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ATTITUDES TOWARD MASTECTOMY:  
THE DEVELOPMENT OF A  
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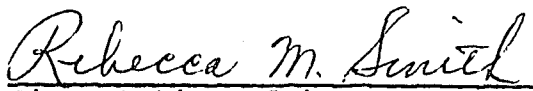
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A Dissertation Submitted to  
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Approved by

  
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APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

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HEYL, MARGARET ADAIR ROUNTREE. Attitudes Toward Mastectomy: The Development of a Measurement Scale. (1977) Directed by: Dr. Rebecca M. Smith. Pp. 109.

The central purposes of this study were to develop a valid and reliable instrument to measure attitudes toward mastectomy and to determine the number and nature of the variables contained within the instrument. Based on a review of literature, personal interviews, and open-ended questionnaires, a 36-item Likert-type attitude instrument was formulated.

Face and content validity were established by the inter-judge agreement of three separate panels of judges. The rotated factor matrix in the factor analysis identified five underlying variables contained within the instrument, thereby supporting the construct validity of the instrument.

Reliability of the instrument was established through the use of a test-retest method using women of a wide age range who had not had mastectomies. The scores calculated using a Pearson product-moment correlation coefficient showed high reliability coefficients on factors concerning general sexual functioning ( $r=+.91$ ), fears associated with rejection or physical pain ( $r=+.83$ ), and self-image ( $r=+.81$ ). Moderate reliability coefficients on factors concerning feminine appearance ( $r=+.73$ ), feelings of shame ( $r=+.79$ ), and significance of breasts ( $r=+.67$ ) were obtained.

Two major groups of subjects were selected for further investigation: (a) women over 30 years of age who had had

mastectomies, and (b) women over 30 years of age who had not had mastectomies. Of the 152 respondents, 105 had not had mastectomies, and 47 had had mastectomies. Fifty-one of the subjects were over 60 years of age, 60 subjects were between 46 and 59 years of age, and 41 subjects were between 30 and 45 years of age.

A 3 x 2 analysis of variance computed for age of the subjects and whether or not the subjects had had a mastectomy provided no evidence to indicate a significant difference between age groups or mastectomy groups or an interaction effect on four of the five factors. There was, however, a significant ( $p > .05$ ) difference between mastectomy and nonmastectomy groups for factor two, "health/hygiene." Women who had had mastectomies tended to have more positive attitudes toward their health than women who had not had mastectomies. The large within-group variance showed the individual nature of attitudes toward mastectomy.

The conclusions were that a valid and reliable instrument to assess attitudes toward mastectomy that could differentiate between individual attitudes could be constructed. The hypothesis that there are certain factors related to mastectomy that are made up of underlying variables was supported. In addition, the hypothesis that these factors which emerged from factor analyses on attitudes toward mastectomy would remain stable across three age groups and two mastectomy levels was supported. It was further concluded

that the instrument would not be able to show attitude discrimination between age and mastectomy groups but would be valid in assessing a woman's individual attitudes concerning mastectomy.

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## CHAPTER I

### INTRODUCTION

As a result of the significance society places on women's breasts and the social stigma associated with having or having had cancer, the woman with breast cancer experiences anxiety, confusion, and depression (Bard & Sutherland, 1955; Litman, 1966). At present, mastectomy is the most widely used method for treating breast cancer. Since the procedure is known to cause psychological trauma, it is at present receiving much critical examination (Schwartz et al., 1974).

Ervin (1973) and Roberts et al. (1972) have expressed beliefs that emotional suffering outweighs the physical suffering in most mastectomy patients. Of vital significance is the fact that numerous authors have commented that the emotional impact is as worthy of research as are the physical and physiological aspects of the disease and of the procedure used to treat the disease.

The psychological adjustment to the emotional trauma of having had cancer and having lost a breast makes the rehabilitation of mastectomy patients complicated. To date, no one has been able to assess the amount of emotional trauma associated with a mastectomy or to determine the coping mechanism that enables some patients to resume their previous

levels of functioning, whereas others attempt suicide or remain in a chronic state of depression that hinders a return to a productive life-style.

According to Shaw and Wright (1967), if attitudes toward a concept are known, they can be utilized in conjunction with dispositional and situational variables to explain and predict reactions of the individual to that category of concepts. They further state that, to the extent that principles governing attitude change are known, the principles may be used in manipulating a person's reactions to relevant concepts. Therefore, it is suggested that, if one can assess a woman's attitudes toward mastectomy, this assessment can be used to predict a woman's reaction to the mastectomy. Perhaps when a woman's response has been predetermined, an individualized program of rehabilitation can be devised to help her to cope with having had cancer and having lost a breast.

"Cancer" and "carcinoma" are the Latin and Greek words, respectively, for "crab." Both terms are used interchangeably to refer to "a cellular tumor the natural course of which is fatal and usually associated with formation of secondary tumors" (Dorland's Illustrated Medical Dictionary, 1965).

Cancer is the second leading cause of death in the United States and accounted for 330,730 deaths in 1970 (Levin et al., 1974) and 351,294 deaths in 1973 (World Almanac, 1976, p. 961)--17.8% of the total number of deaths in 1973.

Of these deaths, 31,850 resulted from breast cancer (Cancer Statistics, 1976).

At present, it is estimated that 339,000 men and 336,000 women will be diagnosed as having cancer in 1976. It is further predicted that of the total population 29.4% of the white males, 26.6% of the nonwhite males, 30.8% of the white females, and 23.8% of the nonwhite females will eventually develop cancer.

Specifically, 8.1% of the white female and 5.2% of the nonwhite female population will eventually develop cancer of the breast. Of this percentage 3.1% of the white females and 2.3% of the nonwhite females will die from the disease.

Of the total population the American Cancer Society predicted that 17.6% of the white males, 16.4% of the nonwhite males, 16.2% of the white females, and 14.1% of the nonwhite females will eventually become a cancer mortality statistic (Cancer Statistics, 1976).

Among women in the United States the breast is the leading site of cancer in both incidence and mortality. Carcinoma of the breast accounts for 27% of all cancer detected in women (see Table 1). It is the leading cause of death among women 40-44 years old and is one of the leading causes of death from age 30-34 on (see Table 2). At present, 89,000 women in the United States develop breast cancer annually (Cancer Statistics, 1976). Primarily, it is a disease that strikes women almost exclusively, occurring one

Table 1  
1975 Cancer Incidence and Death Rates by Site in Women\*

Site	Incidence Rate**	Death Rate***
Skin	1%	1%
Oral	2%	1%
Breast	27%	20%
Lung	6%	11%
Colon & Rectum	15%	15%
Other Digestive	19%	14%
Uterus	14%	7%
Urinary	4%	3%
Leukemia & Lymphomas	7%	9%
All other	15%	19%

\*'75 cancer facts & figures. New York: New York: American Cancer Society, 1975.

\*\*Percentage of total cancer incidences occurring by site in 1975.

\*\*\*Percentage of total cancer deaths occurring by site in 1975.

Table 2

Number of Deaths from Breast Cancer by Age, 1969\* and 1973\*\*

Age	1969	1973
15-34	443	521
35-54	8,613	8,633
55-74	13,966	15,764
75+	5,805	6,929

\*Monthly vital statistics report: Annual summary for the U. S., 1974. Rockville, Md.: U. S. Department of Health, Education and Welfare, 1975 (May 30), 23 (No. 13), 7.

\*\*Cancer statistics, 1976. New York: American Cancer Society, 1976.



hundred times more frequently in women than in men (Seidman, 1969). It is also one of the few cancers that tends to occur more frequently among higher socioeconomic levels (Cancer Statistics, 1976).

Although chemotherapy, radiation therapy, and hormone therapy are useful in some instances in controlling the disease, the primary mode of treatment is the "mastectomy" (Mozden, 1965), the Greek word for "mammectomy," which means the surgical excision of the breast (Dorland's Illustrated Medical Dictionary, 1965).

A modern radical mastectomy is the removal of the breast, pectoral muscles, and axillary contents en bloc (Fisher et al., 1975). The technique was developed by William Steward Halsted, a heroic figure in the development of modern surgical techniques, at Johns Hopkins in 1882 (Haagensen, 1971). Radical mastectomies are performed not because they are known to be the best procedure, but because physicians are unsure of the best procedure, and mastectomy seems to be effective. Data are currently being collected to study comparisons of different methods of treatment.

Following mastectomies, women have reported that they have felt as if they were "half a woman," "damaged goods," "birds with broken wings," and "shattered vases which cannot be mended" (Anstice, 1970b, p. 837). They described their reaction to the realization that a breast had been removed as one of being "shocked," "terrified," "stunned," "numb,"

or "panicky" (Bard & Sutherland, 1955, p. 658). Many patients with friends who had suffered or died from the disease were faced with the traumatic impact that they too could meet with the same fate (Quint, 1966).

The literature on mastectomy was comprised of individual case reports of feelings and anxieties. A myriad of problems facing mastectomy patients have been identified, yet there remained a need to determine which patients will experience specific problems and consequently a need to develop individual rehabilitation programs that will aid in helping patients cope with the crisis, lessen psychological trauma, and return to an adequate functioning level.

No systematic approach had been employed to determine the following:

1. The influence that one's attitudes toward a mastectomy--specifically, attitudes toward breasts, cancer, body image and breast loss--has on the way one responds to a mastectomy and the relationship of those attitudes to the amount of psychological stress one encounters.

2. The extent to which attitudes affect the adjustment process women undergo following mastectomies and the process of returning to their prior level of functioning.

3. The extent to which attitudes of the patients' sexual partners influence the emotional trauma experienced by the women, and in turn, the coping process.

4. The extent to which a woman's attitudes can aid in selecting an appropriate rehabilitation program that would

be designed specifically to meet her adjustment needs in coping with the mastectomy.

#### Purpose of the Study

In view of the widespread use of radical mastectomies as a treatment for breast cancer, the possible relationship of attitudes on the psychological adjustment of the mastectomy patient, and the lack of an attitudinal scale to assess one's feelings toward mastectomy, it was justifiable to develop such an attitude measurement scale that would determine feelings concerning mastectomy.

The objectives of this study were these:

1. To develop a reliable and valid Likert-type scale that will measure women's attitudes toward their breasts and toward mastectomy.
2. To determine the number and nature of the variables contained within the instrument.

#### Basic Assumptions

The research was based on the following assumptions:

1. An objective instrument can measure attitudes in an emotional area.
2. Even in the face of an extreme emotional condition, women will respond according to the way they feel.
3. An attitude scale is related to behavior.

### Research Hypotheses

Research hypotheses stated in the positive direction were structured to guide the study.

Hypothesis I: The instrument developed will be reliable and valid.

Hypothesis II: There are certain factors related to mastectomies that are made up of underlying variables.

Hypothesis III: The factors which emerge from factor analysis on attitudes toward mastectomies will remain stable across three age groups.

Hypothesis IV: The factors which emerge from factor analysis on attitudes toward mastectomies will remain stable across a group of women who have had mastectomies and a group of women who have not had mastectomies.

### Definition of Terms

The following operational definitions are offered to assure understanding of specific terms used throughout the study.

Attitude is an idea charged with emotion which is the end product of the socialization process and influences responses to cultural products of other persons (Shaw & Wright, 1967; Triandis, 1971); thus an attitude guides and directs the overt behavior of an individual (Cardno, 1955). Attitudes are conceived as having direction--a favorable or

unfavorable component that can represent positive or negative feelings. The magnitude of an attitude refers to the "degree" of favorableness or unfavorableness felt toward a concept (Lindzey & Aronson, 1968, p. 206). Since attitudes are hypothetical or latent variables, they must be assessed by individually measuring responses to a set of situations (Shaw & Wright, 1967).

Body image is the mental picture, conscious and unconscious, one has of one's body at any moment, which is "derived from internal sensations, postural changes, contact with outside objects and people, emotional experiences and fantasies" (Deutsch & Fishman, 1963, p. 2104).

Adjustment or rehabilitation is the emotional, physical, and psychological restoration of the mastectomy patient by therapeutic and educational measures to resume participation in the activities of life prior to the mastectomy within limitations of the physical disability (Gove, 1966).

Breast cancer is a mass of tissue cells possessing potentially unlimited growth that serve no useful function in the breast but rob the host of nutrients necessary for survival, expanding locally by invasion and systematically by transmission of cells along lymphatic and blood pathways. Unless recognized early and removed, it destroys the host (Gove, 1966).

Mastectomy is used in the study to refer to a radical mastectomy, which is the surgical removal of the breast

tissue, pectoral muscles, and axillary contents en bloc as a treatment for breast cancer (Fisher et al., 1975).

Psychological trauma is the mental or emotional stress or shock, caused by fears associated with having cancer and having a breast removed, that produces disordered feelings or behavior followed by an acute anxiety state over fear of death and loss of femininity (Gove, 1966).

## CHAPTER II

### REVIEW OF RELATED LITERATURE

The following review of literature will cover factors related to attitudes concerning breasts, breast cancer, and mastectomy. The purpose is to provide a basis for the raison d'etre of the items developed for the mastectomy attitude measurement scale. Emphasis in this compilation of related literature is placed on the emotional aspects affecting attitudes regarding mastectomy.

#### Social Attitudes toward Cancer

There is no doubt that the discovery of cancer in oneself or in one's family has a profound psychological impact. There prevails a complex interrelationship among the victim's psyche, the family's attitudes, and the disease. Having cancer is met with fear, for the disease has implied meanings of pain, hospitalization, debts, disfigurement, inability to care for the family, loss of sexual attractiveness or function, dirtiness, disability, and possible death.

Over the centuries cancer has become the most feared of all diseases. It is still one of the foremost dreaded afflictions, for it has an unknown cause and unknown cure. The body painfully (and sometimes slowly) wastes away. Ulcerations and foul-smelling lesions often appear. In the past a diagnosis of cancer was a death sentence; patients were "sent

home to die." Since the diagnosis was a closely guarded secret, patients and families were prevented from expressing feelings openly.

Guilt was the pronounced psychological response to the social stigma of having cancer. Some people presumed that the victim was being punished for an "immoral act." Obituary notices rarely indicated cancer as the cause of death. By word of mouth, mystery and fear spread the rumors: "It was cancer;" "He was eaten up with cancer." Therefore, quackery flourished with a promise for a miraculous cure.

Recently, a more rational and hopeful approach has been assumed which to some extent has dissipated some misconceptions and the taboo; possibly this new awareness has resulted from more open discussion with patients, through the news media, and among the general populace at large. However, since cancer is still viewed by scientists as a mysterious disease, many conflicting attitudes and opinions develop among doctors and the general population concerning cause and cure (Holland, 1973).

#### History and Etiology of Breast Cancer

The earliest description of breast cancer on record is credited to the Egyptian physician Imhotep in 3000 B.C. It was later described by Greek and Roman surgeons and discussed by Hippocrates and Galen (Power, 1934). Jean Louis Petit (1674-1750), the first director of the French Surgical



Academy, made early attempts at surgical removal of the breast as a cure for carcinoma. The first successful mastectomy in the United States was performed by Dr. Zabdiel Boylston in 1718 on the wife of a prominent Massachusetts citizen. She survived for 39 years following the surgery (Steinfeld, 1975).

The incidence of breast cancer increases continually from age 20 up to the menopause. Then it levels off until a second rise in frequency occurring after the age of 65. For unknown reasons, breast cancer is much less common in Japan and other Oriental countries than in other countries. Yet, the disease is more common in Japanese women living in the United States than it is in those living in Japan, in Danish women than in other Scandinavian women, and in fat women living in a culture which dotes on rich foods than in thin women who enjoy lean diets; therefore, an environmental influence is suggested.

The cause of breast cancer is unknown. Several factors affecting the incidence rate are reasonably well-established, however. A hereditary factor is suggested since a two- to seven-fold increase in the familial incidence of the disease is known to exist. According to Harrison's principles of internal medicine (1974, p. 1683), "The risk of developing breast cancer in the first degree relatives of a patient is fivefold that of the general population." It is also apparent that the incidence rate is directly related to the duration of the period of ovarian activity. The tendency to have

breast cancer is greater in childless women with a late menopause and less in women who experienced early and multiple pregnancies or who have undergone bilateral oophorectomy before the age of 40 (Harrison's Principles of Internal Medicine, 1974, pp. 582-587).

Some observations implicating social stress in the etiology of breast cancer precipitated a study by Snell and Saxon (1971), but the study failed to show any correlation between the diagnosis of cancer and either single or cumulative numbers of stressful events occurring during the five years preceding the breast cancer diagnosis. The investigators interviewed 352 women with breast cancer, plus 670 controls, concerning emotionally traumatic incidents such as illness, unemployment, death, separations, and divorce occurring in their lives during a five-year period.

#### Psychological Aspects of Breast Cancer

Bard and Sutherland (1955) suggested that women progressed through a course of emotional expressions and feelings when they learned that they had breast cancer. First, the women experienced general depression and self-pity exhibited by a desire to be waited on or "mothered." A period of lowered self-esteem was inevitable; the patient felt anger and resentment for the surgeon whom she regarded as the injuror. Finally, she expressed gratitude and relief to the surgeon for removing a life-threatening growth. For this reason, many surgeons have presented a "better without the

breast than dead" philosophy which has seemed in some cases to aid patients in recovering from the loss of a breast. In contrast, the authors discussed women who were uncomfortable in a position of dependence and who immediately plunged back into their previous life-style. In so doing, they exhibited a denial of the disease or of injury.

In a group of women studied by Renneker and Cutler (1952), post-mastectomy depression, noted as a general reaction to mastectomy, was characterized by anxiety, depressive attitudes, insomnia, occasional thoughts of suicide, and feelings of shame and worthlessness. Women expressed feelings that their feminine pride had been damaged. Mourning over the lost breast and concern over men's responses to their bodies made up a common sequel. Changing the mind's body image was the first step in relieving anxiety.

#### Significance of Breasts

To get a better understanding of the background of these depressive reactions, one must examine the emotional attachment to the breast which is maintained by the total personality. According to Renneker and Cutler (1952), breasts are considered one of a woman's most prized physical possessions because of the following two psychological meanings:

(a) breasts have a particular sexual significance in the American culture, and (b) the breast as a milk-bearing organ is equated with a function that is uniquely female--that of

being a mother. Breasts are glamorized in magazines, advertisements, and movies; hence men and women alike have become more breast conscious. The authors stated that breasts are the only positive evidence of femaleness, since a woman's reproductive organs are internal and the pubic area is smooth and concealed. The removal of a woman's breasts is thus the removal of her badge of femininity. There is also a universal symbolic connection between the breast and motherhood (Davis, 1971). The breast serves as an emotional symbol of the woman's pride in her sexuality and in her motherliness. When the breast is threatened, the very core of her feminine orientation is shaken (Renneker & Cutler, 1952).

Beginning in the cradle, the breast is a body part which has emotional significance for everyone. To the baby, the breast can be a source of security, warmth, and nourishment. These basic feelings follow one into adulthood when one acquires the personal awareness of the breast's importance as an erotic symbol in lovemaking.

The fashion industry has worked to make women aware of their personal appearance. It has concentrated on styles that accentuate the bustline. Machines, creams, and exercise plans are marketed to increase the bustline. "Uplift" and "cleavage" brassieres designed to make the woman "appear more feminine" are advertised. Cosmetic operations to augment or reduce breast size are performed by plastic surgeons (Anstice, 1970b).

Women have exhibited wide varieties of attitudes toward their breasts, ranging from pride to indifference and shame. These emotional reactions are partially conditioned by the size and shape of the breast but primarily stem from deeper psychological attitudes concerning acceptance or denial of the feminine role, for example, sex and motherhood (Renneker & Cutler, 1952).

#### Breasts and Psychosexual Development

The development of breasts has played an important role in the psychological and physiological maturation of women. The singular significance of breast development in feminine psychology has been shown by anthropologists and psychiatrists to occur in many different cultures. According to a cross-cultural study of breast development in primitive and civilized societies, Mead (1949) noted that because the female breast is so idealized in the United States, it has become the primary source of a woman's identification with the feminine role. Silverberg (1952) pointed out that the cultural importance assigned to female breasts has led to a woman's sexual desirability being based upon the size and shape of the woman's breasts. Thus adolescent females have learned in early puberty that the appearance of breasts constitutes the vital criterion of desirability and acceptability (Bard & Sutherland, 1955).

Young girls may react differently to breast development. They may become proud of physical development--the "first

sign of the onset of womanhood"--and accentuate newly obtained physical structure by emphasizing it with clothes and body posture. They may, however, suffer from lowered self-esteem because of feelings that breasts are underdeveloped, thereby deemphasizing what is considered an insufficient amount of breast tissue by wearing loose clothing, slumping shoulders, and holding arms in front of their chest (Bard & Sutherland, 1955). Menninger (1939) wrote that many women during the 1930's resented early breast development. Often, women would bind their chests with cloth tape in an effort to prevent further development and hide their breasts with clothing, as if to deny impending sexuality.

Each young female interprets the development of secondary sex characteristics according to cultural values and psychological factors. Adolescence is regarded as a period of great psychological change, a period of conflict between two ways of life: maturity with opportunities for independence and heterosexual experience and childhood with protection and care provided by parents. At this time, the pubescent girl attempts to liberate herself from maternal control and strive for adult independence. She is simultaneously faced with the psychological tasks of adapting to physiological and physical changes and freeing herself from maternal control (Bard & Sutherland, 1955).

Chadwick (1932) noted that feelings of shame and guilt often accompany the appearance of secondary sex characteristics. The extent of the guilt is dependent upon the

relationship between mother and daughter. When maternal control is predominant, the mother keeps the daughter in a dependent "little girl" position. When the mother imposes limitations on the daughter who is seeking to liberate herself, the daughter interprets this maternal control as direct disapproval of the daughter's developing sexuality. A conviction develops that guilt-laden replacement of the prohibitive mother is the only avenue to sexuality. The later loss of a breast may signify punishment for defiance or displacement of the mother.

#### Breasts and Body Image

The breast is an important part of a woman's body image. Although this image may not be an objectively accurate one, it is an integral part of the way a woman thinks of herself. The loss of a limb or any other major part of the body may destroy one's body image--the sense of naturalness, wholeness, possibly even beauty. A loss may produce a sense of bereavement which is similar to the bereavement suffered after the loss of a loved person. For a woman who has placed a valued emphasis on her breasts and who considers them important in a love relationship, the loss can be deeply felt, especially if she is a widow, since yet another link with her past is now being destroyed (Anstice, 1970b).

#### Influence of Mastectomy on Self-Concept

Anxiety can develop over a woman's projected fears of unacceptability to men who, she believes, judge women

primarily by intactness of breasts. She fears that the absence will hamper her in a competitive struggle to acquire a mate (Bard & Sutherland, 1955).

The authors further noted that in a culture where clothing plays such a prominent role in the expression of female sexuality, the limitation the mastectomy imposes upon clothing selection can only work to increase self-depreciation. A radical mastectomy can only be covered. This concealment could involve altering or discarding most of a woman's clothes and purchasing an entirely new wardrobe--a painful task that is a constant reminder of the mutilation. The mastectomy patient can feel that her clothes are to hide behind and not to enhance feminine beauty--the "femme fatale" espoused by the fashion industry.

A former professional model expressed considerable concern over personal appearance (Bard & Sutherland, 1955). She had enjoyed wearing low-cut dresses that focused on what she considered to be well-formed, lovely breasts. Following the mastectomy, she had to purchase outfits that covered her chest, neck, and arms. On her first social outing, she described herself as being so self-conscious that she could not remove her coat. These investigators noted that mastectomies were most psychologically devastating in women who throughout life had regarded their physical attractiveness as the primary factor in their ability to relate to other people.



For many women studied by Bard and Sutherland (1955), the wearing of a prosthesis, or "falsies" as they were previously called, lowered their self-concept. This "false front" embarrassed them and made them think of themselves as less of a woman.

Ervin (1973) believed that a mastectomy greatly damages body image. He reported on the suicide of three of his mastectomy patients. All the suicides occurred from six weeks to seven and a half years postoperatively in women whose autopsies showed no regrowth of cancer. In each case, the woman appeared to be adjusting well to the mastectomy, to be maintaining a happy disposition, and to be showing no physical complications from the surgery. However, it became evident that the women shared in common loneliness, isolation, despair, and depression precipitated and perpetuated by a damaged self-concept because of an altered body image.

The three were attractive women, one a former fashion model. Her husband's friends stated that he could not go to bed with a "lopsided woman;" he bought her a Cadillac and found himself a girlfriend. The husband of the second woman had responded in the same manner by acquiring a girlfriend to meet his sexual needs.

According to Ervin, "the beautiful woman has an especial threat...initially the woman sees herself mutilated and repulsive, desexed and suffering from a disease which can only end in a lingering and lonely death" (p. 46). Since a

woman is feeling physically and sexually insecure following a mastectomy, Anstice (1970a) noted that hospitalized patients expressed a fear and dread of the first intercourse experience following surgery. The husband or lover could restore or destroy self-concept at this time. Any suggestion of rejection could be an emotionally disastrous experience. In referring to another one of his patients, Ervin noted:

The first man who showed a serious interest in her never called her again after she told him of her mastectomy. Subsequently, she met another man who responded: "What difference does that make?" By any standard, they have made a fine marriage. (p. 51)

#### Women's Attitudes Regarding Breast Cancer

In 1974 the Gallup Organization, Inc., conducted a poll for the American Cancer Society concerning women's attitudes regarding breast cancer. A national sample of 1007 women aged 18 years and older were individually questioned in an hour-long interview. The results were analyzed according to demographic and socioeconomic characteristics, the woman's medical care habits, and a number of attitudinal and personality characteristics. The highlights of the 150 pages of analyses included numerous findings (Holleb, 1975; Women's Attitudes Regarding Breast Cancer, 1974): Forty-three percent of the sample named cancer as the most serious medical problem facing women with 13% specifically referring to breast cancer. A majority (77%) said that they personally knew someone who had had breast cancer, and 41% knew three or

more cancer patients. Only 12% knew that most breast lumps are not malignant.

Women in the Gallup Poll seemed to exaggerate the prevalence of breast cancer in the United States, thinking it was more common than it actually is. When asked to estimate how many women out of every 1000 would be expected to develop breast cancer at some time during their life, 8% gave a basically accurate answer of approximately 50. A majority (56%) predicted 100 or more.

They stated that fear and panic were expected reactions to the discovery of a lump in one's breast. Although fear of breast cancer declines with age, those women between 18 and 34 years of age, the group least likely to contract the disease, expressed the greatest amount of worry. Because a typical reaction to fear and panic is avoidance, 46% of the women stated that monthly breast examinations only made them worry when it was not necessary.

Twenty-five percent of the women who had heard of self-examination never practiced it; 75% of those women who were aware of it did not practice it monthly. Of those women who practiced self-examination regularly, 92% had been personally taught by a physician.

In contrast to fear and pessimism concerning the incidence rate was a degree of optimism (61%) concerning the diagnosis and treatment. A total of 74% thought a "great deal" of progress in diagnosing the disease had been made over the

last 20 years, and 69% also felt that a "great deal" of progress had been made over the last 20 years in the cure of the disease. Eight out of ten women who had known someone with breast cancer knew of at least one woman who had been "saved."

These Gallup Poll respondents showed considerable ignorance concerning the causes of breast cancer. Many women (62%) believed that a blow or injury to the breast or the taking of birth control pills (43%) increased their chances of developing cancer. On the other hand, 41% did not know that if someone in their family had had breast cancer, their chances of developing it were increased. A minority (25%) thought that breast feeding would decrease their chances of having breast cancer. Finally, 40% did not know that with increasing age, the chances of developing breast cancer also increased; 28% believed that age was of no significance; 12% believed that most cases of breast cancer were found in women below the age of 35.

#### Reactions to Mastectomy

The 1974 Gallup Poll indicated that women had strong, anxious feelings regarding breast removal. When asked to express what they thought their first reactions would be following removal, 36% stated that fear of whether or not the cancer had been removed was the primary reaction; in comparison, 32% feared the emotional adjustment to the loss of a

breast. Fear of the recurrence of cancer was noted as one of the greatest worries (59%), and 23% stated that the loss of a breast was the greatest concern, whereas 15% said that both worries would be equal. Three percent stated that they could not express their concern. Breast loss assumed a somewhat greater significance among those respondents of the middle socioeconomic status and the gregarious.

In response to the effect of breast removal on a woman's self-image and her relations with men, 51% stated that a mastectomy would cause "a woman like yourself" to lose her sense of being a woman; this attitude was most prevalent among single women (61%) and those between 18 and 34 years of age (66%). In terms of personality, respondents who were more apt to feel that breast removal impaired a woman's sense of womanhood were those women who were highly sociable, who tended to seek new acquaintances, and who were concerned about physical appearance. No association between seeing oneself as attractive to men and breast removal as impairing womanhood was noted, suggesting that an important component of the physical appearance of the breast is social, not just sexual.

Most respondents felt that if one had an established satisfactory marriage, breast removal would not harm that marriage. Only 19% expressed that they thought it could harm a marriage. However, 51% felt that a single woman's chances of being happily married are reduced if she has had a breast removed.

Fifty-six percent stated that they felt a woman after having a breast removed could return to a normal life-style and 36% expressed that it was fairly likely that a normal life could be resumed; thus 92% thought that a normal pattern of life could be re-established again.

Only 18% of the women thought that adjusting to the loss of a breast would be more difficult than adjusting to the loss of an arm or leg would be. Four percent said that they would rather die than have a breast removed. Finally, 64% expressed that they would participate in a rehabilitation program such as "Reach to Recovery" which provides individual attention from diagnosis through the transition from the hospital back to the home (Reach to Recovery, 1974), if the need ever arose.

#### Psychological Impact of Augmentation Mamoplasty

Small breast size has been found to have negative effects on women's sexual involvement (Baker et al., 1974). Fifty-six percent of a sample of 132 women who had undergone augmentation mammoplasty indicated that they did so because they had thought that small breast size adversely affected breast play. Thirty percent noted that their negative attitudes about small breasts had hindered their ability to reach orgasm, and 10% said that it had influenced their decision whether or not to marry. In every case, the inadequate feelings apparent in the woman were not recognized or shared by her sexual partner.

Following augmentation mammoplasty, 93% of the sample reported an increase in self-confidence, 84% experienced strong feelings of self-adequacy, 74% noted an increased interest in sex, 53% reported an increased frequency in sexual intercourse, 69% perceived improvement in the quality of sexual intercourse, 52% indicated an increased frequency of orgasm, and 78% stated an increased desire for breast play. A padded brassiere did not give the woman the self-confidence she needed in a sexual relationship but an internally inserted prosthesis did.

To incorporate the implant as part of a woman's body image, the woman was encouraged to make a visual and tactile exploration of her own body. This process may have implications for women's experiencing the loss of a breast and the incorporation of the prosthesis into their body image.

#### Problems Associated with a Mastectomy

Simultaneously coping with cancer and disfigurement must pose special adjustment problems because both disfigurement and cancer carry negative connotations in society. Holland (1973), in an interview of 21 mastectomy patients conducted several weeks postoperatively, found that the realization of the missing breast was the most distressful part of the disease.

Quint (1966) conducted a series of patient interviews immediately following surgery and six months postoperatively to determine difficulties which hinder the adjustment process.

Quint's conclusions suggested that the mastectomy initiates three basic changes that require adjustment: (a) it precipitates a period of shock accompanied with unexpected events, (b) it changes the body's appearance, and (c) it marks the future by inferring a shortened life filled with a slow, painful death.

According to patient reports, it appeared that the real impact of surgery did not occur until after the woman had returned home. The trauma was characterized by a period of agitation and emotional upset. The first tremendous shock came when the woman looked at her nude body in a mirror. An immediate concern was finding a comfortable sleeping position that did not put strain on the chest wall. Most patients described unexpected drainage of the incision, delayed wound healing, swelling of the arm, pain, discomfort, fatigue, and jittery feelings as being disturbing.

About 30% of the mastectomy patients developed some degree of lymphedema in the arm; severe swelling occurred in 10%. It has been documented that those women experiencing lymphedema regarded it as an additional deformity with which to cope. Of 108 women who experienced swelling, 103 reported self-consciousness to the point of social isolation (Healey & Villaneuva, 1972).

Although there was an expectation of feeling better within four months following surgery, the majority of the women said that they had not. Furthermore, they disclosed



that their family and friends expected them to return to normal soon after surgery and were alarmed when their condition did not improve quickly. All the women expressed self-conscious feelings concerning their appearance. Large-breasted women expressed more concern over alteration in body size which produced an exaggerated pear-shaped figure. All women seemed to face two major decisions: (a) how much the breast loss was to be camouflaged to acquire peace of mind, and (b) whether to hide the incision scars from others (Quint, 1966).

Most subjects in Quint's study (1966) reported that they could not find clothes they liked, especially in evening clothes and swimwear that were, according to this group of subjects, all low-cut. Belligerent salespeople seemed to make shopping an emotionally disruptive chore also.

Because of the removal of the pectoral muscles, all subjects reported that fixing their hair and underarm care had been an almost impossible task during the first six months following surgery. Most subjects reported that this was indeed a shock for they had not expected to be "handicapped" by the mastectomy.

Bard and Sutherland (1955) found that the daily routine of dressing and undressing constituted a dreadful emotional crisis. Their patients reported that they could forget the mutilation during the day but that the sight of the scars while they were dressing evoked feelings of revulsion, disgust, and depression.

There was a basic concern among subjects that activity had to be restrained, for they believed that the incision, even when healed, would not withstand the slightest trauma. Thus, activities involving groups (shopping, traveling) were eliminated and the amount of housework restrained. Some women expressed anxiety over breathing deeply or resuming sexual relations for fear that the incision would open (Bard & Sutherland, 1955).

All but one of the subjects interviewed by Quint (1963) showed their incisions to their husbands. The one subject thought the scar was so ugly that she could not bear the sight of it; consequently, she felt her husband could not either. At night, she wore a long-sleeved, high-necked gown and a bedjacket.

Most of the subjects elected not to show the incision to children or friends for fear of frightening them (Quint, 1963). Bard and Sutherland (1955) stated that their patients did not want to show the scars to their children for fear that their offspring would regard them as crippled. One patient said that she had a "deep dark secret to hide" from her friends; another said that she had refrained from suicide because she could not bear the thought of anyone's viewing her mutilated body after death.

The fitting of a comfortable, natural appearing prosthesis was expressed as a problem. Anstice (1970a) noted that a comfortable prosthesis for an amputated leg could be

obtained which hardly drew any attention to the limb, but this naturalness was not true for a breast prosthesis (worn externally in the brassiere). Many surgeons referred to a breast prosthesis as a "cosmetic aid" (Anstice, 1970a) and regard it as nothing more.

It was presumed that arms and legs are considered "necessary" to perform most activities one engages in daily. Since breasts are regarded as having two primary functions, that of nursing babies and sexual gratification, their importance as a necessity in functioning in daily activities has not been regarded essential by many surgeons who do not view a breast prosthesis as "necessary" but rather as a "cosmetic aid."

#### Fears Associated with Mastectomy

Women studies by Anstice (1970b), Bard and Sutherland (1955), and Quint (1963) expressed numerous fears women developed just prior to, during, and following mastectomies.

Bard and Sutherland (1955) wrote that three basic fears arise from radical mastectomies: (a) "so much" of the body is sacrificed; therefore, most of the other body systems must compromise, (b) the "weakened" body is left vulnerable to further injury, and (c) the body is marred beyond repair, therefore making the woman unacceptable to herself and to others. It "will never be the same" was the attitude. The writers stated that women who had strong religious faiths seemed to have less fear than did women who did not have deep

faith. They predicted that religious faith was positively related to a patient's psychological recovery.

All mastectomy patients face uncertain futures. A 30-year follow-up study of 1458 breast cancer patients treated by radical mastectomy in the years 1940-1943 found that in 1974 there were 184 known to be alive for an average of 30.6 years later. Of the remaining subjects, 836 had died of either their first or second breast cancers; 349 died of other causes; 69 were lost to follow-up; and 30 received incomplete follow-up and were thus excluded from the study. The actuarial survival rate for 30 years was 38%; the cumulative rate of clinical second breast cancers was 16.4% (Adair et al., 1974).

Adair et al. (1974) noted that the prognosis for breast cancer patients has not changed significantly over the last 30 years. It is true that since the 1940s delays in consulting a doctor after the discovery of a lump in the breast have decreased; therefore, smaller cancerous growths and fewer metastases are being seen. Because of these facts, the survival rate has increased.

The fear of cancer spreading to the other breast or to other parts of the body has been an ever-present concern. The survival rate for mastectomy patients five years post-operatively does not provide the same assurance against recurrence as it does for other cancers. Although the risk of recurrence diminishes with time, the risk of death continues

to be higher than for the general population for at least 25 years (Schwartz et al., 1974). The 20-year survival rate is dependent upon the extent of the disease at the time of diagnosis; the further along the disease, the greater the mortality rate seems to be (Berg & Robins, 1966). According to Burdick (1975), the survival rate over five years is 75% when the cancer is localized and detected early; when the malignancy has spread, the five-year survival rate is 50%. 1976 statistics published by the American Cancer Society showed that when the malignancy is treated in the localized stage, the success rate of five-year survival postoperatively is 84% for whites and 77% for nonwhites. During the first five months of 1976, 45% of the whites had localized breast cancer, whereas 31% of the nonwhites did, perhaps signifying that educational programs are reaching more whites than nonwhites. The 1976 overall five-year survival rate is 62% for whites and 47% for nonwhites (Cancer Statistics, 1976).

The inability to communicate one's feelings was expressed by several women who were disturbed by a loss of control of nerves. One woman was upset because she constantly yelled at her husband. She said she was so frightened that she took it out on him. Two women she knew had been committed to a mental hospital following mastectomies, and she feared that she also was going crazy (Quint, 1963).

Few subjects had outlets for talking with anyone concerning fears related to the prospect of dying and what they

regarded as defeminizing disfigurement; therefore, according to Quint (1963), all subjects experienced isolation and suffered from loneliness.

In general, the literature noted that a mastectomy patient's basic fears included premature death, mutilation, impairment of physical activity, loss of physical attractiveness, "half-a-woman" complex, and loss of husband (Anstice, 1970b; Rosemond & Maier, 1969).

#### Phantom Breast Sensations

Some mastectomy patients experience the nearly universal reaction to amputation--phantom sensations. In a study conducted by Weinstein et al. (1970), approximately one third of 203 mastectomy patients experienced the phantom breast phenomenon. The sensation appeared to be more prevalent following the removal of the left breast and occurred earlier after surgery than it did with a right mastectomy. Older women had the sensation longer than did younger women. It seemed that the longer the neoplasm had existed preoperatively, the longer the phantom sensation postoperatively. The incidence of phantom sensation did not seem to be influenced by the number of children who were breastfed, breast size, duration of neoplasm, amount of time since surgery, or satisfaction with the prosthesis. An interesting finding in the report was that the value assigned to breasts decreased with age in nonmastectomized women, whereas the opposite occurred in mastectomized women.

Some theories recorded in the literature that attempt to explain the experience of phantom breasts include the following (Bressler et al., 1956; Weinstein et al., 1970): (a) psychologic factors are probably more important than are physical ones; (b) if women equate their breasts with the male penis, the sensation may be one of denying castration fears; (c) the phantom breast may be an attempt to retain feminine identification and sexual qualities, especially in those women whose female identity is marginal; (d) the breast may symbolize the loss of a woman's mother if the breast was a symbol associated with the mother; (e) the cultural significance attached to breasts increases the reaction to the sensation; and (f) breast loss may evoke fear of punishment for forbidden aggressive and sexual wishes. However, in the amputation of any body part, these phantom sensations may be neurological (organic) in origin.

#### Age Factor as an Influence

According to Renneker and Cutler (1952), there are two periods when the loss of a breast can cause especial trauma. The first crucial period is during the childbearing years when additional children are wanted, and the second is during the menopause when the loss of a breast in addition to the cessation of fertility increases the feelings of loss of femininity and sexual allure.

The trauma of breast loss appeared to be dependent upon a woman's age and the degree of "feminine achievement" she

felt she had attained, for example, whether or not she was married and had children. A younger woman who had not yet married and borne children seemed to suffer greater emotional trauma (Renneker & Cutler, 1952). This viewpoint may reflect a bias, however, concerning society's acceptable sex role for the "fulfilled woman" (Woods, 1975). The older patient is more apt to feel that no sexual symbol, such as breasts, is necessary to maintain femininity (Ervin, 1973). In older women, the adjustment to cancer and the possibility of death are regarded by Renneker and Cutler (1952) as the primary problem. In younger women, a blending of the two conflicts--the possibility of death and the loss of femininity--takes place, and both are sources of anxiety.

#### Role of Husband

Clinical observations have shown that the husband occupies a key position in the adjustment process of married mastectomy patients (Bard & Sutherland, 1955; Ervin, 1973; Mozden, 1965). Baudry and Wiener (1968) believed that it was of crucial importance that prior to surgery the doctor dealt with the husband's anxieties so that he may better help the wife deal with her impaired self-esteem. Klein (1971) pointed out that "a husband full of uncertainty and conflicting emotions often unwittingly projects the very attitude the patient most fears, an attitude of rejection" (p. 1663).

The family member closest to the patient usually shared most directly in the grief process (Holland, 1973), suffered



the psychological impact of the illness and consequently reported new or increased physical symptoms of his own-- headache, nausea, pain (Klein, 1971). If the patient died, the mortality of the survivors increased above the normal expectation (Holland, 1973).

#### Effect on Marital Relationship

Mastectomy can prove to be a threat to one's marriage (Bard & Sutherland, 1955). It appeared that the postoperative marital relationship was contingent upon the preoperative status of the marriage (Dyk & Sutherland, 1956). When a marriage consisted of a warm supportive relationship with good communication and sexual adjustment before marriage, the odds were that the pattern of a strong relationship between the partners would continue. If the relationship was fraught with tension, rejection, distrust, and sexual incompatibility preoperatively, chances were that postoperatively the relationship would invariably deteriorate. As Rosemond and Maier stated (1969), a mastectomy was an excuse, not a reason, for divorce.

If the wife regards feminine attributes and sexual desirability as critical factors influencing a marriage, she may automatically expect the dyadic relationship to be dissolved. Likewise, if the husband feels that sexual desirability is basic to a happy marriage, the husband may regard the operation as having destroyed their relationship by threatening his sexual satisfaction (Bard & Sutherland, 1955).

Women who viewed sexual attributes as being vital in a relationship with their husbands feared the loss of their husbands to a "sexual woman." These women felt that their femininity had been stripped during the surgery.

The husband may be appalled by the wound itself because of implications body injury, such as lifelong fears of illness, operation, and phobic reactions to bodily injury has for him. The confrontation with the scar may evoke an uncontrollable temporary withdrawal response which does not represent his true feelings for his wife, yet which evokes feelings of rejection in her. Because of his own confused feelings and fears for his wife, the husband may actually encourage invalidism and depression (Bard & Sutherland, 1955).

#### Sexual Functioning Following a Mastectomy

Because of the sexual significance of the breast, several studies have reported that the physical and psychological effects of a mastectomy impair to varying degrees sexual functioning. Unfortunately, little research has been conducted in this area.

A cessation of sexual activity because of a fear of transmitting the cancer to the husband was found in a limited case study by Hollingshead (1970). Kent (1975) noted that some subjects were too self-conscious of the scar to enjoy sex and that husbands were afraid to touch their wives for fear of hurting them. Unmarried women were inhibited from entering a new sexual relationship.

Bard and Sutherland (1955) stated that some post-mastectomy patients lose all sexual desire; they feel that either a source of stimulation has been removed or the lack of the sexual attribute "cheats" their husbands. Other women could engage in sexual relations if the scar was covered with clothing, if they were wearing the prosthesis, or if they were in total darkness. Some described themselves as "half woman, half man," a feeling that was translated into behavior of wearing pajamas to bed when, before surgery, they had worn gowns.

When a mastectomy had been performed on only one breast, the remaining breast became a non-functioning organ in subjects described by Leis (1971). Few women displayed it as a "questionable" sexual stimulus next to the mastectomy scar; consequently, few allowed it to be used in the sexual act. Ambivalent feelings developed toward the remaining breast. It seemed to serve negative as well as positive value to the patient--positive because it existed but negative because doctors would not allow it to be used in breast feeding, it disrupted body symmetry, and it aroused fears of cancer recurrence.

#### Breast Cancer Discussed in Popular Magazines

A review of current articles appearing in popular magazines concerning breast cancer and mastectomy exhibited overall themes concerning breast cancer incidence and survival rates, methods of treatment, and guidelines for breast

self-examination (Alexander, 1974; Cant & Cohen, 1975; Culliton, 1976; Frank & Frank, 1975; Garrard, 1975; Maisel, 1971; Nolen, 1971; Rebuilding the Breast, 1975; The Breast Cancer Debate, 1970; Treating Breast Cancer, 1974a & b; Zimmerman, 1974).

One article (Breast Cancer: Facts and Fear, 1974) presented facts by discussing well-known women (Shirley Temple Black, Julia Child, Betty Ford, Alice Roosevelt Longworth, Happy Rockefeller) who had successfully undergone mastectomies. Betty Ford (1974), Happy Rockefeller (1976), and Helga Sandburg (1974) offered encouragement to other women facing mastectomies by saying that many tragedies are worse than losing a breast because of cancer and that their lives had had more meaning since the surgery; therefore, they said they were happier. All three women stated that they believed their relationships with their husbands became closer after their mastectomies.

Thompson (1971) encouraged breast self-examination and regular medical check-ups by focusing on the lives of black women who had resumed "happy and successful" lives after having mastectomies. Thompson, a black woman who has had a mastectomy, is the only woman who has written an article on successful adjustments of black women who have undergone breast surgery as a treatment for cancer. Her message to the readers of Ebony was "be grateful for your life."

Three articles dealt with a woman's adjustment following a mastectomy (Overcoming Problems After Breast Surgery,

1969; Paterson, 1975; Problems of Adjustment, 1974). Each presented the following basic themes: (a) a woman must face the fact that she has had cancer and has had a breast removed; (b) she must realize that her personality is unchanged by the mastectomy and that she will be the same woman she was before surgery; (c) the removal of a breast can save one's life; and (d) with proper education and postoperative care, satisfying continuity of family life and a normal appearance can be maintained.

Lobsenz (1973), Paterson (1975), and Ross (1969) discussed the husband-wife relationship after a mastectomy. In reporting their personal stories, Paterson and Ross, both women, stated that a mastectomy was a growing, loving experience that brings husbands and wives to new levels of caring and loving. They believed that a new appreciation for children and spouse is attained through a family's open communication.

Lobsenz (1973), whose wife has had a mastectomy, has written an article expressing the husband's point of view. A wife and husband's fear can be dissolved, he stated, by openly discussing both partners' feelings with each other. He further noted that the husband's fear for his wife is often so difficult to cope with that his concerns and actions are misunderstood by his wife. Again, open communication between husband and wife was essential in coping with the issue, he believed.

An article in Time (Coping with Cancer, 1974, p. 80) stated that following mastectomies, "all women feel mutilated," some believed that the surgery was the "worst possible thing that could happen," and others "felt shattered for husbands and ashamed." Adams (1975) expressed the fears she had of being defeminized and dying from cancer before undergoing a biopsy for a growth which proved to be benign.

In general, popular magazine articles concerning breast cancer and mastectomies focused on the detection and treatment of breast cancer and on a woman's thoughts and feelings following a mastectomy.

#### Reaction to Crisis and Family Stress

Because of the emotional intensity of the family relationship, the direct impact the illness has on the family means that the family, and not just the patient, has the illness. Serious illness precipitates a crisis within the family resulting in disequilibrium and need for reorganization. The assumption of roles that were previously assumed by the patients creates new demands on the family which may cause more disruption in the lives of family members than in the life of the patient (King, 1972; Olsen, 1970; Parsons & Fox, 1952).

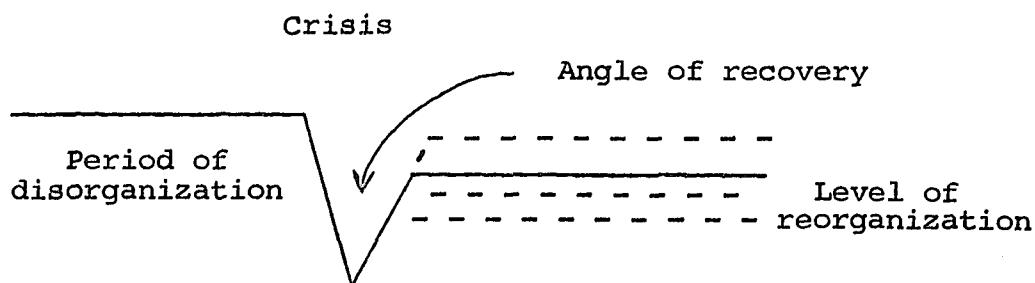
Klein (1971, p. 1661) defined crisis as "an insoluble problem precipitated by stressful or hazardous events and causing a loss of equilibrium for the individual." Hill (1958)

separated the family's reactions to a crisis into three phases: (a) a period of stunned denial, (b) a period of confusion, anxiety, and resentment toward the sick family member, and (c) a period of recovery, reorganization, and homeostasis. No former problem-solving technique seems adequate because the crisis is a new one that demands new coping mechanisms (Klein, 1971). The way the family reorganizes may directly influence the adjustment the patient makes to the illness (Hill, 1958). Hill (1958, pp. 139-150) presented a summary of the conceptual framework on which most family crisis research is based:

A (the event) → interacting with B (the family's crisis-meeting resources) → interacting with C (the definition the family makes of the event) → produces X (the crisis).

Crisis-prone families seem more vulnerable to stressor events because of failure to learn to cope with crisis events.

The profile of adjustment to crisis includes the crisis → disorganization → recovery → reorganization.



Through sympathy, unlimited support, and understanding, the family rehabilitates.

A mastectomy produces stress on the family unit in several aspects: financial stress; concern over the outcome of surgery, recovery and recurrence; seeing a loved one in physical pain or psychological turmoil; being helpless in alleviating pain; recollection of death of friends; shift in family roles and duties; and separation from the loved one, causing break-up of the home (Baudry & Weiner, 1968).

Klein (1971, p. 1661) has identified some characteristics of crisis in the breast cancer patient: (a) The crisis is time-limited. Any trauma lasting longer than four to six weeks is regarded as a series of crises. It is easier to deal with short-term disequilibrium than with that disorganization built up over a long period; (b) The crisis brings forth old feelings and unresolved conflicts which are connected symbolically to the individual's needs. A woman who is obsessed with the loss of her breast may actually be obsessed with the loss of her mother twenty years previously. The connection is made in the woman's unconscious mind that reflects her need for "mothering" and her anxiety about death from cancer; (c) Avoiding the problem makes the crisis worse; resolution is possible only when the woman and her family actively work on it; (d) Families can help or hinder the coping process which is dependent upon whether the family has the same value systems and patterns of communication. Some families reward



only the expression of pleasant feelings and refuse to hear the unpleasant. The angered or depressed mastectomy patient who is feeling dependent can find no way of asking her family to hear her anger, give her extra loving or allow her tears. This family may be insensitive to the woman's cues or possibly unable to face the painful problem themselves. The family that has successfully dealt with stress in the past can better handle new stressful situations. Hill (1958) stated that lower socioeconomic families may perhaps cope better with stressful situations because they had had to deal with numerous stressful incidents in the past; and (e) a certain amount of tension and anxiety is essential in motivating the family to deal with the crisis (Klein, 1971).

According to Klein (1971), in order to return to equilibrium, the mastectomy patient must take these steps (p. 1662): (a) accept the loss of her breast by fully mourning the loss, allowing herself to experience grief, and fearing the loss of her life or husband, (b) reintegrate a self-image that is worthy of love, and (c) begin to make peace with the albatross of potential recurrence which will plague her for the next five to twenty years of her life.

#### Summary

This review of literature has shown that, in general, women respond to mastectomies with fear, anxiety, confusion and depression. It has also suggested that women respond in this manner because of certain attitudes which vary from

woman to woman and cause different magnitudes of emotional trauma.

According to Bard and Sutherland (1955), knowing a patient's response to totally different past stressful situations is not helpful in understanding or predicting the response a woman will have to a mastectomy. The theoretical position that each stressful situation has a specific meaning and that each woman will respond according to the meaning that the incident has for her is the guide in determining how the patient will handle anxiety and determine the meaning that the radical mastectomy has for her.

For this reason, this dissertation was concerned with developing an instrument that will determine the meaning a radical mastectomy has for a woman. By knowing a woman's attitudes toward mastectomy, physicians and counselors who are directly involved in rehabilitation can devise individualized programs which will meet the varying needs of those women having to cope with having had cancer and having had a breast removed.

### CHAPTER III

#### PROCEDURE

The central purpose of this research was to develop a valid and reliable instrument designed to measure women's attitudes toward mastectomy. After a seven-point Likert-type instrument of 36 items was developed, construct validity was measured through factor analysis, a method used to determine the number and nature of the underlying variables contained within the instrument. Reliability of factor responses was measured through a test-retest method. To further test the instrument, a 3 x 2 factorial design was employed to see if it would differentiate among various known groups. The factors included these: (a) age of respondent (age 30-45, age 46-59, and age 60 and over), and (b) whether or not the respondent had had a mastectomy.

#### Development of the Instrument

##### Selection of the Items

Based on a review of the literature regarding mastectomy, personal interviews with six women, and open-ended questionnaires answered by ten women, a pool of approximately 160 statements concerning attitudes toward mastectomy were collected, screened for duplicates, reworded when considered awkward, and compiled to cover the entire range of the affective scale concerning opinions toward mastectomy. Ninety-seven

of the original statements were chosen to be included in the preliminary instrument because of their groupings into the following categories: body image (14 items), sexual functioning (20 items), social relationships (9 items), physical appearance (20 items), fears (20 items), and the affective domain (14 items).

According to the judgment of the investigator, half the statements were worded positively and half negatively, positively meaning a statement favorable toward mastectomy and negatively meaning a statement unfavorable toward mastectomy. The 97 items were written on cards, shuffled, and randomly drawn for sequencing.

#### Scoring of the Items

Each item was followed by a seven-point forcing scale (strongly agree, mildly agree, agree, undecided, disagree, mildly disagree, strongly disagree). The subjects were instructed to circle for each item the one expression that most nearly described their feelings regarding mastectomy (see Appendix A for the final instrument).

Two major advantages of the use of this Likert-type scale have been noted (Kerlinger, 1964). First, each item possesses the same value or weight as any other item in the group, therefore all items in a set are equal. Second, because the intensity of the attitudes can be expressed on a scale of five or more opinion options, variation in the

degree of agreement and disagreement can be assessed. Since the measuring of attitudes on a continuum of agreement and disagreement was necessary in this study, the Likert-type method of scaling was considered to be appropriate.

The numerical value placed on each response in the seven-point scale is shown on the final instrument in Appendix A. The continuum "1-7" represented the degree of positive or negative attitudes one had toward mastectomy, a "7" being the most positive attitude one could have toward mastectomy and a "1" being the most negative feeling one could have. A "strongly agree" response representing a favorable attitude toward mastectomy would receive a "7"; a "strongly agree" representing an unfavorable attitude toward mastectomy would receive a "1".

### Validity

Face validity. The 97 statements were given to five judges who were knowledgeable in the construction of attitude measurement scales. The judges rated each item on a seven-point scale according to how accurately they felt the statement measured an attitude toward, rather than knowledge about, mastectomy.

The criterion for accepting a statement was that three of the five judges rated the item with a "6" or a "7." Only 42 of the 97 statements met the established criterion for acceptance. The number of items accepted per category were these: body image (7 items), sexual functioning (9 items),

social relationships (5 items), physical appearance (7 items), fears (6 items), and the affective domain (8 items).

Based on comments made by the first panel of judges, articles from popular magazines, and interviews with four women who had "adjusted" to their mastectomies, the investigator reworded some of the items and added some new items from categories excluded by the first panel of judges in their ratings.

Content validity of items. The second preliminary scale was submitted to a second panel of five judges that included five women who had had mastectomies. These women were asked to judge the presumed relevance of each item as to its ability to measure an attitude toward mastectomy. Each woman responded by placing each item in a "to be included" category or a "not to be included" category. Following the judging, the panel's coordinator conducted a group discussion to determine reasons for including or excluding items.

The second preliminary scale was submitted to a third panel of five women who had had mastectomies. The criterion for accepting an item for inclusion in the final scale was that at least six of the ten judges placed the item in the "inclusion" category.

Preliminary testing. The Likert-type scale of 42 items was administered to 21 graduate students enrolled in a family relations course during the fall of 1976 at the University of North Carolina at Greensboro to test for clarity and spread of responses. Items that received only responses of strongly

agree, agree, or mildly agree and items that received only responses of strongly disagree, disagree, or mildly disagree were deleted from the instrument, because these items did not elicit a spread of opinion responses concerning the issue and were therefore considered to be poor items for discrimination of attitudes among respondents.

Based on the subjects' suggestions, some items were reworded for clarity. The revised 36-item scale was then written in both the first and third persons. For example, statements worded in the third person read as these: "Following a mastectomy, a woman will often feel lonely," and "A mastectomy would cause a woman to lose her sexual desire." Worded in the first person, statements read as these: "Following a mastectomy, I believe that I would often feel lonely," and "I feel that a mastectomy would cause me to lose my sexual desire."

Parallel first and third person forms were developed to determine if the same factors would emerge in factor analyses conducted on both forms when taken by the same subjects. The investigator was also interested in determining if the response patterns would be the same on both forms.

Construct validity. A factor analysis was employed to strengthen the validity of the instrument and to better understand the underlying variables contained within the scale (Kerlinger, 1964). The factor analysis program using the varimax rotation was taken from the system/360 FORTRAN

Scientific Subroutine Package. According to Rummel (1970, p. 170), "for orthogonal rotation, the varimax criterion has by consensus become the best function for simple structure analytic rotation." The strong feature of the varimax rotation is its "ability to discern the same cluster of variables regardless of the number or combination of other variables in the analysis" (Rummel, 1970, p. 392).

The first person form and the third person form were given one month apart to 69 undergraduate students in a family relations course during the fall of 1976 at the University of North Carolina at Greensboro. The investigator concluded that the items worded in the first person were more suitable for determining personal attitudes than those worded in the third person. Although the same factors emerged, item groupings varied slightly and attitude responses varied greatly. The open-ended responses written on the forms by the subjects were these: "Yes, I agree that a mastectomy could cause a woman to be emotionally harmed for life, but I do not think it would cause me to be emotionally harmed." "I agree that it could be embarrassing for women who have had mastectomies to shop for clothing, but it would not be embarrassing for me to do so." Since the investigator was interested in measuring personal attitudes of women, the first person form was chosen to administer to the target population.



Using data obtained from the 69 undergraduate students, a factor analysis conducted on the instrument written in the first person revealed that five factors emerged with eigenvalues greater than one (9.038, 2.799, 1.760, 1.697, and 1.484, respectively) accounting for 40.8%, 12.6%, 7.9%, 7.7%, and 6.7% of the total variance, respectively. Using .400 as the minimum factor loading, the five factors which emerged were these: body image, sexual functioning, affective domain, physical appearance, and health. Each of these factors except the one designated "health" were included in the original six categories.

Since the target population for the eventual use of the instrument was women between the ages of 30 and 80 instead of the student-age women, the instrument worded in the first person was selected to be given to 111 women in the 30-80 age spread. The purpose was to determine if the factors which had emerged in the first factor analysis would remain stable across this age group. The factors emerging from the analysis of responses of subjects from the target population differed only slightly from the student group.

A factor analysis of responses to the 36-item instrument taken by the 111 women between 30-80 years of age yielded six factors in which the eigenvalues were greater than one. The varimax procedure yielded six factors accounting for 41.1%, 10.2%, 7.7%, 6.4%, 6.1%, and 5% of the total variance, respectively. Using .400 as the minimum factor loading, the

statements which grouped on the rotated factor matrix are presented in Table 3. The items from the Mastectomy Attitude Scale (see Appendix A) which grouped into each of the six factors are named in Table 3. The six factors which emerged were these: general sexual functioning, fears associated with rejection or physical pain, feminine appearance, feelings of shame, significance of breasts, and self-image. Four factors (general sexual functioning, fears associated with rejection or physical pain, feminine appearance, and self-image) paralleled three of the original categories (sexual functioning, fears, and physical appearance and body image).

Items in the fourth factor, feelings of shame, were originally grouped in the physical appearance category. Feelings of shame were directly associated with physical appearance in two of the three items which grouped in this fourth factor, therefore exhibiting a relationship.

Items in the fifth factor, significance of breasts, were originally included in the body image factor. Again, the two categories were directly related. Body image was affected by the significance one places on their breasts. In most cases, items that were grouped in the original categories continued to group together in the factor analysis.

### Reliability

A group of 53 undergraduate women under 30 years of age enrolled in a family relations course in the spring of 1977

Table 3  
The Named Factors and Items  
and  
Eigenvalues and Loadings for Items

Factor Name and Item	Eigenvalues	Loadings	*Original Category
Factor 1 - General Sexual Functioning	8.000		
4. After having a mastectomy, I think I would be ashamed of the scar.		.443	pa
7. I think breasts are not nec- essary for me to attract a mate.		.538	sf
8. I feel that a mastectomy would cause me to lose my sexual desire.		.440	sf
10. I feel that I would never be as happy after having a mastectomy as I was before the surgery.		.520	ad
12. I think that a man could enjoy sexual relations with me fol- lowing a mastectomy as much as he did with me when I still had my breasts.		.551	sf
15. A mastectomy could wreck my marriage.		.454	sr
18. After a recovery period, I think that I could enjoy sexual rela- tions as much as I did before having the mastectomy.		.572	sf

\*Original Category

- bi Body Image
- sf Sexual Functioning
- sr Social Relationships
- pa Physical Appearance
- f Fears
- ad Affective Domain

Table 3--continued

Factor Name and Item	Eigenvalues	Loadings	*Original Category
22. In my opinion, having breasts is important in keeping a mate.		.644	sf
24. I feel that a mastectomy would make me less desirable to my sexual partner.		.643	sf
26. I think that a mastectomy could cause a woman to be emotionally harmed for life.		.506	ad
28. I feel that a man would rather not marry me if he knew that I had had a mastectomy.		.572	sr
36. After having a mastectomy, I think that I would still be satisfied by life.		.527	ad
Factor 2 - Fears Associated with Rejection or Physical Pain	1.975		
16. I feel that covering the mastectomy scar with clothing while having sexual relations would make me more desirable.		.703	f
19. After having a mastectomy, I think that I would have fear of being physically hurt by others while in crowded places.		.421	f
20. Following a mastectomy, I think that a padded bra (prosthesis) worn during sexual relationships would make me more desirable.		.822	f

## \*Original Category

- bi Body Image
- sf Sexual Functioning
- sr Social Relationships
- pa Physical Appearance
- f Fears
- ad Affective Domain

Table 3--continued

Factor Name and Item	Eigenvalues	Loadings	*Original Category
21. I think that I would avoid letting others see the mastectomy for fear of frightening them.		.448	f
Factor 3 - Feminine Appearance	1.501		
25. Following a mastectomy, I think that I would be as feminine in appearance as women who have not had mastectomies.		.798	pa
29. I think that there is no way one could look at me and tell if I had had a mastectomy.		.620	pa
Factor 4 - Feelings of Shame	1.253		
4. After having a mastectomy, I think I would be ashamed of the scar.		.472	pa
6. I think I would try to keep my mastectomy a secret from others.		.452	f
27. After having a mastectomy, I feel that I would be no more concerned about my appearance than other women are concerned about their appearance.		.590	pa

## \*Original Category

- bi Body Image
- sf Sexual Functioning
- sr Social Relationships
- pa Physical Appearance
- f Fears
- ad Affective Domain

Table 3--continued

Factor Name and Item	Eigenvalues	Loadings	*Original Category
Factor 5 - Significance of Breasts	1.193		
1. To me, breasts are one sign of womanhood.		.655	bi
9. I think that breasts make me desirable and accept- able as a woman.		.645	bi
14. To me, having breasts is not an important part of being a woman.		.479	bi
Factor 6 - Self-Image	1.129		
23. After having a mastectomy, it would be embarrassing for me to shop for clothing.		.408	sr
30. It is my opinion that wear- ing a prosthesis (contoured form which fits into a bra) would not make me see myself as being disfigured.		.684	bi
31. After the recovery period following a mastectomy, I think that I would be able to participate in the same activities I engaged in before the surgery.		.505	bi

## \*Original Category

bi Body Image  
 sf Sexual Functioning  
 sr Social Relationships  
 pa Physical Appearance  
 f Fears  
 ad Affective Domain

at the University of North Carolina at Greensboro and a group of 46 women aged 30-65 from Lexington, North Carolina, participated in a test-retest reliability check. The UNC-G students responded to the instrument one week following the first administration. The Lexington women responded to the second administration one month following the first administration of the instrument. For each factor separately, reliability coefficients were determined using a Pearson product moment correlation coefficient. The scores presented in Table 4 show the reliability coefficients across four ages from age 20 to 65.

Since the reliability coefficients of factors one, two, and six fell within the  $r=.80$  to  $.98$  range ( $+.91$ ,  $+.83$ , and  $+.81$ , respectively), these factors were considered to have high reliability coefficients. Factors three, four, and five fell within the  $r=.60$  to  $.79$  range ( $+.73$ ,  $+.79$ , and  $+.67$  respectively). These factors were considered to have moderate reliability coefficients. Factors one, two, and six (general sexual functioning, fears associated with rejection or physical pain, and self-image, respectively) received high reliability coefficients because these major categories appeared to be the three primary concerns of women. Feminine appearance, feelings of shame, and significance of breasts (factors three, four, and five, respectively) tended to be of less major concern to women. These coefficients of reliability support the hypothesis that a reliable instrument was developed.

Table 4  
Test-Retest Reliability Coefficients Across  
Four Age Groups

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Factor		
1	General Sexual Functioning	+.91
2	Fears Associated with Rejection or Physical Pain	+.83
3	Feminine Appearance	+.73
4	Feelings of Shame	+.79
5	Significance of Breasts	+.67
6	Self-Image	+.81

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N=99



### Procedure for Analyzing Data

The instrument at this point had been tested for construct validity and for test-retest reliability of factors emerging from a factor analysis on two different age groups.

To further test the instrument, data collected from responses to the Mastectomy Attitude Scale from a purposive selection of subjects were analyzed using a factor analysis and an analysis of variance. The two-way analysis of variance was conducted on the factor mean scores to determine if there was a difference between the three age groups of women and between women who had had mastectomies and those who had not. The significance level for acceptance was set at the  $p < .05$  value for the analysis of variance.

Mean scores for each of the 36 questionnaire items were calculated separately for each age and mastectomy level and used for item analysis.

### Selection of Subjects

A purposive selection of subjects was conducted in order to carry out the 2 x 3 factorial design. The subjects participating in the final analysis represented two major groups. The first group was composed of 105 women aged 30 and over who had not had mastectomies. These subjects resided in Davidson County, North Carolina, and were obtained through memberships in the Davidson County Agricultural Extension Homemaker Clubs.

Three age groups were designated according to the findings from the literature that indicated an age differential in whether or not women were likely to have had mastectomies. Thirty-eight of these 105 subjects were in the over 60 years of age category; 38 women were in the 46 to 59 age category, and 29 were in the 30 to 45 age category. In the oldest age group (60 and over), 30 women were married and eight were widowed. Seven had completed grade school, five had received some high school training, ten were high school graduates, eight had attended some college, and eight were college graduates. In the 46-59 age group, 36 of the women were married and two widowed. One subject had received a grade school education, three had some high school training, nineteen possessed high school diplomas, thirteen had attended some college, and two were college graduates. In the 30-45 age group, all 29 subjects were married. Four had some high school training, fifteen were high school graduates, five had attended some college, four were college graduates, and one had earned a graduate degree. There seemed to be a similarity among the three groups with respect to marital status and education.

The second major group consisted of 47 women residing in Davidson, Forsyth, and Guilford Counties, North Carolina, who had had mastectomies. The majority of these subjects (80%) were obtained through the Reach for Recovery programs in these two counties. The other 20% were obtained through

friends who contacted their friends concerning participation in the research.

Thirteen of the 48 subjects were over 60 years of age, 22 were between 46 and 59 years of age, and twelve were 30-45 years of age. Four of the over 60 age group were single, four married, and five widowed. One had a grade school education, one had some high school training, three were high school graduates, four were college graduates, and four had graduate degrees. Four of the 46-59 age group were single, seventeen married, and one widowed. Seven in this age group had high school degrees, seven had attended some college, seven had earned college diplomas, and one had a graduate degree. All twelve of the 30-45 age group were married. Two of these subjects were high school graduates, three had attended some college, and seven were college graduates. Again the three groups appeared to be alike and also similar to the three groups of women who had not had mastectomies except that there were more single women in the group of women who had had mastectomies. The socio-economic levels of all three age groups in each of the two major categories ranged from the lower-middle to the upper-middle.

#### Administration of the Instrument

All of the non-mastectomy group of women completed the instrument while in attendance at an Extension Homemaker's meeting. The mastectomy group were either given an instrument directly, through a friend, through the directors of

Reach for Recovery, or by direct mail. Those who were contacted by direct mail also received a covering letter explaining the research (see Appendix B). Seventeen of these women responded that they would like to see a summary of the research findings.

CHAPTER IV  
ANALYSIS OF DATA AND DISCUSSION OF RESULTS

The responses of 152 women to a 36-item Likert-type attitude instrument were analyzed to determine if age and having had or not having had a mastectomy would be related to one's attitudes toward mastectomy. A factor analysis was done to determine if emerging factors would remain stable across these three age groups of women and across a group of women who had had mastectomies and a group of women who had not had mastectomies. The data were submitted to an analysis of variance to test for differences among the subgroups' responses. Mean scores for each of the 36 opinionnaire items were computed separately for all age and mastectomy levels and used for item analysis.

Factor Analysis Across Groups

The group of subjects were divided into two levels, those 47 women who had had mastectomies and those 105 women who had not had mastectomies. Separate factor analyses were conducted on each group and on the total group of 152 women. In the nonmastectomy group, five factors with eigenvalues greater than one were extracted. In the mastectomy group, nine factors with eigenvalues greater than one emerged. In the total group, five factors emerged. A summary of the factors emerging, eigenvalues, and percentages of variance

for the mastectomy group, nonmastectomy group, and total group are contained in Table 5.

Items which emerged in the "general sexual functioning" factor in both the total group and nonmastectomy group's factor analyses diverged in the mastectomy group forming two separate factors, "marital relationships" and "sexual appearance." The items which emerged in the "health" factor in the total and the mastectomy groups did not factor at all in the nonmastectomy group. "Physical appearance" and "self-image" or "self-concept" emerged as two separate factors in the mastectomy and non-mastectomy groups but emerged as a connected factor in the total group factor analysis. "Significance of breasts" remained the same in all three factor analyses. "Fears associated with rejection" which emerged in the total group analysis split into three factors in the mastectomy group: "worry/concern over having a mastectomy," "feelings of shame," and "feelings of depression." In the nonmastectomy group, "fears associated with rejection" emerged as one factor: "shame/fear associated with having a mastectomy," a combination of two of the three factors emerging in the mastectomy group ("worry/concern over having a mastectomy" and "feelings of shame").

These divisions and mergers which occurred did so because of variations in patterns of responding to the items. Such variations, although slight, should be expected to occur in a factor analysis procedure.

Table 5  
Factor Analysis Summary  
of Mastectomy, Nonmastectomy, and Total Groups

Non-Mastectomy Group		
Factor	Eigenvalue	% of Variance
1 General Sexual Functioning	7.757	42.7
2 Shame/Fear Associated with having a Mastectomy	2.449	13.5
3 Significance of Breasts	1.357	7.5
4 Physical Appearance	1.300	7.2
5 Self-Image	1.143	6.3
Mastectomy Group		
Factor	Eigenvalue	% of Variance
1 Marital Relationships	8.440	33.7
2 Sexual Appearance	2.900	11.6
3 Physical Appearance	2.401	9.6
4 Worry/Concern over Having a Mastectomy	2.108	8.4
5 Feelings of Shame	1.663	6.6
6 Feelings of Depression	1.541	5.2
7 Self-Concept	1.295	5.2
8 Health	1.203	4.8
9 Significance of Breasts	1.015	4.1
Total Group		
Factor	Eigenvalue	% of Variance
1 General Sexual Functioning/Marital Relationships	7.882	44.6
2 Health/Hygiene	2.145	12.1
3 Self-Image as Related to Feminine Appearance	1.486	8.4
4 Significance of Breasts	1.148	6.5
5 Fears Associated with Rejection	1.006	5.7

The total group factor analysis was chosen for presentation and further analysis in this research because the investigation was interested in determining if there was some difference between three age groups and a group of women who had had mastectomies and a group of women who had not had mastectomies.

A factor analysis of the responses made by the total group of 152 subjects yielded five factors with eigenvalues greater than one (7.882, 2.145, 1.486, 1.148, and 1.006, respectively) accounting for 44.6%, 12.1%, 8.4%, 6.5%, and 5.7% of the total variance, respectively. The five-factor structure matrix, rotated according to the varimax criterion, is presented in Table 6. This grouping into five identifiable components reinforced the construct validity of the Mastectomy Attitude Scale.

These five factors were named for the concepts contained in the items. Items with loadings less than .400 were eliminated. Factor one was named "general sexual functioning/marital relationships" because it included items pertaining to sexual desirability and marriage. Since the second factor contained items concerning sickness and saving one's life, the factor was named "health/hygiene." "Self-image as related to feminine appearance" was the title given to factor three for the items about physical appearance and body image. Since the items in factor four pertained to the importance one places on breasts, it was called "significance of



Table 6  
Factor Analysis Including Three Age and  
Two Mastectomy Levels

Factor Name and Item	Eigenvalues	Loadings
Factor 1 - General Sexual Functioning/Marital Rela- tionships	7.882	
15. A mastectomy could wreck my marriage.		.435
22. In my opinion, having breasts is important in keeping a mate.		.626
24. I feel that a mastectomy would make me less desirable to my sexual partner.		.545
28. I feel that a man would rather not marry me if he knew that I had had a mastectomy.		.719
32. Following a mastectomy, I believe that I would often feel lonely.		.482
Factor 2 - Health/Hygiene	2.145	
3. After a mastectomy, I don't feel that I would get sick any more often than other women would.		.691
5. If needed, I think a mastectomy would save my life.		.501
25. Following a mastectomy, I think that I would be as feminine in appearance as women who have not had mastectomies.		.432
Factor 3 - Self-Image as Related to Feminine Appearance	1.486	
29. I think that there is no way one could look at me and tell if I had had a mastectomy.		.416

Table 6--continued

Factor Name and Item	Eigenvalues	Loadings
30. It is my opinion that wearing a prosthesis (contoured form which fits into a bra) would not make me see myself as being disfigured.		.749
Factor 4 - Significance of Breasts	1.148	
9. I think that breasts make me desirable and acceptable as a woman.		.600
14. To me, having breasts is not an important part of being a woman.		.561
Factor 5 - Fears Associated with Rejection	1.006	
16. I feel that covering the mastectomy scar with clothing while having sexual relations would make me more desirable.		.545
20. Following a mastectomy, I think that a padded bra (prosthesis) worn during sexual relationships would make me more desirable.		.592

breasts." Factor five was titled "fears associated with rejection" because the items which grouped dealt with the concept of covering the mastectomy scar to make one more acceptable.

These item groupings into factors were largely in agreement with those obtained in the previous factor analysis (which was reported in Chapter 3, Table 3) conducted on a group of same age women who had not had mastectomies. Items which clustered in factors one ("general sexual functioning/marital relationships"), four ("significance of breasts"), and five ("fears associated with rejection") were the same item groupings which appeared in factors one, five, and two, respectively, in the previous factor analysis (see Table 3). Factor two, "health/hygiene," contained the identical items which grouped in a "health" factor in the previous analysis which was deleted from the set of six accepted factors, because it possessed an eigenvalue less than one (.975); whereas in this analysis including all age levels and both mastectomy levels, it possessed an eigenvalue of 2.145. The "health/hygiene" factor was possibly of greater concern to those women who were coping with the effects of cancer and a mastectomy than to those who were not having to cope with the trauma. Factor three took one item (29.) from the previous "feminine appearance" factor (factor three) and one item (30.) from the "self-image" factor (factor six) and merged them to form a new factor three, "self-image as related to feminine appearance."

Variations in factor concepts were slight, supporting the hypotheses that there are certain factors related to breast cancer that are made up of underlying variables and that these factors which emerge from factor analyses on attitudes toward breast cancer would remain stable across three age groups and across a group of women who had had mastectomies and a group of women who had not had mastectomies. The fact that similar factors emerged in every instrument administration offered additional support for the hypothesis that the test had construct validity.

#### Analysis of Variance for Each of the Five Emerging Factors

An analysis of variance was computed for age of respondent and whether or not the respondent had had a mastectomy for each of five emerging factors. There were three age levels (age 60 and over, 46-59 years of age, and 30-45 years of age) and two mastectomy levels (having had a mastectomy and not having had a mastectomy) making a 3 x 2 factorial design.

The analysis provided no evidence to indicate a significant difference between age groups or mastectomy groups or an interaction effect on four of the five factors. There was, however, a significant ( $p > .05$ ) difference between mastectomy and nonmastectomy groups for factor two, "health/hygiene" (see Table 7).

Table 7  
Summary of Analyses of Variance  
by Factor

2 Way Anova for Factor 1 (General Sexual Functioning/Marital Relationships)				
Source	df	SS	F Value	PR F
Mastectomy	1	1.948	1.84	.177
Age	1	1.446	1.36	.247
Mastectomy x Age	1	3.470	3.28	.072**
2 Way Anova for Factor 2 (Health/Hygiene)				
Source	df	SS	F Value	PR F
Mastectomy	1	6.847	8.18	.005*
Age	1	.169	.20	.654
Mastectomy x Age	1	.812	.97	.326
2 Way Anova for Factor 3 (Self-Image as Related to Feminine Appearance)				
Source	df	SS	F Value	PR F
Mastectomy	1	.066	.06	.814
Age	1	.380	.32	.572
Mastectomy x Age	1	3.639	3.07	.082**
2 Way Anova for Factor 4 (Significance of Breasts)				
Source	df	SS	F Value	PR F
Mastectomy	1	1.239	.50	.479
Age	1	8.629	3.50	.063**
Mastectomy x Age	1	4.263	1.73	.190
2 Way Anova for Factor 5 (Fears Associated with Rejection)				
Source	df	SS	F Value	PR F
Mastectomy	1	.685	.32	.573
Age	1	.569	.27	.607
Mastectomy x Age	1	.392	.18	.670

\*Significant at the .05 level  
\*\*These differences are discussed.

Three other differences were significant at slightly higher probability levels: interaction effects for factors one ( $p > .072$ ), and three ( $p > .082$ ), and age effects for factor four ( $p > .063$ ) (see Table 7).

An analysis of the means for age by mastectomy of each of the five emerging factors is presented in Table 8. Items receiving scores from "1-4" were considered negative and "5-7" considered positive. "Four" was arbitrarily considered negative because it was an "undecided" response.

Factor one. Items (see Table 6) in factor one ("general sexual functioning/marital relationships") were responded to positively by subjects ( $\bar{X}=5.44$ ).

An analysis of the means (see Table 8) showed that the younger mastectomy subjects had more positive attitudes ( $\bar{X}=6.05$ ) toward factor one than the middle age mastectomy group ( $\bar{X}=5.68$ ), and that the middle group had more positive attitudes than the oldest age group ( $\bar{X}=4.89$ ). The youngest mastectomy group ( $X=6.05$ ) and the middle age mastectomy group ( $X=5.68$ ) had more positive attitudes than their non-mastectomy age counterparts ( $X=5.24$  and  $X=5.44$ , respectively), possibly accounting for the significance at  $p > .072$ . According to Bard and Sutherland (1955), Hollingshead (1970), and Kent (1975), women who had undergone mastectomies were generally expected to lose their sexual desire and become too self-conscious to enjoy sexual relationships. Women who had had mastectomies, especially the younger subjects, found

Table 8

Mean Scores of MAS for Age by Mastectomy for Factors

Factor 1 (General Sexual Functioning/Marital Relationships)						
	Had had mas- tectomy		Had not had mastectomy		Totals	
	Mean	Number	Mean	Number	Mean	Number
30-45 years of age	6.05	12	5.24	29	5.64	41
46-59 years of age	5.68	22	5.44	38	5.56	60
60+ years of age	4.89	13	5.34	38	5.11	51
Totals	5.54	47	5.34	105	5.44	152
SD=1.03						

Factor 2 (Health/Hygiene)						
	Had had mas- tectomy		Had not had mastectomy		Totals	
	Mean	Number	Mean	Number	Mean	Number
30-45 years of age	6.18	12	5.86	29	6.02	41
46-59 years of age	6.26	22	5.89	38	6.01	60
60+ years of age	6.52	13	5.59	38	6.06	51
Totals	6.32	47	5.78	105	6.04	152
SD=.92						

Table 8--continued

Factor 3 (Self-Image as Related to Feminine Appearance)						
	Had had mas- tectomy		Had not had mastectomy		Totals	
	Mean	Number	Mean	Number	Mean	Number
30-45 years of age	6.25	12	5.62	29	5.93	41
46-59 years of age	5.57	22	5.70	38	5.64	60
60+ years of age	5.54	13	5.66	38	5.60	51
Totals	5.79	47	5.66	105	5.72	152
					SD=1.09	

Factor 4 (Significance of Breasts)						
	Had had mas- tectomy		Had not had mastectomy		Totals	
	Mean	Number	Mean	Number	Mean	Number
30-45 years of age	4.15	12	3.52	29	3.83	41
46-59 years of age	3.68	22	3.88	38	3.78	60
60+ years of age	3.38	13	4.43	38	3.91	51
Totals	3.74	47	3.94	105	3.84	152
					SD=1.57	

Factor 5 (Fears Associated with Rejection)						
	Had had mas- tectomy		Had not had mastectomy		Totals	
	Mean	Number	Mean	Number	Mean	Number
30-45 years of age	4.54	12	4.25	29	4.39	41
46-59 years of age	4.64	22	4.79	38	4.71	60
60+ years of age	4.46	13	4.54	38	4.50	51
Totals	4.55	47	4.52	105	4.53	152
					SD=1.47	



that the surgery had not altered their ability to have satisfying sexual relationships. Women who had not undergone mastectomies were more fearful of losing their sexual desire (overall  $\bar{X}=5.34$ ) than women who had had mastectomies (overall  $\bar{X}=5.54$ ). The oldest mastectomy subjects were the least positive toward factor one ( $\bar{X}=4.89$ ) possibly because of more inhibiting attitudes regarding sexual expression as reflected by society.

Factor two. There was a significant difference between women who had had mastectomies and those who had not for factor two, "health/hygiene" (see Table 7). The mean scores for factor two showed that women who had had mastectomies had a more positive attitude ( $\bar{X}=6.32$ ) toward their health/hygiene than did women who had not had mastectomies ( $\bar{X}=5.78$ ), accounting for the significant F value ( $p > .005$ ). The oldest mastectomy subjects had a slightly more positive attitude ( $\bar{X}=6.52$ ) than the middle age group ( $\bar{X}=6.26$ ) and the middle age group a slightly more positive attitude than the younger group ( $\bar{X}=6.18$ ). The nonmastectomy subjects exhibiting the least positive attitudes toward their health were those in the oldest age group ( $\bar{X}=5.59$ ). Perhaps the older mastectomy subjects possessed a more positive attitude than the younger mastectomy subjects toward items in the "health/hygiene" factor (see Table 6) because they had lived with having had cancer and a mastectomy for a longer period of time and had adjusted to the fact. Another reason for a significant difference between groups emerged in a personal interview with

a woman who had had a mastectomy. She said that before the surgery she thought that she would get sick more often following the mastectomy and would worry more about her health and physical appearance. Since the surgery, she had been pleased to discover that she had not been sick any more often and did not worry as she thought she would. Life had not been as difficult to cope with as she had imagined. She believed that nonmastectomy subjects feared the unknown. It appeared that the longer a subject had survived the mastectomy, the more positive her feelings toward her health were and the more secure she felt concerning her appearance. The Gallup Poll (Holleb, 1975; Women's Attitudes Regarding Breast Cancer, 1974) indicated that women had strong, anxious feelings regarding breast removal. Women who had had their breasts removed did not seem as worried about their health as women who were imagining what their health would be like after breast removal.

Factor three. Overall, subjects responded positively to items (see Table 6) in factor three ( $\bar{X}=5.72$ ). The analysis of variance showed an interaction effect ( $p > .08$ ).

Younger women and women who had had mastectomies tended to respond more favorably toward the "self-image as related to feminine appearance" factor. An analysis of means showed that the major difference appeared to be between young mastectomy and nonmastectomy subjects. Young mastectomy subjects were more positive ( $\bar{X}=6.25$ ) than the young nonmastectomy

subjects ( $\bar{X}=5.62$ ). The older the mastectomy subject, the less positively they responded to factor three (young group  $\bar{X}=6.25$ , middle age group  $\bar{X}=5.57$ , and oldest group  $\bar{X}=5.54$ ). Ervin (1973) reported that mastectomies greatly damage body image, making women feel like "half a woman," "damaged goods," "birds with broken wings," and "shattered vases that cannot be mended" (Antice, 1970b). The results did not agree with the literature. Women who had mastectomies did not seem to be suffering from damaged self-images as related to feminine appearance.

Factor four. An age effect for factor four ( $p > .063$ ) was noted. Overall, the women responded negatively ( $\bar{X}=3.84$ ) to this factor ("significance of breasts"). The younger the mastectomy subjects, the more positively they responded to factor four. The youngest mastectomy subjects had a mean of 4.15, the middle age group a mean of 3.68, and the oldest group a mean of 3.38. The reverse was true for the non-mastectomy group. The older the nonmastectomy subjects, the more positively they responded. The youngest non-mastectomy subjects had a mean of 3.52, the middle age group a mean of 3.88, and the oldest group a mean of 4.43. The older mastectomy subjects thought breasts were more necessary for acceptability than the younger mastectomy subjects. The younger subjects were possibly influenced by the women's liberation movement which stressed that breasts were not a woman's most valuable possession that insured desirability.

The older subjects had matured during a time when breasts were regarded as the necessary object of femininity; therefore, they felt that breasts were important. Young non-mastectomy subjects responded favorably toward their breasts. To them, breasts were significant. These findings were supported by Renneker and Cutler (1952), who stated that during the childbearing years, women were more reluctant to accept a mastectomy. The older the woman became, however, the more she realized that breasts were not key possessions for keeping a husband or for mothering.

Factor five. Overall, responses were border-line negative ( $\bar{X}=4.53$ ) to factor five ("fears associated with rejection") (see Table 6). Renneker and Cutler (1952) and the Gallup Poll (Holleb, 1975) emphasized that society stresses the possession of breasts as being significant for acceptance and desirability as a woman. The subjects agreed that having breasts was an important part of being a woman. Bard and Sutherland (1955) stated that societal pressure caused women to fear rejection if they lacked breasts. Society's emphasis on breasts as significant objects of feminine beauty probably operated in producing negative responses on items in factors four and five.

Discussion of ANOVA. The results of the analysis of variance was supported by Bard and Sutherland (1955) who stressed that having a mastectomy was an individual matter and should be treated as such. They believed that women

could not be grouped according to any classification and predictions not made according to these classifications. They further stated that the only useful guide in determining how a mastectomy patient would handle anxiety was to determine the specific meaning the radical mastectomy had for her through the use of an individualized instrument.

It appeared that the instrument did measure individual attitude differences because great within-group variance was noted. The analysis of variance showed that 4% of the between-group variance could be accounted for by Factor 1, 6% by Factor 2, 2% by Factor 3, 4% by Factor 4, and 1% by Factor 5, meaning that 83% of the total variance could be accounted for as within group variance. This within group variance on item and factor scores was accepted as support that the instrument did elicit a broad range of attitudes and therefore can be used as an indicator of individualized responses.

#### Analysis of Items 1, 2, and 11

Based on comments written on the questionnaires by some subjects, items 1, 2, and 11 were chosen for examination. Item 1 had a mean score of 5.8, item 2 a mean score of 4.2, and item 11 a mean score of 3.3. Item 1 ("To me, breasts are one sign of womanhood.") was considered ambiguous because of its high positive mean score and comments to the fact made by subjects; therefore, it was not considered to

be a good measure of an attitude. Item 2 ("It would be more difficult for me to adjust to the loss of an arm or leg than to the loss of a breast.") was considered to be too hypothetical to elicit a worthy attitude response. Most subjects circled "undecided" (a mean of 4.2), exhibiting the hypothetical nature of the item. The investigator concluded that these two items should be eliminated from the instrument.

Item 11 ("I believe that I would mourn the loss of a breast.") precipitated a negative response from subjects (a mean of 3.3). Subjects reported an aversion to the word "mourn" which they associated with death. The investigator concluded that the item should be reworded and the word "mourn" replaced with a less offensive verb.

## CHAPTER V

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In view of the widespread use of radical mastectomies as a treatment for breast cancer, the investigator's interest in the influence of attitudes on the psychological adjustment of the mastectomy patient and the lack of an attitudinal scale to assess a woman's feelings concerning mastectomy, the objectives of this research were to develop a reliable and valid Likert-type scale, the Mastectomy Attitude Scale (see Appendix A), that would measure attitudes toward mastectomy and to determine the number and nature of the variables contained within the instrument. Based on a review of the literature, personal interviews, and open-ended questionnaires, items for the instrument were formulated.

Face and content validity of the instrument were established by three panels of judges who were asked to rate each item according to the item's accuracy in measuring an attitude toward mastectomy and whether or not the item should be included in the final instrument. The criterion for acceptance of an item as part of the scale was that 60% of the judges placed the item in the same acceptance category. To strengthen construct validity, a factor analysis was employed to identify the underlying factors contained within the scale.

A 3 x 2 analysis of variance was computed for age of the subjects and whether or not the subjects had had a mastectomy for each of the five factors emerging from factor analysis. Using a test-retest method, the reliability score was calculated using a Pearson product-moment correlation coefficient. Mean scores for each of the 36 questionnaire items were calculated separately for each age and mastectomy level and used for item analysis.

Two major groups of subjects were selected for this investigation: (a) women over 30 years of age who had had mastectomies, and (b) women over 30 years of age who had not had mastectomies. Of the 152 respondents, 105 had not had mastectomies and 47 had had mastectomies. Fifty-one of the subjects were over 60 years of age, 60 were between 46 and 59 years of age, and 41 were between 30 and 45 years of age.

### Findings

1. The hypothesis that the instrument developed would be reliable and valid was supported. Face and content validity were established by the interjudge agreement per item by three separate panels of judges. The rotated factor matrix in the factor analysis identified the five underlying variables within the instrument, thereby supporting the construct validity of the instrument. Reliability of the instrument was established through the use of a test-retest method. The scores calculated using a Pearson product-moment correlation coefficient showed high reliability coefficients on



factors concerning sexual functioning, fears associated with rejection or physical pain, and self-image (+.91, +.83, and +.81, respectively) and moderate reliability coefficients on factors concerning feminine appearance, feelings of shame, and significance of breasts (+.73, +.79 and +.67, respectively).

2. The hypothesis that there would be certain factors related to mastectomy that are made up of underlying variables was supported. The factor analyses provided evidence that five underlying variables consistently emerged, thereby supporting evidence that these variables are key factors related to mastectomy.

3. The hypothesis that the factors which emerge from factor analysis on attitudes toward mastectomy would remain stable across three age groups was supported. In the factor analysis conducted across three age groups, it was noted that similar factors emerged, thus signifying stability.

4. The hypothesis that the factors which emerge from factor analysis on attitudes toward mastectomy would remain stable across a group of women who have had mastectomies and a group of women who have not had mastectomies was supported. Evidence displayed that although more factors emerged in the factor analysis conducted on mastectomy subjects (nine factors) than on the nonmastectomy subjects (five factors), the same items factored into the same concepts. Some of the factors emerging in the nonmastectomy analysis divided into

two or three more specialized factors in the mastectomy group. The general concepts, however, remained stable across both groups.

Further analyses from a 3 x 2 factorial design (age x mastectomy) on each of the five factors showed no differences except on factor two. Women who have had mastectomies have a more positive attitude toward the health factor than do women who have not had mastectomies.

### Conclusions

1. A valid and reliable mastectomy attitude instrument could be constructed that could show a wide range of attitudes toward mastectomy.

2. It was possible through the use of factor analysis to determine the number and nature of the variables contained within the Mastectomy Attitude Scale.

3. Based on the lack of significant differences provided by an analysis of variance except between mastectomy and nonmastectomy groups on the "health/hygiene" factor, it was concluded that the instrument does not discriminate among age and mastectomy levels. The large within group variance indicated that the instrument is sensitive to the predicted individualized nature of attitudes toward mastectomy.

4. Based on an analysis of variance and an item analysis of mean scores, it was determined that individual attitudes vary greatly and that the instrument could be reliable in

assessing an individual's attitudes toward mastectomy on factors contained within the instrument.

5. It was further concluded that the factors which emerged through factor analyses would remain stable across three age groups and two mastectomy levels.

#### Recommendations for Revising the Instrument

1. Rewording some statements for clarity is needed. Item 11 ("I believe that I would mourn the loss of a breast".) was met with opposition by numerous subjects who wrote comments on their forms. It appeared that the use of the word "mourn" elicited feelings connected with death.

2. The deletion of item 1 ("To me, breasts are one sign of womanhood.") because of its ambiguity and of item 2 ("It would be more difficult for me to adjust to the loss of an arm or leg than to the loss of a breast".) because of its hypothetical nature is suggested.

3. Random sampling of the subjects would provide wider application, more reliable results, greater inferential quality. Subjects participating in this research were all members of groups, either Agricultural Extension Homemaker Clubs or Reach for Recovery programs, making them stereotypic because of these commonalities. An effort to reach varieties of women from differing socio-economic levels who do not all belong to groups is encouraged.

4. The scoring of responses for each item should be studied. The investigator believed that the circling of

a "1" or a "7" response denoted an overreaction of the subject to an item. Would a "7" necessarily represent a positive attitude? Since it is an extreme response, it could possibly characterize a negative attitude rather than a positive one.

Another consideration is in the use of the "undecided" or "4" response. Many subjects seemed to use the "4" responses as a way of avoiding thinking about items which they found particularly stressful. A suggestion would be to delete the "undecided" response, thereby forcing the subjects to think about the item and respond with an opinion.

#### Recommendations for Further Research

1. A parallel attitude instrument for husbands should be developed. Numerous subjects wrote that the scale should have been given to their husbands. Wives viewed the husbands' attitudes as being crucial in influencing the wives' attitudes. Clinical observations have shown that husbands and wives reflect each others' attitudes (Baudry & Wiener, 1968; Klein, 1971) and that the husband occupies a key position in the adjustment process of married mastectomy patients (Bard & Sutherland, 1955; Ervin, 1973; Mozden, 1975).

2. A final consideration concerns the nature of the instrument developed. A fear element exists in any subject connected with cancer. Perhaps an instrument designed to measure body image, significance of breasts, and general

sexual functioning/marital relationships, without mentioning cancer or a mastectomy, could be more reliable in adequately predicting how a woman would respond to a radical mastectomy.

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APPENDIX A

The Mastectomy Attitude Scale

This study is being conducted to learn more about women's attitudes toward mastectomies (a surgical procedure in which some or all of a breast is removed to stop a malignancy). The results of the study will be used in working with women, their families, their friends, and their physicians.

In order to analyze the effectiveness of the opinionnaire, certain biographical data are needed. Please answer each question by checking ( ) the answer which applied to you or your situation.

- (1) What is your age?  
 under 30  
 30-45  
 46-59  
 60 and over
- (2) What is your marital status?  
 single, never married  
 married  
 separated or divorced  
 widowed
- (3) What is the highest level of education you have completed?  
 grade school  
 some high school  
 high school graduate  
 some college  
 college degree  
 graduate degree
- (4) If married, what is (or was if divorced or widowed) the educational level of your spouse?  
 grade school  
 some high school  
 high school graduate  
 some college  
 college degree  
 graduate degree
- (5) What is your occupation? (If retired what was your former occupation?)  
 homemaker  
 worked in plant or mill  
 technician, craftsman  
 secretary, clerical, sales  
 manager, proprietor, businesswoman  
 professional Ph.D., M.D.  
 nurse, school teacher, social worker, counselor  
 other professional--  
 artist, writer, clergywoman  
 What is your specific job? \_\_\_\_\_  
 \_\_\_\_\_
- (6) If married, what is (or was if divorced or widowed) the occupation of your spouse? (If retired, check the former occupation of your spouse.)  
 homemaker  
 worked in plant or mill  
 technician, craftsman  
 secretary, clerical, sales  
 manager, proprietor, businessman  
 professional Ph.D., M.D.  
 nurse, school teacher, social worker, counselor  
 other professional--  
 artist, writer, clergyman  
 What is your specific job? \_\_\_\_\_  
 \_\_\_\_\_



(7) Have you had a mastectomy?

Yes. If so, in what year did you have the mastectomy? \_\_\_\_\_

No, but I have had a lump which proved to be benign (non cancerous).

No.

(8) Have you known someone close who has had a mastectomy?

Yes, and they returned to a normal life.

Yes, but they did not return to a normal life.

No.

### Instructions

Please read each item carefully and circle the letter code representing the opinion which best expresses the way you feel, think, or believe about the statement. If in doubt, circle the opinion which seems most nearly to express your present feeling about the statement. When an item refers to a woman who has had a mastectomy, think in terms of a woman who has had a mastectomy within a year or so. Be sure to respond to every item. We want your opinion whether you know the facts or not.

1. When you circle SA, then you tend to strongly agree with the statement because you believe it no matter what others think.
2. Circling A indicates that you agree with the statement.
3. When you draw a circle around MA, you mildly agree with the statement.
4. A circle placed around U means that you are undecided about your opinion regarding the statement.
5. A circle around MD means that you tend to mildly disagree with what the statement says.
6. Your circle around D means that you disagree with the statement.
7. Circling SD means that you strongly disagree with the statement.

SA - strongly agree

A - agree

MA - mildly agree

U - undecided

MD - mildly disagree

D - disagree

SD - strongly disagree

## YOUR BELIEFS OR OPINIONS

Directions: Please circle the letter(s) in each row beside each statement that best describes your belief or feeling about the statement. The meanings of the letter(s) in each row are given at the top of each page. Please circle only one opinion for each statement as it applies to you.

Code:

SA--strongly agree  
 A--agree  
 MA--mildly agree  
 U--Undecided  
 MD--mildly disagree  
 D--disagree  
 SD--strongly disagree

In your opinion:

- |   |     |   |    |   |    |   |    |
|---|-----|---|----|---|----|---|----|
|   | * 7 | 6 | 5  | 4 | 3  | 2 | 1  |
| 1. To me, breasts are one sign of womanhood.  | SA  | A | MA | U | MD | D | SD |
|   | 7   | 6 | 5  | 4 | 3  | 2 | 1  |
| 2. It would be more difficult for me to adjust to the loss of an arm or leg than to the loss of a breast. | SA  | A | MA | U | MD | D | SD |
|   | 7   | 6 | 5  | 4 | 3  | 2 | 1  |
| 3. After a mastectomy, I don't feel that I would get sick any more often than other women would.          | SA  | A | MA | U | MD | D | SD |
|   | 1   | 2 | 3  | 4 | 5  | 6 | 7  |
| 4. After having a mastectomy, I think I would be ashamed of the scar.                                     | SA  | A | MA | U | MD | D | SD |
|   | 7   | 6 | 5  | 4 | 3  | 2 | 1  |
| 5. If needed, I think a mastectomy would save my life.  | SA  | A | MA | U | MD | D | SD |
|   | 1   | 2 | 3  | 4 | 5  | 6 | 7  |
| 6. I think I would try to keep my mastectomy a secret from others.  | SA  | A | MA | U | MD | D | SD |
|   | 7   | 6 | 5  | 4 | 3  | 2 | 1  |
| 7. I think breasts are not necessary for me to attract a mate.  | SA  | A | MA | U | MD | D | SD |
|   | 1   | 2 | 3  | 4 | 5  | 6 | 7  |
| 8. I feel that a mastectomy would cause me to lose my sexual desire.                                      | SA  | A | MA | U | MD | D | SD |
|   | 1   | 2 | 3  | 4 | 5  | 6 | 7  |
| 9. I think that breasts make me desirable and acceptable as a woman.                                      | SA  | A | MA | U | MD | D | SD |
|   | 1   | 2 | 3  | 4 | 5  | 6 | 7  |
| 10. I feel that I would never be as happy after having a mastectomy as I was before the surgery.          | SA  | A | MA | U | MD | D | SD |

Code:

SA--strongly agree

A--agree

MA--mildly agree

U--Undecided

MD--mildly disagree

D--disagree

SD--strongly disagree

In your opinion:

		7	6	5	4	3	2	1
11.	I believe that I would mourn the loss of a breast.	SA	A	MA	U	MD	D	SD
		7	6	5	4	3	2	1
12.	I think that a man could enjoy sexual relations with me following a mastectomy as much as he did with me when I still had my breasts.	SA	A	MA	U	MD	D	SD
		1	2	3	4	5	6	7
13.	Following a mastectomy, I think I would often become depressed.	SA	A	MA	U	MD	D	SD
		7	6	5	4	3	2	1
14.	To me, having breasts is not an important part of being a woman.	SA	A	MA	U	MD	D	SD
		1	2	3	4	5	6	7
15.	A mastectomy could wreck my marriage.	SA	A	MA	U	MD	D	SD
		1	2	3	4	5	6	7
16.	I feel that covering the mastectomy scar with clothing while having sexual relations would make me more desirable.	SA	A	MA	U	MD	D	SD
		7	6	5	4	3	2	1
17.	I think that after having a mastectomy that I would like to talk with others about their feelings concerning the mastectomy.	SA	A	MA	U	MD	D	SD
		7	6	5	4	3	2	1
18.	After a recovery period, I think that I could enjoy sexual relations as much as I did before having the mastectomy.	SA	A	MA	U	MD	D	SD
		1	2	3	4	5	6	7
19.	After having a mastectomy, I think that I would have fear of being physically hurt by others while in crowded places.	SA	A	MA	U	MD	D	SD
		1	2	3	4	5	6	7
20.	Following a mastectomy I think that a padded bra (prosthesis) worn during sexual relationships would make me more desirable.	SA	A	MA	U	MD	D	SD

Code:

SA--strongly agree

A--agree

MA--mildly agree

U--undecided

MD--mildly disagree

D--disagree

SD--strongly disagree

In your opinion:

- |     |  |    |   |    |   |    |   |    |
|-----|--|----|---|----|---|----|---|----|
|     |  | 1  | 2 | 3  | 4 | 5  | 6 | 7  |
| 21. | I think that I would avoid letting others see the mastectomy scar for fear of frightening them.  | SA | A | MA | U | MD | D | SD |
|     |  | 1  | 2 | 3  | 4 | 5  | 6 | 7  |
| 22. | In my opinion, having breasts is important in keeping a mate.  | SA | A | MA | U | MD | D | SD |
|     |  | 1  | 2 | 3  | 4 | 5  | 6 | 7  |
| 23. | After having a mastectomy, it would be embarrassing for me to shop for clothing.   | SA | A | MA | U | MD | D | SD |
|     |  | 1  | 2 | 3  | 4 | 5  | 6 | 7  |
| 24. | I feel that a mastectomy would make me less desirable to my sexual partner.  | SA | A | MA | U | MD | D | SD |
|     |  | 7  | 6 | 5  | 4 | 3  | 2 | 1  |
| 25. | Following a mastectomy, I think that I would be as feminine in appearance as women who have not had mastectomies.                              | SA | A | MA | U | MD | D | SD |
|     |  | 1  | 2 | 3  | 4 | 5  | 6 | 7  |
| 26. | I think that a mastectomy could cause a woman to be emotionally harmed for life.   | SA | A | MA | U | MD | D | SD |
|     |  | 7  | 6 | 5  | 4 | 3  | 2 | 1  |
| 27. | After having a mastectomy, I feel that I would be no more concerned about my appearance than other women are concerned about their appearance. | SA | A | MA | U | MD | D | SD |
|     |  | 1  | 2 | 3  | 4 | 5  | 6 | 7  |
| 28. | I feel that a man would rather not marry me if he knew that I had had a mastectomy.  | SA | A | MA | U | MD | D | SD |
|     |  | 7  | 6 | 5  | 4 | 3  | 2 | 1  |
| 29. | I think that there is no way one could look at me and tell if I had had a mastectomy.  | SA | A | MA | U | MD | D | SD |

Code:

SA--strongly agree

A--agree

MA--mildly agree

U--undecided

MD--mildly disagree

D--disagree

SD--strongly disagree

In your opinion:

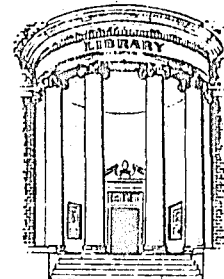
	7	6	5	4	3	2	1
30. It is my opinion that wearing a prosthesis (contoured form which fits into a bra) would not make me see myself as being disfigured.	SA	A	MA	U	MD	D	SD
	7	6	5	4	3	2	1
31. After the recovery period following a mastectomy, I think that I would be able to participate in the same activities I engaged in before the surgery.	SA	A	MA	U	MD	D	SD
	1	2	3	4	5	6	7
32. Following a mastectomy, I believe that I would often feel lonely.	SA	A	MA	U	MD	D	SD
	7	6	5	4	3	2	1
33. I believe that after having a mastectomy that I would not feel less a woman than women who have not had mastectomies.	SA	A	MA	U	MD	D	SD
	1	2	3	4	5	6	7
34. I think that I would often feel sorry for myself after having a mastectomy.	SA	A	MA	U	MD	D	SD
	7	6	5	4	3	2	1
35. Following a mastectomy I would worry no more about my health than other women worry about their health.	SA	A	MA	U	MD	D	SD
	7	6	5	4	3	2	1
36. After having a mastectomy, I think that I would still be satisfied by life.	SA	A	MA	U	MD	D	SD

\* These numbers were not included when the instrument was administered. The rating scale designated the numerical value assigned to each response and is included for the reader. The continuum "1-7" represented the degree of positive or negative attitudes one had toward mastectomy, a "7" representing the most favorable attitude toward mastectomy, a "1" representing the least favorable attitude toward mastectomy.

APPENDIX B

Covering Letter Describing the Mastectomy Attitude Scale

THE UNIVERSITY OF NORTH CAROLINA  
AT GREENSBORO



*School of Home Economics*

February 5, 1977

Dear

(name) with the (county) Reach for Recovery program suggested I contact you concerning a research study I am conducting as part of my doctoral program.

This study is being conducted to learn more about women's attitudes toward mastectomies. The results will have implications for four groups: (1) women who are facing mastectomies; (2) women who have had mastectomies; (3) their families; and (4) their physicians. As a result, it is hoped that better counseling and rehabilitation programs can be developed.

I would greatly appreciate your participation in this project. If you would, please complete the enclosed form and return it to me in the stamped self-addressed envelope. Would you mail it by Monday, February 21?

If you would like a summary of the results, please put your name and address on the questionnaire.

Very sincerely,

Adair R. Heyl  
Doctoral Student

Advisory Committee:

Dr. Rebecca M. Smith, Advisor  
Associate Professor of CDFR  
Dr. J. Allen Watson  
Chairman of the Department of CDFR  
Dr. Gail Hennis  
Assistant Vice Chancellor for Graduate Studies  
Dr. Hugh Hagaman  
Associate Professor of Education  
Dr. Mary Elizabeth Keister  
Excellence Professor in Education and CDFR