificant findings. Specifically, analysis with the Wilcoxan Matched-Pairs Signed-Rank test revealed no significant revision in body image following medical and/or surgical intervention.

Failure to discover significant differences is open to a number of interpretations. It is possible that the sorted Body Cathexis Scale may not have been sensitive to measurement of body awareness. Although internal consistency was noted with high reliability on the pilot test, the extent to which subparts of the tool were measuring fine degrees of variation in attitudes toward components of the body and its function, remains uncertain.

Though not statistically significant, generally speaking, the difference between pre- and post-test scores indicated a higher degree of satisfaction with body parts and function after medical and/or surgical intervention. This increase in satisfaction is in accord with findings from previous studies. As discussed in Chapter I, studies by Fisher (1968) which examined the relationship of surgery to body perception, concluded that "body perception did vary during different phases of the surgical experience. General body awareness and boundary articulation were

particularly likely to shift, but the shifts were of small magnitude" (p. 701). Interestingly, the three subjects experiencing surgical intervention did show a range of difference between pre- and post-test of small magnitude--.5 to 1.0 between ranks. This change in body satisfaction also supports both historical (Head, 1912; Schilder, 1955) and contemporary (Anthony, 1968) premises that body image is constantly undergoing reorganization and elaboration.

Discussions by Norris (1978) identified sequalae of drug therapy in medical intervention as threatening to body image. However because she did not offer data to quantify the extent and direction of such a threat, there is no way to compare her results with the six children in this study who received medical intervention. Of the six subjects, two of the four requiring ongoing daily medication expressed less bodily satisfaction on the post-test.

Brundage hypothesized that major problems which seemed to require body image alteration appeared to be the result of permanent changes in structure which were readily visible. Only one of the children in this study exhibited a permanent visible change in structure. This child had a tracheotomy since three years of age. He was 9½ years at the point of contact with the investigator. Contrary to Brundage's belief, this child did not express general dissatisfaction with physical status. In fact, he attained the median satisfaction score on both pre- and post-test.

The length of time that he has lived with this change may explain the high degree of satisfaction.

Findings did not support the idea that developmental tasks facing schoolage children make them particularly vulnerable to revisions in body image. Erikson (1964) viewed the schoolage child in a stage of industry vs. inferiority. The child is thought to be resolving feelings of inferiority by taking advantage of all opportunities to experiment with available skills. Wright (1960) reasoned that "physical variations affect the psychological situation of a person by influencing the effectiveness of his body as a tool for actions" (p. xiii). If medical and/or surgical interventions are viewed as improving skill or bodily function, then greater significant increases in satisfaction with body parts or function would be expected.

As a final point of consideration, Jaskar and Reed (1962) found ill patients expressed more negative feelings toward their bodies and tended to focus more dissafisfaction on the body part or function affected by illness than did healthy persons. Contrary to the preceding statement, children in this study all expressed overall scores indicative of general satisfaction. However, an assessment of healthy couterparts was not done. Thus, there is no basis for comparing the degree of their satisfaction scores with the degree of satisfaction scores which may have been expressed by healthy children. Indeed, it is possible that healthy

children would have yielded satisfaction scores of greater magnitude. Then, findings would have been in accord with those presented by Jaskar and Reed.

Although the aim of this study was to examine any relationship between medical treatment or surgical insult and a revision in body image, a few additional variables were considered. The small increases in Body Cathexis scores over time were not influenced by variables of sex and length of hospitalization. However, in viewing the number of previous hospital admissions as an influential variable, it was determined that mean scores for the group with fewer than three prior hospitalizations displayed a lower degree of body satisfaction than did the group with three or more hospitalizations. This held true for both pre- and post-tests. This may indicate that body image revision may be related to adjustment to hospitalization. Perhaps the group with three or more admissions had an increased opportunity to incorporate the change in environment, temporary separation from family and peers and temporary interruption of general lifestyle to such an extent that hospitalization itself did not render insult to body image.

A final consideration of extraneous variables dealt with the influence of length of time between knowledge of diagnosis and interview. Though not statistically significant, as might be expected, the group of children with less time to adjust to their diagnosis and associated physical changes

showed less satisfaction than the group with a longer period.

## Limitations

Several limitations of this study are apparent. First, the sample size was small. With only nine subjects, the probability of getting a markedly deviant sample was great. Such a small sample cannot be assumed to represent accurate estimates of the population from which it was drawn. Sampling error may well be present and these nine children may not be representative of the population of children with these types of problems. Thus, possibilities for generalizations are severely limited and this study can best be viewed as a pilot study.

Second, the diversity of diagnoses and related prognoses placed added restrictions on the findings. Individual variation in the extent of chronic illness or physical disability was great. Briefly, this breadth of involvement included structural changes or tissue loss, disfigurement and dysfunction. In addition, some subjects received treatment associated with restoration of function without adverse effects while others were affected by residual consequences of the treatment. This type of heterogeneity also restricts generalizability.

A third limitation was posed by the data-gathering instrument. The use of a self-report inventory such as the Body Cathexis Scale is always subject to the possibility that

responses may be a function of the respondent's tendency to fake responses to appear socially desirable. Construct validity of the instrument is threatened by this. In addition, despite modifications made, the question remains as to whether children were able to respond accurately to a scale originally designed for use with adolescents and adults.

Fourth, it may be argued that changing the format of delivery of the Body Cathexis scale from written to sort narrowed instrument reliability. However adequate reliability through examination of equivalence and internal consistency was established through results of the pilot study. The only other questionable limitation of the tool would be whether or not the five-point responses expressing degrees of satisfaction or dissatisfaction with the 48 body parts or functions were appropriate for estimating fine degrees of variation.

Fifth, it may be argued that the pre-test imposed effects on the post-test. The investigator recognizes that the first administration of the Body Cathexis scale might have sensitized the children enough to have influenced attitude changes on the retest. The four week testing interval was an attempt at limiting this sensitization.

Finally, timing of the post-test may also limit findings. It may be argued that at the four week retest a change in body image may have already been resolved.

Conversely, the change may have been in a latency period with significant revision occurring beyond the four week period.

## Implications for Nursing Practice

Although several limitations of the study have been identified, the results do have implications in the field of nursing. Areas in which findings of this study might be relevant to nursing were presented in the Introductory section of Chapter I. It was speculated that findings might contribute in increasing the nurse's ability to work more effectively with the schoolage child be presenting further empirical appreciation of body image concerns as they related to developmental tasks. Though findings of this study were not statistically significant, they did indicate the tendency toward change in body image in response to medical and/or surgical intervention. Nurse's could utilize this information in providing a more rational basis for improved patient management and rehabilitation. Knowing that body image does indeed undergo revision, nurses could assist the schoolage child in adjusting to this change in promoting overall self concept.

The nurse might also be able to utilize information generated from this study in helping the preadolescent with chronic illness or physical disability to discover healthy ways of developing a positive attitude toward their bodily appearance and function. In this way, the danger of this

developmental period, development of a sense of inferiority vs. industry, could be minimized. With successful accomplishment of this task, the child is given a positive foundation for entering adolescence, a stage marked by body image concerns.

Findings of this study may also assist nurses in providing anticipatory guidance to families. The nurse may discuss the idea of possible responses of the child's body image to changes in physical appearance or function. This may help the family in being alert to an area of sensitivity and guide familial and social support given the child.

In a more academic sense, findings of this study contribute toward further clarification of the diagnostic term, "altered body image". This term has been included as one of four subdiagnoses of "altered self concept" in the generic Standards of Nursing Practice within the 1978 Classification of Nursing Diagnoses. Included in a list of 19 defining characteristics for this diagnosis were verbilizations of negative feelings about the body, focus on past strength, function or appearance, verbalization of feelings of hopelessness, and verbalization of feelings of powerlessness. These all seem to indicate a negative response to actual or perceived change in structure and/or function. In light of the change toward a more positive body image or one marked with increased satisfaction evident in this study, "altered body image" would be a more generalizeable

diagnostic term if it were to consider the positive as well as negative direction of change. Nursing care should be aimed at enhancing adjustment to altered body image.

A final implication for nursing practice was identification of an area in research where nurses need to become more actively involved. This is in the realm of promoting nursing research through development of data-gathering instruments. Findings of this study were limited by lack of scales appropriate for empirical assessment of body image of schoolage children. To date, human figure drawings, Rorschach Tests, observations of posture, gait, dress and body movement have been utilized to assess body image perception. The measurement of a child's conscious attitudes toward his/her body is bound by the modified Body Cathexis Scale utilized in this study. To conduct relevant research, nurses must first work toward standardization of instruments.

# CHAPTER IV

# SUMMARY, RECOMMENDATIONS AND CONCLUSION

## Summary

The purpose of this investigation was to contribute support toward the idea that medical or surgical intervention resulting in altered bodily function or appearance is accompanied by a revision of body image.

A convenience sample of nine schoolage children was used. Each child had a long-standing medical problem and had experienced altered bodily appearance or physiologic function as a result of medical or surgical intervention associated with their current hospital admission. A sorted Body Cathexis Scale of Secord and Jourard's (1953) modified scale (Clifford, 1971) was used to evaluate the child's perceived body image both during hospitalization and four weeks following discharge.

A pilot study was conducted with a normal group of children to assess reliability of the sorted scale. Stability and internal consistency were found to support high reliability of the sorted scale.

In analysis of the data the change between pre- and post-test scores was viewed in relationship to type of intervention and its consequences. Additionally, sex, length of hospitalization, number of previous admissions and time between initial diagnosis and current hospitaliza-

tion were studied in relation to body image revision.

Findings of the study indicate that changes in body image are of an insignificant magnitude. This suggests that exposure to medical or surgical intervention affecting change in physical status is not related to a change in body image. Finally, no statistically significant relationships were found between altered body image and variables of sex, previous hospitalizations, length of hospitalization and length between initial diagnosis and current hospitalization.

## Recommendations

Based on the findings of this study, the following recommendations are made:

1. Repeat the study using subjects with one diagnostic condition in an attempt to control variability in extent of involvement related to physiological or structural dysfunctions.
2. Conduct a study using a larger sample to increase the potential for generalizability.
3. Conduct a comparative study of normal schoolage children to assess body image revision over time. This would provide basis for comparison with the child with identified altered bodily structure or function and further evaluation of the extent of the significance of body image revision noted in this study.

4. Continue to work toward development of an appropriate assessment tool designed to appraise strength and direction of feelings a child has about various body parts or functions in empirically assessing body image.
5. Consider the time between current and last admission as a possible extraneous variable which may influence the outcome of body image revision. This should be assessed in future studies.

## Conclusion

It would appear that assisting schoolage children in adjusting to changes in bodily structure or function would promote a favorable revision of body image. This would be of benefit to the preadolescent child with chronic illness or physical disability in minimizing feelings of inferiority, identified as the primary developmental crisis of this stage. With this knowledge nurses can channel even more resources to provide intervention for development of more positive revision in body image.

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# REFERENCES


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# APPENDIX A

## Informed Consents

## for Parent and Child

GRADUATE STUDIES DEPARTMENT
SCHOOL OF NURSING

Area Code 503 225-7838

3181 S.W. Sam Jackson Park Road

Portland, Oregon 97201

UNIVERSITY OF OREGON

HEALTH SCIENCES CENTER

INFORMED CONSENT
Form A - Parent

I, _____ herewith
(First Name) (M.I.) (Last Name)

agree to serve as a subject in the investigation named, "A Study of Body Image Revision in Schoolage Children," conducted by Donna Ching, R.N., B.S.N., under the supervision of Marie Scott Brown, R.N., Ph.D.

This investigation aims at discovering if a child who suffers a change in body appearance and function will also have a change in the picture he has of himself. The procedure to which my child will be subjected is an in-hospital interview along with completion of a questionnaire. This will last approximately 10 minutes. Completion of the same questionnaire during a home or clinic follow-up visit will follow approximately 4-6 weeks after my child's hospital discharge. Although we will not benefit directly, our participation in this study may help nurses learn more about how a child's view of changes in bodily appearance or function can affect the mental picture he has of himself. In the long run this information may aid nurses in providing better care for children and their families in preventing or minimizing post-hospital adjustment problems.

The information obtained by the investigator will be kept confidential. My child's name will not appear on the records and anonymity will be insured by the use of code numbers. Donna Ching, R.N., has offered to answer any questions that I might have about my child's participation in this study. I understand I am free to refuse to participate or to withdraw from participation in the study at any time without effect on my relationship with or treatment at the University of Oregon Health Sciences Center.

It is not the policy of the Department of Health and Human Services, or any other agency funding the research project in which you are participating, to compensate or provide medical treatment for human subjects in the event the research results in physical injury. The University of Oregon Health Sciences Center, as an agency in the state, is covered by the State Liability Fund. If you suffer any injury from the research project, compensation would be available to you

only if you establish that the injury occurred through the fault of the Center, its officers, or employees. If you have further questions, please call Dr. Michael Baird at (503) 225-8014.

I have read the foregoing and agree to participate in this study.

_____ (Date)

_____ (Parent/Guardian Signature)

_____ (Witness's Signature)

GRADUATE STUDIES DEPARTMENT
SCHOOL OF NURSING

Area Code 503 225-7838

3181 S.W. Sam Jackson Park Road

Portland, Oregon 97201

UNIVERSITY OF OREGON

HEALTH SCIENCES CENTER

# INFORMED CONSENT
## Form B - Child

I, _____, agree to
(First Name) (Last Name)

serve as a subject in a study about children and how they feel about their body and how it works. This study will be done by Donna Ching, a Registered Nurse. I will be given a deck of cards with body parts written on them and asked to place them in boxes. These boxes are labelled with words describing how I feel about my body and how it looks and works. This will take about 15 minutes to do. I will do this once in the hospital and again at home or in the clinic 4-6 weeks after I leave the hospital. There is no right or wrong answer. I will not have to put my name on anything. In this way, other people will not know my private feelings about my body. I will not be getting anything for being in this study, but what I do may help nurses work better with children in the hospital and once they return home.

I understand I don't have to join in this study and I can say "no" at any time. Donna Ching has offered to answer any questions that I might have. I have read everything above and agree to be in this study.

_____ _____
(Date) (Child's Signature)

_____ _____
(Witness Signature) (Parent/Guardian Signature)

# APPENDIX B

## Investigator's Score Sheet for Secord and Jourard Body Cathexis Scale Modified by Clifford

Subject Code ____

Body Cathexis Scale - Investigator's Score Sheet

| ITEM | SCORE TEST | RE-TEST | ITEM | SCORE TEST | RE-TEST |
|---|---|---|---|---|---|
| Hands | ____ | _____ | Tongue | ____ | _____ |
| Health | ____ | _____ | Appetite | ____ | _____ |
| Fingers | ____ | _____ | Hair | ____ | _____ |
| Breathing | ____ | _____ | Nose | ____ | _____ |
| Feet | ____ | _____ | Chest | ____ | _____ |
| Walking | ____ | _____ | Forehead | ____ | _____ |
| Sleeping | ____ | _____ | Legs | ____ | _____ |
| Chin | ____ | _____ | Hips | ____ | _____ |
| Shape of Head | ____ | _____ | Face | ____ | _____ |
| Neck | ____ | _____ | Talking | ____ | _____ |
| Digestion | ____ | _____ | Height | ____ | _____ |
| Skin | ____ | _____ | Speech | ____ | _____ |
| Lips | ____ | _____ | Looks | ____ | _____ |
| Back | ____ | _____ | Posture | ____ | _____ |
| Age | ____ | _____ | Running | ____ | _____ |
| Eating | ____ | _____ | Teeth | ____ | _____ |
| Knees | ____ | _____ | Waist | ____ | _____ |
| Eyes | ____ | _____ | Heart | ____ | _____ |
| Ankles | ____ | _____ | Muscles | ____ | _____ |
| Ears | ____ | _____ | Stomach | ____ | _____ |
| Arms | ____ | _____ | Weight | ____ | _____ |
| Amount of Energy | ____ | _____ | "Pooping" | ____ | _____ |
| Wrists | ____ | _____ | "Peeing" | ____ | _____ |
| Shoulders | ____ | _____ | | | |
| Voice | ____ | _____ | Total Score | ____ | _____ |

# APPENDIX C

## Subject Information Sheet

Subject Code ____

## Subject Information Sheet

Name: _____

Address: _____

Telephone No.: _____

Sex: ____ Male ____ Female

Birthdate: _____ C.A. _____

Grade Placement in School: _____

Previous Psychological condition requiring consultation or special psychiatric care within the past 12 months: ___ yes ___ no

Previous Hospitalizations: ____ yes ____ no

Marital Status of Parents: _____

Occupational Status of Head of Household: _____

Diagnosis: _____

Date of Initial Diagnosis: _____

Date of Admission: _____ Date of Discharge: _____

Brief summary of altered bodily appearance and/or function (i.e. ability to handle developmental tasks in terms of achievement, organ dysfunction): _____

_____

_____

_____

Brief summary of altered bodily appearance and/or function at 4 week re-test: _____

_____

_____

# APPENDIX D

## Correspondence and Informed Consents Related to Pilot Study

UNIVERSITY OF OREGON
HEALTH SCIENCES CENTER

GRADUATE STUDIES DEPARTMENT
SCHOOL OF NURSING

Area Code 503 225-7838

3181 S.W. Sam Jackson Park Road

Portland, Oregon 97201

February 12, 1981

Anna Olds, Director
Pupil Personnel Services
Gresham School Districts
1333 N.W. Eastman
Gresham, Oregon 97030

Dear Mrs. Olds:

As discussed per our telephone conversation, am forwarding the requested items. Enclosed is a letter to the parents describing what I will be doing with the children and seeking parental consent. The second item is an informed consent form for the children. The final item is a score sheet which I will use to record the children's responses. A review of this sheet will familiarize you with the content of the body image questionnaire. As mentioned, I will need a group of ten, fourth grade students. In previous test-runs of this tool, I have sent letters to 20 parents to allow for refusals or absenteeism on the date of testing.

I look forward to hearing from you. My home phone number is 241-8619. Often, I am involved in clinical practicum during the day. If you are unable to reach me at home, messages may be left at the University of Oregon Health Sciences Center, School of Nursing with Karis Swift at 225-7826.

Thank you for your help and cooperation.

Sincerely,

[redacted]

Donna Ching, R.N., B.S.N.

UNIVERSITY OF OREGON

HEALTH SCIENCES CENTER

GRADUATE STUDIES DEPARTMENT
SCHOOL OF NURSING

Area Code 503 225-7838

3181 S.W. Sam Jackson Park Road

Portland, Oregon 97201

February 12, 1981

Dear Parent:

I am a Registered Nurse currently working on a research study toward completion of thesis requirements toward a Master of Nursing degree. My primary interest is in examining how children adjust to changes in their physical appearance and/or bodily function following hospitalization for chronic illness or handicapping conditions. In order to determine how children feel about their body, it was necessary for me to revise a questionnaire previously designed for teenagers. To evaluate whether or not my revisions are appropriate for schoolage children and at a level that they can understand, it is necessary to first have a "test run" to "iron out" whatever kinks there may be in it. I would appreciate your permission to have your child participate in this "test run".

The scale is completed in a matter of ten minutes. The child is given a stack of 48 cards--each appears with one body part (hand, finger, heart, etc.) and/or bodily function (walking, running). The child is asked to place the card in one of five boxes according to his/her feelings about that particular body part. The feelings range from satisfaction to dissatisfaction. This will be presented as a game to the child. Your child will be asked to participate by completing this game twice. I will administer the scale once, then return in 4 weeks to repeat it. This will help me understand how stable this questionnaire is over time.

Your child will not directly benefit from participation, however the knowledge obtained may contribute to improving the delivery of nursing care to hospitalized children, especially those with long-term illness or physical conditions.

I would appreciate your completing the permission slip below and returning it to the school.

Thank you!

Donna Ching, R.N., B.S.N.

---

I ☐ do give permission for my child _____
(Name)

I ☐ do not give permission

to participate in a test-run of a questionnaire about children's feelings about their body and how it works.

_____ _____
(Date) (Parent/Guardian Signature)

GRADUATE STUDIES DEPARTMENT
SCHOOL OF NURSING

Area Code 503 225-7838

3181 S.W. Sam Jackson Park Road

Portland, Oregon 97201

UNIVERSITY OF OREGON

HEALTH SCIENCES CENTER

INFORMED CONSENT
Pilot Test - Child

I, _____ , agree to
(First Name) (Last Name)

serve as a subject in a study about children and how they feel about their body and how it works. This study will be done by Donna Ching, a Registered Nurse. I will be given a deck of cards with body parts written on them and asked to place them in boxes. These boxes are labelled with words describing how I feel about my body and how it looks and works. This will take about 10 minutes to do. I will do this twice. Once, today and again, four weeks from now. There is no right or wrong answer. I will not have to put my name on anything. In this way, other people will not know my private feelings about my body. I will not be getting anything for being in this study, but what I do may help nurses work better with children in the hospital and once they return home.

I understand I don't have to join in this study and I can say "no" at any time. Donna Ching has offered to answer any questions that I might have. I have read everything above and agree to be in this study.

_____ _____
(Date) (Child's Signature)

_____
(Witness Signature)

Attach returned Parent Permission Slip

Subject Code ____

Body Cathexis Scale - Investigator's Score Sheet

| ITEM | SCORE TEST | SCORE RE-TEST | ITEM | SCORE TEST | SCORE RE-TEST |
|---|---|---|---|---|---|
| Hands | ____ | _____ | Tongue | ____ | _____ |
| Health | ____ | _____ | Appetite | ____ | _____ |
| Fingers | ____ | _____ | Hair | ____ | _____ |
| Breathing | ____ | _____ | Nose | ____ | _____ |
| Feet | ____ | _____ | Chest | ____ | _____ |
| Walking | ____ | _____ | Forehead | ____ | _____ |
| Sleeping | ____ | _____ | Legs | ____ | _____ |
| Chin | ____ | _____ | Hips | ____ | _____ |
| Shape of Head | ____ | _____ | Face | ____ | _____ |
| Neck | ____ | _____ | Talking | ____ | _____ |
| Digestion | ____ | _____ | Height | ____ | _____ |
| Skin | ____ | _____ | Speech | ____ | _____ |
| Lips | ____ | _____ | Looks | ____ | _____ |
| Back | ____ | _____ | Posture | ____ | _____ |
| Age | ____ | _____ | Running | ____ | _____ |
| Eating | ____ | _____ | Teeth | ____ | _____ |
| Knees | ____ | _____ | Waist | ____ | _____ |
| Eyes | ____ | _____ | Heart | ____ | _____ |
| Ankles | ____ | _____ | Muscles | ____ | _____ |
| Ears | ____ | _____ | Stomach | ____ | _____ |
| Arms | ____ | _____ | Weight | ____ | _____ |
| Amount of Energy | ____ | _____ | "Pooping" | ____ | _____ |
| Wrists | ____ | _____ | "Peeing" | ____ | _____ |
| Shoulders | ____ | _____ | | | |
| Voice | ____ | _____ | Total Score | ____ | _____ |

# GRESHAM SCHOOL DISTRICTS

1333 NW EASTMAN
P.O. BOX 655
GRESHAM, OR. 97030
661-3000
James M. Jenkins, Superintendent


February 17, 1981

Ms. Donna Ching
3327 S. W. 11th Avenue, Apt. #6
Portland, Oregon 97201

Dear Donna,

I've an OK on your plan and forms. You may call Counselor Rosy Taylor at Hall School (661-6330) and she'll help line up the students. Good luck!

Sincerely,

[redacted]

Anna Olds, Director
Pupil Personnel Services

AO:jf

# APPENDIX E

## Raw Data Used for Coefficient Alpha for Secord and Jourard Body Cathexis Scale Modified by Clifford

Raw Data Used for Coefficient Alpha
Secord and Jourard Body Cathexis
Scale Modified by Clifford

(N=11)

| Item (N=48) | Test | | | Re-Test | | |
|---|---|---|---|---|---|---|
| | Total Score | Mean Score | Variance | Total Score | Mean Score | Variance |
| Hands | 45 | 4.09 | 1.36 | 43 | 3.91 | 1.54 |
| Health | 45 | 4.09 | .22 | 45 | 4.09 | .22 |
| Fingers | 43 | 3.91 | 1.75 | 46 | 4.18 | 1.24 |
| Breathing | 51 | 4.64 | .23 | 47 | 4.27 | .38 |
| Feet | 39 | 3.55 | 1.04 | 45 | 4.09 | .63 |
| Walking | 41 | 3.73 | 1.11 | 46 | 4.18 | .51 |
| Sleeping | 42 | 3.82 | 1.97 | 43 | 3.91 | 1.70 |
| Chin | 34 | 3.09 | .63 | 41 | 3.73 | .56 |
| Shape of Head | 35 | 3.18 | 1.06 | 48 | 4.36 | .91 |
| Neck | 42 | 3.82 | .33 | 44 | 4.08 | .92 |
| Digestion | 38 | 3.45 | .61 | 43 | 3.91 | .45 |
| Skin | 48 | 4.36 | .23 | 42 | 3.82 | 1.06 |
| Lips | 42 | 3.82 | .88 | 44 | 4.00 | .36 |
| Back | 42 | 3.82 | .88 | 49 | 4.45 | .43 |
| Age | 45 | 4.09 | 1.17 | 42 | 3.82 | 2.15 |
| Eating | 43 | 3.91 | .69 | 45 | 4.09 | .63 |
| Knees | 41 | 3.73 | .74 | 42 | 3.82 | .51 |
| Eyes | 47 | 4.27 | 1.83 | 50 | 4.55 | .61 |

| Item (N=48) | Test | | | Re-Test | | |
|---|---|---|---|---|---|---|
| | Total Score | Mean Score | Variance | Total Score | Mean Score | Variance |
| Ankles | 38 | 3.45 | .25 | 46 | 4.18 | .51 |
| Ears | 44 | 4.00 | 1.27 | 47 | 4.27 | .38 |
| Arms | 45 | 4.09 | 1.36 | 49 | 4.45 | .25 |
| Amount of Energy | 39 | 3.55 | 1.52 | 42 | 3.82 | 1.97 |
| Wrists | 44 | 4.00 | .55 | 45 | 4.09 | .99 |
| Shoulders | 43 | 3.91 | .81 | 42 | 3.82 | .51 |
| Voice | 41 | 3.73 | 1.65 | 44 | 4.00 | 1.27 |
| Tongue | 43 | 3.91 | .81 | 45 | 4.09 | 1.17 |
| Appetite | 35 | 3.18 | 1.00 | 43 | 3.91 | .99 |
| Hair | 47 | 4.27 | 1.30 | 40 | 3.64 | 2.31 |
| Nose | 34 | 3.09 | 1.54 | 42 | 3.89 | 1.24 |
| Chest | 41 | 3.73 | .56 | 45 | 4.09 | .45 |
| Forehead | 44 | 4.00 | .67 | 44 | 4.00 | .55 |
| Legs | 42 | 3.82 | .69 | 46 | 4.18 | .69 |
| Hips | 38 | 3.45 | .61 | 38 | 3.45 | .98 |
| Face | 34 | 3.09 | .63 | 44 | 4.00 | 1.27 |
| Talking | 40 | 3.64 | 1.50 | 47 | 4.27 | .93 |
| Height | 45 | 4.09 | 1.36 | 39 | 3.55 | 2.25 |
| Speech | 34 | 3.09 | 1.18 | 40 | 4.00 | 1.64 |
| Looks | 35 | 3.18 | 1.79 | 43 | 3.91 | .45 |
| Posture | 40 | 3.64 | .78 | 43 | 3.91 | .99 |
| Running | 44 | 4.00 | .91 | 47 | 4.27 | .93 |

| Item (N=48) | Test | | | Re-Test | | |
|---|---|---|---|---|---|---|
| | Total Score | Mean Score | Variance | Total Score | Mean Score | Variance |
| Teeth | 43 | 3.91 | 1.72 | 46 | 4.18 | .69 |
| Waist | 36 | 3.27 | 1.29 | 42 | 3.82 | .33 |
| Heart | 52 | 4.73 | .20 | 55 | 5.00 | 0 |
| Muscles | 49 | 4.45 | .43 | 45 | 4.09 | .99 |
| Stomach | 37 | 3.36 | .96 | 42 | 3.82 | .69 |
| Weight | 34 | 3.09 | 2.16 | 35 | 3.18 | 1.06 |
| Pooping | 38 | 3.45 | .79 | 39 | 3.55 | .98 |
| Peeing | 35 | 3.18 | 1.24 | 39 | 3.55 | .79 |
| TOTAL | 1974 | 179.45 | 48.38 | 2109 | 191.72 | 42.96 |

Coefficient Alpha equation:

$$r = \frac{k}{k-1}\left[1 - \frac{\Sigma s_i^2}{s_y^2}\right]$$

where: k= the total number of items

$s_i^2$= variance of each item

$s_y^2$= variance of total test

ABSTRACT

AN ABSTRACT OF THE THESIS OF

Donna L.O.K. Ching

For the MASTER OF NURSING

Date of Receiving this Degree: June 11, 1982

Title: A STUDY OF BODY IMAGE REVISION IN SCHOOLAGE CHILDREN

Approved: _____
Marie Scott Brown, R.N., Ph.D., Thesis Advisor

The purpose of this descriptive correlational study was to investigate the relationship between medical or surgical interventions resulting in altered bodily function or appearance and a revision in body image. The study focused on schoolage, hospitalized children with long-standing physical problems.

The selection criteria for this investigation yielded a sample of nine subjects. The setting was Unit 14A of Doernbecher Memorial Hospital at the Oregon Health Sciences University. Data was collected through administration of Clifford's (1971) modified Body Cathexis Scale (Secord & Jourard, 1953). Demographic data, including summary statements related to the extent of altered bodily appearance and/or function was obtained through interview and observation. Administration of the Body Cathexis Scale occurred once during hospitalization and again, four to six weeks

following hospital discharge. The data was analyzed with the Wilcoxan Matched-Pairs Signed-Rank test and the Student's t-ratio for related means.

The investigator modified the administration technique of the Body Cathexis Scale. The original written scale was converted to a sorting scale. This was done in consideration of the cognitive level of the schoolage child and length of the written scale. A pilot study was conducted to determine reliability of this sorted Body Cathexis Scale. Examination of equivalence, stability and internal consistency indicated significant reliability.

Upon completion of the pilot study, this investigation was conducted. The findings of the study indicated that change in body image was of an insignificant magnitude. However, it is noteworthy that seven of the nine subjects did express increased satisfaction with body parts and function following medical or surgical intervention. No statistically significant relationships were found between altered body image and variables of sex, previous hospitalizations, length of hospitalization, and length between initial diagnosis and current hospitalization.

Limitations of this study were addressed. Implications for the field of nursing were suggested and recommendations for further research were made.