

A COMPARISON OF BODY IMAGE AMONG HEALTHY WOMEN,
WOMEN WHO HAVE UNDERGONE MASTECTOMY
AND WOMEN WHO HAVE UNDERGONE LUMPECTOMY

by

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Abstract

The purpose of this descriptive comparative study was to describe and compare the body image perception of women who have undergone mastectomy, of women who have undergone lumpectomy, and of healthy women. The conceptual framework for the study was based on Brown's Model of Body Image (1977).

A convenience sample of 63 women was used, of which 22 women had undergone mastectomy, 18 women had undergone lumpectomy, and 23 women were healthy. The healthy group was significantly younger than the surgical groups. The majority of women who had undergone breast cancer surgery was one to four years post-surgery. The women completed the edited version of Berscheid's et al. (1973) Body Image Scale (24 items), five questions which specifically related to breasts, and a demographic information sheet. Three additional questions were included, which pertained only to the surgical groups. The questionnaires to the women were mailed.

Overall, the women had a positive perception of their body image. The majority of women both in the healthy group and in the mastectomy group presented the medium to high level of body image satisfaction, but half of women in the lumpectomy group perceived the medium level of body image satisfaction, and one third perceived the low level of body image satisfaction. For most women, breast satisfaction was in the medium to high level of satisfaction.

The findings indicated that no significant difference was found between body image perceptions of women who had undergone mastectomy, women who had undergone lumpectomy and healthy women. Furthermore, the majority of women in the surgical groups perceived the impact of surgery to be little or none and was satisfied with the scar from the surgery.

The findings of this study were discussed in relation to the conceptual framework, other research studies, and methodological problems inherent to the study. Implications for nursing practice and recommendations for future research were identified.

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CHAPTER ONE

Introduction

Background to the Problem

Today, breast cancer is one of the leading causes of death among women 40 to 44 years old, and approximately one in nine women will develop breast cancer during her lifetime (American Cancer Society, 1992). The diagnosis of a life-threatening illness, coupled with a potentially lengthy treatment period and an uncertain long-term outcome, affects many aspects of life for these women (Tulman & Fawcett, 1990).

Treatment for breast cancer frequently involves various combinations of surgery, radiation and chemotherapy, lasting several months after the diagnosis, with follow-up care for an indefinite period of time (Tulman & Fawcett, 1990). Surgery continues to be the primary treatment for women with breast cancer. Until recently, the major surgical treatment for breast cancer was mastectomy (where all the breast tissue is removed), but retrospective studies have demonstrated the comparable efficacy, in terms of five years of disease-free survival, of a treatment of a combination of conservative surgery (which removes a small amount of breast tissue but basically leaves the breast and nipple intact) and radiation therapy for stages I and II breast cancer (Recht et al., 1986; Fisher & Wolmark, 1986). As a result of these types of studies, decisions about the best type of surgery for women with stages I or II breast cancer may be based on reasons, such as quality of life and psychological well-being, that consider more than survival rates (Ward, Heidrich & Wolberg; 1989). In relation to these subjects, the concept of body image is often referred to in breast cancer literature.

One's body image changes with the normal growth and development that take place throughout one's life span (Brown, 1977). Female breasts, which develop during adolescence, are considered to play an important role in women's femininity because of their

sexual significance, their evidence of femaleness, and their importance in producing milk in the maternal role (Knobf, 1985; Ray, 1978).

The diagnosis of a life-threatening illness, combined with the loss or disfigurement of such powerful female symbols as the breasts, will likely affect all women. How women react to surgical treatment on their breasts is governed, to a great extent, by the value they have assigned to their breasts, the image they have of their bodies, and their familiarity with, and acceptance of, disfiguration to their bodies (Bartelink, van Dam & van Dongen, 1985; Savage, 1981).

Studies that have compared women with breast cancer treated with mastectomy to those treated with breast conservation (lumpectomy) have often included questions related to body image (Leinster, Ashcroft, Slade & Dewey, 1989; Lasry et al., 1987; de Haes, van Oostrom & Welvaart, 1986; Schain et al., 1983; Sanger & Reznikoff, 1981). Women who are offered a choice between these two treatments and choose lumpectomy tend to be younger, more concerned about their appearance and the preservation of their body integrity (Knobf, 1990; Ward, Heidrich & Wolberg, 1989; Leinster, et al., 1989; Margolis & Goodman, 1984).

Although survival is the predominant concern of women diagnosed and treated for breast cancer (Knobf & Stahl, 1991; Northouse, 1989), loss of the breast has been associated with a loss of femininity, decreased sexual attractiveness and a sense of mutilation and has been perceived as psychologically distressful (Knobf, 1986; Gillies, 1984; Carroll, 1981; Dulcey, 1980). The negative impact of mastectomy on women's body image has also been reported in earlier research, which, however, reflects the effects of more major surgical interventions (such as radical mastectomy) on women's body image (Jamison, Wellisch & Pasnau, 1978; Polivy, 1977). Today, breast reconstruction is often being used after a mastectomy to diminish the impact of the surgery on women's body image (Knobf & Stahl, 1991). Women have reported breast reconstruction as restoring feelings of femininity, wholeness, and normalcy (Mock, 1993).

At one time it was thought that lumpectomy, which is often considered a less traumatic type of surgery than mastectomy, would offer women a psychological benefit as well as cosmetic advantage (Knobf, 1990), yet many recent studies have found the psychological adjustment of women who had mastectomies to be similar to that of women who had lumpectomies (Mayer & Aspegren, 1989; Lasry et al., 1987; de Haes & Welvaart, 1985; Steinberg, Juliano & Wise, 1985). However, when women treated with mastectomy were compared with women treated with lumpectomy, women who had undergone lumpectomy consistently reported more positive feelings and greater satisfaction with their bodies than women who had undergone mastectomy (Lasry et al., 1987; de Haes et al., 1986; Bartelink, et al., 1985; Schain et al., 1983). Most of these studies did not examine body image extensively: many only asked a few questions about body image. Although these studies have shown that women who have undergone lumpectomy are likely to have more positive body image compared to women who have undergone mastectomy, it is generally not known to what extent middle-aged women who have undergone a lumpectomy or a mastectomy retain their sense of body integrity from the pre-surgical stage.

It is important for nurses to understand the concept of body image and how individuals' body image can be affected. Knowledge of body image problems commonly associated with alterations of body structure or function enables nurses to provide anticipatory counselling, appropriate assessment, and interventions to minimize changes in body image.

Problem Statement

Despite different surgical treatments, breast cancer remains a serious threat to the biological, social, and psychological existence of women. In addition to the primary crisis of diagnosis, women have to face a secondary threat of the possible recurrence of the disease, or from personal and interpersonal effects caused by the disease and its treatment. Anxiety, depression, fear of recurrence and uncertainty about the future are all factors which can be

observed in women after they have been treated for breast cancer. Although women diagnosed with breast cancer in stages I and II are increasingly offered a choice between surgical treatments, studies show that some women still choose mastectomy, which is considered to be a more traumatic type of surgery than lumpectomy. Many studies show that a mastectomy, when compared to a lumpectomy, has more negative effects on women's body image (Lasry et al., 1987; Bartelink, et al., 1985; Schain et al., 1983). However, some studies that have compared the body image of women who have had a mastectomy with the body image of a healthy group of women have reported little or no difference in body image between these groups (Achte, Lindfors, Salokari, Vauhkonen, & Lehtonen, 1987; Jenkins, 1980). All these studies, however, measure body image quite differently. No studies were found which examined to what extent the two different types of breast surgeries alter women's perceptions of their body image, from the pre-surgical state to the post-surgical state. Because it is very difficult to obtain pre-illness body image scores from women diagnosed and treated for breast cancer, and to look at changes that occur with surgery, this study will compare a group of middle-aged women who have not undergone a breast cancer surgery with the two groups of women who have undergone surgery. The group that has not undergone any surgery (healthy women) will be considered to represent the pre-surgical state.

Purpose

The purpose of this study is to describe and to compare body image perceptions among healthy women, women who have undergone a mastectomy, and women who have undergone a lumpectomy in order to find if a significant difference exists between the groups. The perceptions of body image among women who have undergone a mastectomy or a lumpectomy will be measured and compared against the perceptions of body image of women who have not had any breast surgery.

Conceptual Framework

The conceptual framework used in this study is based on Brown's model (1977) of body image (see Figure 1). Body image, according to this model, is the internal image of the body formed by a person through the interaction of bodily experiences with influential factors in the environment at particular stages in the life span (Brown, 1977). In this model, body image is distinguished from other similar concepts, such as the self-concept, which is defined as the abstraction that individuals hold of their "self" or "ego," that is, how an individual envisions oneself, including body and non-body parts. Body image is therefore a component of self-concept. Although some authors have not clearly differentiated the terms self-concept and body image, other authors have identified the two major components of self-concept as body image and self-esteem. In this study the emphasis is on body image during midlife and body image is regarded as being one component of self-concept.

Brown (1977) identifies three levels of bodily experiences and six Environmental Factors that interact with the bodily experiences to form an individual's body image. The six Environmental Factors are: cultural variables, environmental variables, societal attitudes, peer group attitudes, parental attitudes, and attitudes of significant others. Some of these Environmental Factors are more relevant at certain points in a person's life.

Brown's model (1977) is useful in understanding how many different things, one of which is development, influence one's perception of body image, the expected changes in body image that occur throughout the lifespan, and responses to unpredictable changes such as accident, surgery and illness. The model helps to explain that surgical intervention which alters the appearance of the breast may likely cause a change in women's perception of their body image. In addition, the nature of the surgery, in terms of the degree of alteration from the pre-surgical state, may itself change the perception of body image. Indeed, there may be different perceptions of body image for women who have had a lumpectomy and women who required a mastectomy.

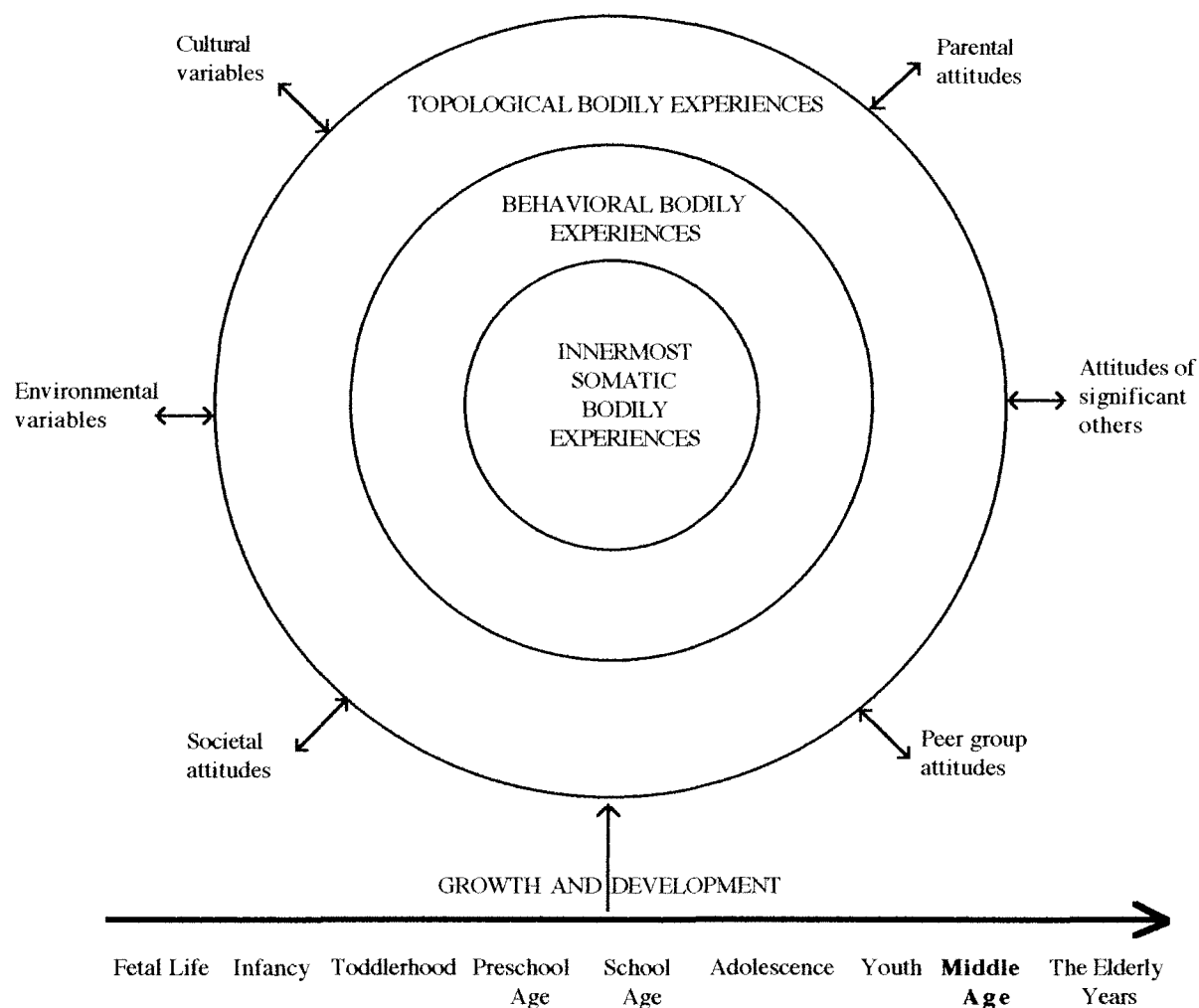


Figure 1 A Model of Body Image

from: Brown, M. (1977). Normal Development of Body Image.
Toronto: John Wiley & Sons.

The three levels of bodily experiences that Brown (1977) identifies in the model are: innermost somatic experiences, behavioral experiences, and topological experiences. Both past and current bodily experiences have an impact upon an individual.

Innermost somatic experiences are bodily experiences derived from deep or systemic physiologic causes. Sensations caused from neurological, metabolic, endocrine, and hormonal factors form these innermost somatic experiences, which are basic to the formation of body image.

Behavioral experiences are bodily experiences which include motor, perceptual, cognitive, and personality factors. These factors generally remain stable during middle age.

Topological experiences refer to those experiences emanating from the surface characteristics of the body. These include superficial sensations and physical characteristics of the body surface.

According to Brown's model (1977), the interactions that take place between the levels of bodily experiences and the six Environmental Factors continue throughout the life span, but differ depending on the time in the life cycle in which they occur. The implication is that interactions are different when a person is a child than when the person is an adult, an important point to consider because surgery during childhood likely has very different effects on a person's body image than similar surgery performed later in life (Brown, 1977b).

The general state of body image at the time of the surgery, what level of bodily experience is affected, and attitudes of significant others, peers, and society are factors which can play a significant role in the effectiveness of the adaptation and eventual outcome of an individual's perception of her body image (Brown, 1977b). For example surgery can interfere with normal changes, such as changes which are related to physical growth, that are taking place in a person's body image and thus lead to a different perception of body image.

The Effect of Breast Cancer Surgery on Women's Body Image

As Brown's (1977) model points out, past and current bodily experiences, as well as the interactions that occur with all six Environmental Factors, can influence an individual's perception of body image. The impact of breast cancer surgery on the female body image is therefore influenced by women's past and current bodily experiences, as well as by interactions with all six Environmental factors. Although certain Environmental Factors are more significant during middle age, other earlier factors, such as parents' actions during

childhood, and peer group behavior during adolescence, have already had an impact on the formation of body image.

Breast cancer affects primarily the topological level of bodily experiences. The degree of alteration in terms of body surface alteration are higher after a mastectomy, because all the breast tissue is removed (as compared to a lumpectomy). It does, however, not necessarily mean that women undergoing a lumpectomy will accept the less drastic alterations of their body surface more easily than women undergoing a mastectomy, because other factors are also influential. Environmental Factors, such as societal attitudes and attitudes of significant others towards the cancer diagnosis and the surgery, will also likely affect how women perceive the alterations of their bodies. Some normal bodily experiences pertinent to middle age are likely to be taking place on all three levels of bodily experiences, therefore influencing women's body image perception as well.

Research Questions

The following research questions were asked:

1. What is the perception of body image held by healthy women, women who have had a mastectomy, and women who have had a lumpectomy?
2. What is the difference in the perception of body image held by healthy women, women who have had a mastectomy, and women who have had a lumpectomy?

Definition of Terms

Body Image: the internal image of the body formed by a person through the interaction of bodily experiences with influential factors in the environment at a particular stage in the life span (Brown, 1977).

Conservative surgery (lumpectomy, partial mastectomy, excisional biopsy): surgical procedure involving the removal of the tumor and a margin of surrounding healthy

tissue. An axillary nodal dissection is often performed through a separate incision (Nielsen & East, 1990).

Healthy woman: a woman, 35 to 70 years of age, who has not undergone breast surgery.

Mastectomy: a surgical procedure involving removal of a breast.

Middle age: that period of life between young adulthood and old age, usually considered to span the time from age 35 to 65 (Brown, 1977).

Stages I and II breast cancer: stage I breast cancer are tumors < 2 cm with negative lymph nodes. Stage II tumors are between 2 and 5 cm with negative lymph nodes, or tumors < 5 cm in diameter with positive lymph nodes (Cawley et al., 1990).

Operational Definition

Body Image will be measured by means of the edited version of the Body Image Scale developed by Berscheid, Walster, and Bohrnstedt (1973), as well as five additional questions pertaining to the breasts developed by the researcher (see Appendix C).

Significance of the Study

This study's significance lies in providing nurses, who care for women who undergo breast surgery for cancer, greater insight into how these surgeries might affect women's perception of their body image. A nurse who understands the various options of treatment for breast cancer, their side effects, and their potential impact on physical and psychological functioning, can be an invaluable resource for women who are given a choice of the type of surgery they want to have performed. The nurse can therefore be a resource for the women during the postdiagnosis, decision-making period. In addition, nurses in different settings who are aware of and understand the possible impact these surgeries can have on women's body image, can assess and intervene if body image distortion is noticeable. Nurses who are knowledgeable about body image and body image alterations can therefore help women to

cope with the short or long-term effect of the surgery on their body image. The results of this study may, as well, be helpful in understanding how healthy middle-aged women perceive their body image.

Overview of the Thesis Content

This thesis is divided into five chapters. Chapter one includes the background to the problem and the description of the conceptual framework and outlines the purpose of the study. Chapter two reviews selected literature pertaining to self-concept and body image, breasts, and breast cancer surgeries. Chapter three describes the design, the sampling procedures, the instrument, the data collection, and the statistical procedures that were used. Chapter four provides a description of the sample, results of data analysis, and discussion of the findings. The final chapter contains a summary of the study, conclusions, as well as implications for nursing, together with recommendations for future research.

CHAPTER TWO

Review of the Literature

Introduction

This study deals with the body image perception of both healthy women and women who have undergone breast cancer surgery; therefore, the literature review will include sections on "normal" body image and on body image alterations. Since body image is the central concept in Brown's framework, as well as the major concept in this study, literature pertinent to this concept will be reviewed in this chapter. Brown's framework identifies a number of factors that influence one's perception of body image; therefore, literature pertinent to some of these factors will be included. Similarly, since the framework identifies every developmental stage in the life cycle as being different, and the bodily experiences and interactions with the Environmental Factors are therefore different during middle age, compared to all other stages in the life cycle, literature pertinent to body image of middle age women will also be included. Also included will be literature on the nature of self-concept and its relationship to body image; literature pertinent to the possible effect of breast cancer surgery on body image perception of the middle age woman; literature discussing the surgical treatments for breast cancer, in particular, how the two different surgical treatments for breast cancer differ in terms of the degree of body surface alteration made to the woman involved and previous research pertinent to body image perception after breast cancer surgeries.

Body Image

Body image can be defined as the internal image of the body formed through the interaction of bodily experiences with influential factors in the environment at a particular stage in the life cycle (Brown, 1977), implying that both past and current bodily experiences influence the body image perception of the individual, as well as the interactions of the bodily

experiences with the Environmental Factors. Each stage in the life cycle inherits all that has happened in the previous stages, and current body image cannot be studied without recognizing that earlier, as well as current experiences, have had an impact upon the individual (Dempsey, 1972). According to Selekman (1983), the development of body image is a learned phenomenon. The learning about one's body that takes place throughout life is usually unstructured; it is constantly taking place as a result of the experiences of the body and occurs in continuous interaction with the environment (Selekman, 1983; Schilder, 1950).

Without any doubt the body is the most visible and sensed part of a person, and the person evaluates and perceives the body and its parts in the same way as he/she perceives and evaluates any other object (Burns, 1979). According to Burns (1979), the body is a central feature in much of our self-perception, and how the woman perceives and experiences her body relates significantly to how the woman perceives herself. The body is the packaging in which the self is enclosed and through which one interacts with other people and the environment. The body image is how one views or thinks of that physical part of one's self; it is based on the individual's perceptions and knowledge about one's appearance, boundaries, limits, and inner structure (Lindberg, Hunter, & Kruszewski, 1983).

Environmental Factors and Bodily Experiences Affecting Body Image

Brown (1977) identifies in the framework several Environmental Factors that interact with the bodily experiences to form an individual's body image. According to the framework some of these Environmental Factors are more influential at certain stages in the life cycle. Given that the current body image perception of middle-aged women has been influenced earlier in life, it is important to review some of women's earlier bodily experience and the interactions that have already taken place with Environmental Factors.

Although Brown (1977) identifies that bodily experiences and the interaction with Environmental Factors begin in fetal life, other authors conjecture that the body image is

nonexistent at birth, except at the feeling level: comfort, discomfort, hunger, rage, pain, etc. (Selekman, 1983; Norris, 1970).

The ability of the child to differentiate consciously between levels of body experience is minimal in the early stages of life, but in the course of growth, development, and interpersonal experiences, she forms a concept of her own body by differentiating herself from the environment around her (Blaesing & Brockhaus, 1972). At this time, parental attitudes are the most significant Environmental Factor, because parents' attitudes impart an indelible impression on the child's concept of her self, her body, and its functions. Depending on experiences with parents, the child may think of her body and its parts as good or bad, pleasing or repulsive, clean or dirty, loved or disliked (Blaesing & Brockhaus, 1972). According to Brown (1977), some environmental variables play an important role at this time: safety, and nutrition, are important factors that help a child begin to form a healthy and positive body image.

Brown's model (1977) identifies growth as one important factor that leads to a change in body image. For example, compared to other phases of life, growth during pre-adolescence and adolescence is very rapid. Since the adolescent girl cannot easily deny her growth, she is forced to change her image. At this time secondary sexual characteristics, such as development of the breasts, and growth of pubic hair, become significant aspects of the body image (Dempsey, 1972).

One of the consequences of growth and development during adolescence is that the adolescent focuses attention on her body. Because she is more aware of her body, the body image has greater significance to her. The meanings given to these changes by the adolescent, and by those around her, are very important because different families and different societies value bodily traits and bodily deviations quite differently. These values are communicated to the adolescent and help her to determine what she thinks of herself (Dempsey, 1972). According to Brown's framework, the Environmental Factor of peer

group attitudes influences the body image perception of the adolescent. The adolescent compares various aspects of her body with those of her peers. Adolescent peer groups are very sensitive to similarities and differences, and thus an adolescent whose appearance or development or behavior seems far from the standard will have a more difficult time becoming accepted by others and accepting herself (Dempsey, 1972). Once identity tasks are completed in adolescence, the body image becomes more rigid, but it continues to incorporate significant experiences and changes over time, at a slower rate (Norris, 1970).

Body Image of Middle-Aged Women

Brown's framework points out that an individual's body image perception is different depending on the stage in the life cycle, because bodily experiences as well as interactions with the Environmental Factors at any one time differ from those at other times. Since the focus of this study is on middle-aged women it is important to review that particular stage in the life cycle. It is important to keep in mind that the body image of middle-aged women has been developing from early age and has been influenced by past and current bodily experiences and a number of Environmental Factors, as mentioned earlier.

Like earlier stages in life, middle age is also a time in which developmental changes take place in women. During this time, women are confronted with normal physiological changes involving their hormones, energy levels and body surfaces, all of which affect both the innermost somatic level and the topological level of bodily experiences (Brown, 1977). One of the most significant normal changes that may start to occur around middle age is a lowering of estrogen and progesterone levels, causing the onset of menopause. The decrease in these hormones can lead to changes in the secondary sexual characteristics such that the external genitalia and breasts may atrophy to some degree (Northouse, 1982). The vaginal mucosa begins to atrophy, so that the sexual experience may become less pleasurable. The loss of tone of the bladder sphincter and supporting structures results in frequency and urgency of

urination, stress incontinence, and embarrassment which may limit activities. Other physiological changes that middle-aged women commonly experience are changes in body proportions and added weight. A loss of weight in the face and limbs at a time when loss of muscle tone and additional adipose deposits makes her look and feel larger in the middle (Beare & Myers, 1990; Murray, 1972). During the middle years women's hair begins to gray and the skin loses turgor, which results in wrinkling of the skin (Northouse, 1982).

Women in their middle years, who have not been sufficiently prepared for these physiologic changes, may have difficulty accepting them (Northouse, 1982). They may begin to feel inadequate compared to young persons in regard to body image (Murray, 1972). Such a middle-age woman who is experiencing a developmental change in perception of herself as a woman may have significant difficulty accepting the physical alterations of her body resulting from breast cancer surgery.

Brown (1977) points out in her model of Body Image that societal attitudes are one of the Environmental Factors that influence individuals' perceptions of their body image. Specifically, just as the attitudes and responses of other people help individuals to define their bodies, social interaction is necessary to form a concept of body image (Selekman, 1983; Schilder, 1950). As Carroll (1981) states, breasts are glorified and emphasized by society in many ways: they are not merely functional body parts, but rather are equated with femininity, sexual attractiveness, and nurturing behaviour. For many women, breasts are an essential element of feminine identity (Valanis & Rumpler, 1985). Although a strong cultural taboo in the everyday environment prohibits the display of breasts, women's breasts glare out from almost every tabloid newspaper and are used to sell all manner of consumer products. However, the breasts that are revealed belong to women of a young age and specified physical qualifications (Valanis & Rumpler, 1985). This attitude regarding the importance of breasts can make the average women feel imperfect, but can even have more serious implications for women who lose a breast or have a disfigured breast due to breast cancer.

The previous examples, taken from different stages of the life cycle, show that body image perception is influenced by both bodily experiences and Environmental Factors. Just as the body image is ever changing and evolving, and is subject to change like the body itself, so too does an individual's perception of the body change during the life cycle.

Self-Concept

Since Brown's (1977) framework discusses self-concept in relation to body image, it is important to look at pertinent literature related to self-concept and the relationship between these two concepts. Self-concept, according to Brown (1977), is how the individual envisions oneself, including body and non-body parts. Body image is a component of self-concept (Brown, 1977). In the literature it is often difficult to differentiate clearly the term self-concept from other closely related terms, such as self-esteem and self-image, because authors often use these terms interchangeably. Self-concept is considered to be a multidimensional concept, and many authors have addressed body image as being one of the major components of self-concept (Mock, 1993; LeMone, 1991; Gillies, 1984; Burns, 1979; Jasmin & Trygstad, 1979). Since self-concept can neither be seen, nor touched, the task of defining it has been considered difficult (Epstein, 1973; Jenkins, 1980).

According to many nursing theories, the self is an integral component of the person; indeed, nursing theorists have commented on the importance of self-concept and body image in patients' care (LeMone, 1991; Jasmin & Trygstad, 1979; Roy, 1976). Roy, a nursing theorist, has included self-concept as a major component in her adaptation model of nursing. Roy uses Driever's definition of self-concept in her model, where self-concept is "the composite of beliefs and feelings that one holds about oneself at a given point in time, formed from perceptions particularly of others' reactions, and directing the person's behavior" (Driever, 1976, p. 174). Roy views self-concept as being the result of a life-time of social interactions and experiences, which serve as the basis for evaluation of one's

appearance, background, abilities, resources, attitudes, and feelings (LeMone, 1991; Driever, 1976). In Roy's model, self-concept is considered an adaptive mode with two components: a physical self and a personal self.

The precise nature of body image, its relationship to self-concept, and disturbances related to changes in the structure of the body as a result of disease and its treatment are not clearly understood (Mock, 1993; Norris, 1970). The relationship between body image and self-concept has, however, often been found to be positive; thus if a woman has negative body image attitudes, she is vulnerable to negative experiences of the self as a whole. (Cash & Pruzinsky, 1990; Champion & Tzeng, 1982). The relationship was confirmed in a series of studies, done in the fifties by Jourard and Secord, which found that the feelings individuals had about their physical bodies were similar to those they held about themselves in general (Burns, 1979). Not surprisingly, Jourard and Secord discovered that when subjects were asked to rate their feelings of satisfaction with various dimensions of their bodies, the general level of satisfaction was commensurate with their overall level of self-acceptance (Burns, 1979).

Alterations of Body Image

According to Brown's framework, body image alteration depends on what level or levels of bodily experience is affected by the illness or surgery, at what time in the life cycle the alteration occurs, and by the interactions with Environmental Factors. Since this study includes studying body image perception of middle-aged women who have undergone different types of breast cancer surgeries, it is relevant to examine literature pertinent to body image alterations following surgery.

The term body image disturbance refers to difficulties experienced in the perceptions one has of one's own appearance or of one's body functions (Thompson, McFarland, Hirsch, Tucker, & Bowers, 1989; Murray, 1972). Murray (1972) points out that the person who

undergoes alterations of body image in association with surgery is experiencing a crisis and that various factors influence the outcome. One of the most important factors, she thinks, is the person's perception of the event, rather than the overt reality of it. Norris (1970) has suggested that adaptation to alteration in body function or structure depends upon the nature of the threat, its meaning to the individual, her coping ability, the response from others significant to her, and the help available to the individual in undergoing change. She also states that because the body image provides a base for identify, almost any change in body structure or function is likely to be experienced as a threat. Such a phenomena occurs even in normal growth: the maturing process may be welcomed, but at the same time it may be accompanied by the threat of new expectations and be found inadequate (Norris, 1970).

Factors Influencing Body Image Perception After a Breast Cancer Surgery

According to Brown's framework the level or levels of bodily experiences affected by surgery can influence how the individual perceives his/her body image. Since the topological bodily experiences refer to experiences emanating from the surface characteristics of the body, the effects of breast cancer surgery on women's body image will be primarily on the topological level of bodily experiences.

Surgery can interfere with normal changes that are taking place in a person's body image and therefore lead to a different perception of body image. If for example, a middle-aged woman is having difficulties dealing with some normal physical changes in her body, surgery is likely to come as another physical threat which affects her perception of her changing body image (Northouse, 1982). According to Gillies (1984) the surgical removal of a breast for most women constitutes loss of a body part that is essential to femininity, attractiveness, and self-esteem. Because this body part is so significantly related to feminine identity, loss of a breast is likely to result in a negative alteration in body image and self-concept. The extent of

negative alteration can be correlated with the degree of physical change in the body and with the meaning of the body part to the individual (Mock, 1993).

According to Brown's framework, several Environmental Factors that affect a woman's perception of her body image will also affect her perception of her body image after breast cancer surgery. For example, the attitudes of significant others and societal attitudes are particularly important Environmental Factors for middle-age women and also influence how a woman perceives her body image after a breast cancer surgery. How a significant other (in many cases a partner) perceives both the cancer diagnosis and the type of surgery the woman has had on her breast can affect how the woman herself perceives the alteration of her body.

Societal attitudes also influence women's body image perception, in particular, how a woman perceives her body image after a breast cancer surgery. Society tends to have a negative attitude towards cancer, middle age, and breasts (Doan, 1987; Johnson, 1987; Valanis & Rumpler, 1985; Northouse, 1982). Because society highly values youth and physical attractiveness it often has negative attitudes towards the middle aged. Similarly, because society prefers firm, well-shaped breasts, the breasts of women who have undergone surgery for breast cancer are perhaps looked up on as less acceptable. These attitudes can have a major effect on how women perceive their bodies after breast surgery.

In addition to the level or levels of bodily experiences affected and the impact body image alteration has had on interactions with Environmental Factors, Brown (1977b) points out that there are other factors influential in helping the individual adapt to changes in body image. These factors are the functional significance of the body part involved, the importance of physical appearance to the individual involved, the visibility of the part involved, the feasibility and availability of rehabilitation, the speed with which the change occurred, and the previous coping pattern used by the woman.

In regard to the functional significance of the breasts for the woman involved, the loss of the lactating function in a breast, because of mastectomy, can have a major impact for women

who are in their childbearing years and want to breast feed. Loss of sensory function as well can have an impact for women, especially if women find breast stimulation to be an essential component of foreplay and sexual arousal (Northouse, 1982; Woods, 1975).

Brown (1977b) states that the importance women place on their physical appearance will likely have had impact on the degree of body image alteration, after surgery. The female value system, in relation to appearance, is largely formed in childhood by incorporation of this value system by those around the individual-parents, peers, society and culture as a whole. As a result, certain parts of the body become more important than other parts, and reactions to body image distortion are dependent upon how much of the identity is invested in the involved body part. The amount of femininity that is associated with women's breasts will influence how the effect of breast cancer surgery will affect the body image. If a woman's feminine identity is largely associated with her breasts, the loss or disfigurement of a breast will likely be more significant for her than for a woman whose femininity is not so associated with her breasts (Brown, 1977b). Furthermore, if the woman perceives the surgery to be a life-saving procedures, the surgery can even assume a positive connotation (Feather & Wainstock, 1989).

The actual visibility of the alteration both to women and others is another factor which is important to consider (Brown, 1977b). Since the breasts are highly visible, breast surgery can affect not only the topological level of bodily experiences, but also interactions with specific Environmental Factors (such as the attitudes of significant others). Because the total loss of a breast is much more obvious than the results of a lumpectomy, it is likely that women who undergo a mastectomy will be more disturbed by their operation than those who undergo lumpectomy, and interactions with Environmental Factors could therefore also be more disturbing, leading to a more negative body image. How fast the change occurs must also be considered. If women choose to have reconstruction on a breast, impact of surgery on the body image might be less (Knobf & Stahl, 1991; Brown, 1977b). According to Foltz

(1987), replacing a body part with an acceptable substitute results in improved body image and self-concept.

Treatments for Breast Cancer

Brown's framework on Body Image identifies the importance of level or levels of bodily experiences affected when looking at body image perception. Given the fact that surgery for breast cancer is an interruption on the topological level of bodily experiences, and give that the degree of alteration is different depending on what type of surgery the woman has, it is important to review these two different types of surgeries.

Surgery has long been the primary treatment for breast cancer. Prior to the introduction of safe and painless surgery, operations for breast cancer were limited to the excision of fungating and ulcerating tumors, operations which proved to be fatal as often as they were beneficial (Tobias & Peckham, 1985). With the evolution of modern surgery during the 19th century, however, operations for cancer were planned on anatomical and pathological principles. The belief remained, never the less, that the breast and its underlying muscles along with the axillary lymph nodes had to be removed in order to be beneficial (Tobias & Peckham, 1985).

Modified radical mastectomy is the most common breast cancer surgery performed today. This surgery is also known as a total mastectomy with axillary dissection, or a simple extended mastectomy (Nielsen & East, 1990). During this procedure the entire breast and most or all of the axillary lymph nodes are removed, but the pectoralis muscle is left in place. Breast reconstruction after a mastectomy is increasingly employed to diminish the impact of mastectomy on body image (Mock, 1993). The goal of breast reconstruction is to create a symmetrical, natural-looking breast mound (Knopf & Stahl, 1991). The two methods of reconstructive breast surgery are implantation of a prosthesis (more common) or a flap procedure using skin (Knopf & Stahl, 1991).

Lumpectomy, on the other hand, removes the tumor and a margin of surrounding healthy tissue. An axillary nodal dissection is often performed through a separate incision. This procedure is also known as a segmental or partial mastectomy (Nielsen & East, 1990). In many cases radiation therapy is prescribed as an adjunct to surgery.

Lumpectomy and radiation therapy were not considered standard practice for clinical stages I and II breast cancer until recently, in part, because of the high-energy radiation equipment and formalized systems necessary for the delivery of this treatment did not become available until the early 1960s (Boyages & Harris, 1989). In the last couple of years lumpectomy has become an increasingly accepted alternative to mastectomy, largely because of retrospective studies, such as the National Surgical Adjuvant Breast Project B-06, which revealed no differences in survival or local recurrence rates in women who receive a total mastectomy versus lumpectomy and radiation therapy (Nielsen & East, 1990).

Previous Studies on the Effect of Breast Cancer Surgery on Woman's Body Image

This section will examine previous studies of the effect of surgical treatments for breast cancer on women's body image. Most of the studies presented here have focused on women who have undergone mastectomy, in comparison with women who have undergone lumpectomy, without comparing to their presurgical state, although some of the studies also compared a group of women who had undergone a mastectomy to a healthy group of women.

Twelve studies were found which looked at body image, as well as femininity and attractiveness, in women having surgery for breast cancer. Some studies compared lumpectomy and mastectomy patients, and others compared mastectomy patients with healthy women, or women who had undergone different surgical procedures. Although these studies used different ways of studying body image and had varying sample sizes, and although some collected information retrospectively, the majority indicated that there was a difference in body image between women who had been treated with lumpectomy and women treated

with mastectomy. Women who had undergone lumpectomy had a more positive body image than women who had undergone mastectomy. In two studies, however, where women treated with mastectomy were compared to healthy group of women, the mastectomy group had similar body image perception to the healthy group of women.

Mock (1993) compared body image, as a component of self-concept, in four groups of women (n=257). She studied women who had been treated with mastectomy, mastectomy with delayed reconstruction, mastectomy with immediate reconstruction, and lumpectomy. Women had to be at least two months post all treatment, but not more than two years, when they were mailed a questionnaire. The mean age of the sample was 52 years (ranged 29-79), although the mastectomy group was considerably older than each of the three other groups. One of the three scales used to measure body image in the study was an edited version of the Body Image Scale developed by Berscheid, Walster, and Bohrnstedt (1973). Of the three scales used, two failed to show a difference among the four groups. The Body Image Visual Analogue Scale, however, revealed a significant difference in body image among the groups: the lumpectomy group had significantly higher body image scores than both the mastectomy group and the immediate reconstruction group. In addition, Mock used the Tennessee Self-Concept Scale (TSCS) to measure self-concept of these women, comparing the groups' mean scores to normative data available for that scale. The mean scores of the four groups were all significantly higher (indicating more positive self-concept) than the TSCS norm group for self-concept score. While the sample in this study was large enough, according to power analysis, to indicate results were likely to be representative of women in all four groups, it is important for the purposes of this study to notice that two of three scales used to measure body image failed to find any significant difference in body image among the four groups.

Two studies, one by Kemeny, Wellisch, and Schain (1988), and one by Lasry et al. (1987) compared body image of women after a mastectomy and after a lumpectomy. Lasry's study included one mastectomy group (n=43) and two lumpectomy groups (one of which

included women who had undergone lumpectomy (n=44) and another included women who had undergone lumpectomy and radiation therapy (n=36)). The time since surgery ranged from less than one year to nine years, with a mean of 40-42 months. Body image was measured with seven items. In Kemeny's study, the sample consisted of 27 mastectomy women and 25 lumpectomy women, studied six months to four years after surgery, with a mean of 18 months. Seven questions were used to measure body image. The results of both studies showed that women who had undergone lumpectomy had a significantly more positive body image than women in the mastectomy group. In Kemeny's study the presurgical stage was evaluated by asking the question, "body looks as good as it did before." The lumpectomy group did not experience the surgery as having changed their presurgical sense of body image. It should be pointed out that the small sample size in Kemeny's study eliminates the generalizability of the study.

Two other studies done in the Netherlands by Bartelink, van Dam, and van Dongen (1985) and by de Haes and Welvaart (1985) compared the body image of women who had been treated with either a mastectomy or a lumpectomy. These women were studied in the second year after treatment and in both studies the groups were similar in mean age, 52.8 years and 54.0 years for the mastectomy groups, 48.3 years and 49.0 years for the lumpectomy groups. Bartelink used six questions to measure body image; de Haes and Welvaart used three questions. Bartelink's sample consisted of 114 women who had undergone lumpectomy and 58 women who had undergone mastectomy; de Haes and Welvaart's sample had only 18 mastectomy women and 21 lumpectomy women. The results of both studies were congruent with the other studies mentioned above, showing that the lumpectomy group had significantly more positive body image when compared to the mastectomy group.

De Haes, van Oostrom, and Welvaart (1986) repeated de Haes's and Welvaart's study six months later (at 18 months post-op) and found that the same group of women who had

undergone lumpectomy felt significantly more feminine and were more satisfied with their body than those in the mastectomy group.

One more study of Schain et al. (1983) confirms a significant difference between body image of women who have undergone lumpectomy and women who have undergone mastectomy. Schain et al. studied the body image of 20 women from questionnaires mailed to patients who had received mastectomy and 18 women who had received lumpectomy plus radiation. The mean age at time of surgery had been 49.0 years for the mastectomy group, and 46.0 years for the lumpectomy group. Out of thirteen psychosocial variables studied only one item, body image concerns, was significantly different between these two groups: mastectomy patients (60%) had a significantly more negative reactions to their nude body, compared to lumpectomy patients (22%). This conclusion was drawn from only one question about body nudity. An important point to note is that in this study the time since surgery ranged from about two months post-op to about 20 months post-op, a time frame which can possibly involve changes in woman's view of her body.

All of the above studies included body image comparison of women who had undergone mastectomy and women who had undergone lumpectomy. The results show that women's body image perception has been found to be significantly more positive after lumpectomy treatment compared to mastectomy treatment. The time that had passed since surgery ranged considerably in these studies from 2 months up to 108 months. Four of the studies looked at body image within or up to two years from the breast cancer surgery. Women who participated in Kemeny's et al. (1988) study, however, ranged from six months to four years post-op, while in Lasry's et al. (1987) study they ranged from within one year post-op up to nine years post-op. Thus in these two studies both long term and short-term effects of breast cancer surgery were studied and compared between the two groups of women. Nevertheless, the generalizability of some of these studies is questionable since the sample size was relatively small in three of six studies .

In the next three studies to be considered women who had undergone a mastectomy were compared either with a healthy group of women or with other surgical groups. No comparison was done with women who had undergone lumpectomies.

Polivy (1977) carried out a study which attempted to measure changes in body image and total self-image in a group of mastectomy patients. Subjects were 44 women admitted for either breast biopsy, possible mastectomy, or other surgery not involving cancer. On the basis of the type of surgery the women had, the women were divided into three groups: a) 15 women who had had biopsies which were positive and who therefore underwent mastectomy immediately; b) 18 women whose breast biopsies were negative and had no further surgery; c) 11 women who had various noncancerous operations. All of the women were both interviewed and received a questionnaire to fill out. The questionnaire used was an edited version of the Berscheid, Walster and Bohrnstedt Body Image Scale, which included, among other things, 22 items on body image and 11 items on self-concept. The questionnaire was administered on three different occasions: 1 day before surgery (at which time it was not clear women would need a mastectomy), 6 days following surgery, and again 6 to 11 months later (follow-up). This version of the scale has no reliability or validity reported.

A major finding of the study was the pattern of change in body image and total self-image (consisting of body image score plus self-concept plus satisfaction with relationships score). The body image and total self-image scores for all three groups at all three times are listed below. Higher scores indicate more dissatisfaction:

<u>Group</u>	<u>Body image</u>	<u>Total self-image</u>
Mastectomy		
pre-op	58.85	85.83
post-op	57.83	85.08
follow-up	65.58	95.42
Biopsy		
pre-op	56.30	81.80
post-op	58.70	86.20
follow-up	60.30	87.10
Surgical control		
pre-op	57.75	83.88
post-op	56.25	81.75
follow-up	60.00	84.50

These results indicate that immediately after the operation there was no change in the mastectomy patients' body image or total self-image, but that after several months the scores were considerably elevated.

The pattern was different for biopsy patients, for whom the only significant difference in body image was between the follow-up and pre-surgical measures; examination of the means, however, revealed more negative body image from the pre-surgical measure to the post-surgical measure to the follow-up measure. In response to the total self-image scores of biopsy patients, significantly more negative feelings were apparent immediately after surgery, feelings which did, however, not worsen at the follow-up. The biopsy patients presented more negative self-image scores than before biopsy, immediately after hearing that they did not have cancer or needed a mastectomy. The other non-cancerous surgical patients showed very little change in overall self-image from one measure to another, but showed more negative feelings in body image in the follow-up several months after surgery .

Polivy's explanation of the decline (more negative) in total self-image among biopsy patients immediately post-op and mastectomy patients several months later was that both groups might have been presenting inflated positive pictures of themselves pre-op in an attempt to deny that the results of their impending biopsies might be positive. Immediately after the biopsy, those women whose results were negative no longer needed this defense-

thus the immediate drop in self-image. Mastectomy patients, on the other hand, still needed to maintain denial after surgery and thus reported feeling the same about themselves after the operation as before it. Over time this denial was broken down by the reality of the loss as was reflected in the scores on total self-image (Polivy, 1977). Significantly in regard to this study, Polivy's study shows a link between a woman's perception of her body and how she feels about herself. The sample in the study was small, but, offsetting that disadvantage, by having two control groups, Polivy was able to compare the effects of different procedures on women's body image and self-image, from the pre-surgical stage to the post-surgical stage.

In another study, Jenkins (1980) compared the body image and total self-concept of 23 healthy women with the body image and self-concept of a group of 23 post-mastectomy women, 3 to 48 months post-surgery. These women were all 40 to 60 years of age. Self-concept was measured using a positive scales of Fitts Tennessee Self-Concept Scale (TSCS), and body image scores were derived from the physical self subscale of the TSCS. Finding that there was no significant difference between these two groups regarding self-concept or body image, Jenkins concluded that self-concept and body image remain fairly stable during this time period for women, whether or not the woman had undergone mastectomy. In this study the comparison group was chosen from the same general socioeconomic levels and age group as the mastectomy group and was matched to the study group for the factors of race and body weight within ten pounds.

In a 1987 Finnish study, the psychological adaptation of women in the first postmastectomy year was examined. One hundred women who had undergone mastectomy were interviewed shortly after the surgery, receiving a follow-up questionnaire one year later. A control group of 92 women was randomly selected from the population registry of Helsinki. The factors examined were self-concept and body image. No difference was found between the mastectomy and healthy control group regarding woman's self-concept, either in the first examination or in the follow-up phase. The mastectomy, however, seemed to have

caused some degree of body image distortion shortly after surgery. These subjects had more feelings that their body had become strange and did not belong to them. For about 10% of the mastectomy group, the loss of the breast had affected their body image strongly and negatively during the first year after surgery. On the other hand as many as 35% considered that the loss of a breast had not affected them psychically (Achte et al., 1987).

In these three studies there are some differences in results regarding whether or not a mastectomy affects women's self-concept and body image. These studies had different sample sizes, indeed, two of them were so small to make it likely that they are representative, except for the women involved. Time since surgery was also a variable in these studies. It is important to notice that in the two studies which compared women who had undergone a mastectomy with healthy women, no difference was found between these two groups regarding self-concept. While some differences were found in Achte's et al study (1987) between body image of women who had undergone mastectomy and healthy women, in Jenkins's (1980) study no difference was found. The results of the Polivy (1977) study was congruent with some other studies, in that it showed that mastectomy women felt worse about their bodies and themselves than women in the other two control groups.

Other studies, one by Steinberg, Juliano, and Wise (1985) and another by Meyer and Aspegren (1989), compared the effect of mastectomy and lumpectomy on women's female identity and attractiveness. Steinberg et al. interviewed women asking them to rate their post-surgical adjustment at 14 months after surgery, as well as their adjustment within six months after surgery. The mean age of the mastectomy group was 50.7 years (n=46) and 52.3 years (n=21) for the lumpectomy group. Steinberg et al. found that both lumpectomy patients and mastectomy patients reported feeling less attractive and less feminine in the first 6 months after surgery than before surgery. At 14 months, the mastectomy patients felt significantly less attractive and less feminine than the lumpectomy patients. There were no differences noted in the retrospective ratings by lumpectomy and mastectomy patients of the importance

of their breasts pre-surgically. Although the 14 months post-op results are consistent with results of some other studies, the 6 months results of femininity and attractiveness, as well as the importance of breasts pre-surgically have to be interpreted with caution, since the data were recorded retrospectively by the women. In Meyer's and Aspegren's study, 28 women who had undergone lumpectomy and 30 women who had undergone mastectomy were interviewed five years after surgery. The mean age was 58.7 years for the mastectomy group and 59.4 years for the lumpectomy group. The results indicate that 10 of the 30 mastectomized women (33%) thought their female identity had been affected adversely, compared to 2 out of the 28 of the women (7%) who were treated with lumpectomy.

The relatively small sample sizes in these studies eliminates the generalizability of the results; furthermore, these studies used different ways of studying body image (interview, questionnaire, or both).

It is worth mentioning one study which looked at the body image of healthy women. This study was done by Berscheid, Walster and Bohrnstedt (1973), who studied 2000 readers of Psychology Today in regard to their attitudes toward their bodies. Of the 1000 women studied, 30 percent were 45 years and older. A 109-item questionnaire was developed and body image was measured with a list of 25 body parts and characteristics. The results were as follows: 7% of the women said that they were quite or extremely dissatisfied with their overall body appearance, 16% of women said they were somewhat dissatisfied, and 47% were quite or extremely satisfied with their overall body appearance. Most women had the greatest dissatisfaction with the mid-torso area (abdomen, buttocks, hips, legs and ankles) of the body, in particular, showing considerable dissatisfaction with the size of their abdomens (50%), buttocks (43%), and hips (49%). One out of four women was dissatisfied with her breasts, nine percent of women were quite or extremely dissatisfied with their breasts, and 17% percent were somewhat dissatisfied. When rank ordered with other body parts

regarding dissatisfaction, breasts ranked as the eighth body part, between dissatisfaction with complexion (7th) and legs and ankles (9th).

Summary

This literature review has dealt with how the concept of body image is affected by Environmental Factors and bodily experiences. The middle-age woman's body image, self-concept and the relationship with body image, body image alterations and factors influencing body image perception after a breast cancer surgery were all discussed. Literature on the two most common treatments for breast cancer was then presented, followed by previous studies done on the effect of different types of breast cancer surgeries on woman's body image.

The findings of studies dealing with body image perception after different types of breast cancer surgeries reveal that a mastectomy is more likely to have a negative effect on body image than a lumpectomy. Measurements of body image in these studies do, however, vary, and small sample sizes make it difficult to generalize about the effects of breast cancer surgery on women's body image, especially when studies comparing mastectomy women and healthy women show little or no difference regarding body image. The mixed findings in these studies, and the fact that there are no studies that compare women's body image perception before surgery to body image perception of women after mastectomy and lumpectomy, illustrate the need for further research in this area.

CHAPTER THREE

Methods

Introduction

This chapter describes the research design and the sample, as well as, the data collection procedures, and the instruments used in this study. It concludes with the data analysis procedures, the human rights and ethical considerations, and the assumptions and limitations of the study.

Research Design

A descriptive comparative design guided this study. This design is appropriate because little is known about differences in body image perception of women before breast cancer surgery (as mentioned above, the pre-surgical stage is represented in this study by healthy women) compared to body image perception of women who have had different types of surgeries on their breasts. A descriptive comparative design permits an initial description of the variables and provides a method to compare the variables among healthy women, women who have had a mastectomy, and women who have undergone a lumpectomy.

Sampling

It was determined that a convenience sample of 108 women was needed. A sample size of 108 (36 women in each group) was determined by Cohen's (1969) table for the F test for analysis of variance, using a medium effect size of 0.3, based on power of 0.80, and a significance level of $p=.05$.

Subjects for this study were selected according to a certain criteria. The women with breast cancer had to be between the ages of 35 and 70, at least 15 months post-surgery, but not more than 10 years, and not have had a recurrence of the disease. The healthy women

had to be between the ages of 35 and 70, and not have had any major surgical procedure on their breasts.

Data Collection Procedures

Subjects for the study were obtained by advertising in areas frequently used by women and by mailing questionnaires to women who had participated in a previous study. Data were collected through a mail survey.

Advertisements were put in 100 community papers and posted in hospitals, community centres, libraries, recreational centres, and other locations where women frequent, such as the Woman's Resources Centre and the Woman's Health Collective.

In the advertisement (see Appendix A), potential participants were invited to participate in the study; if interested they were asked to phone the researcher so that a questionnaire package could be mailed to them. Over the phone the researcher further explained the purpose of the study and the participation procedure, and answered any questions regarding the study or participation.

These questionnaire packages contained a cover letter; the questionnaire, including the demographic information sheets; and a self-addressed stamped return envelope (see Appendices B-D). The researcher sent out a reminder letter (Appendix E) and a replacement questionnaire five weeks after initial contact.

Questionnaire packages were also mailed to 55 women with breast cancer who had participated in an earlier research project of "Family Adjustment To Breast Cancer," conducted by Dr. Ann Hilton. These packages included the questionnaire, the demographic information sheets, a self-addressed stamped envelope, a cover letter from the researcher, and a letter from Dr. Hilton.

Data Collection Instruments

Two data collection tools were used in this study. The first, used to collect information from the subjects regarding body image, was made up of three parts (Appendix C). The first part consisted of items measuring level of satisfaction and dissatisfaction with the body in general. The second consisted of items measuring level of satisfaction and dissatisfaction with the breasts in particular. The third consisted of questions that measured the level of satisfaction or dissatisfaction with the scar, as well as two open-ended questions asking information about the impact the breast cancer surgery had on women's body image, and what factors they had considered when deciding what type of breast cancer surgery to have performed. The second tool was a demographic information sheet used to collect demographic and cancer treatment information from each subject when applicable.

Body Image Questionnaire

In the first part of the questionnaire (questions 1-24) a modified form of Berscheid's et al. Body Image Scale was used to measure satisfaction with general body parts. The first 24 items were identical to Berscheid's et al. version, except for the exclusion of one item ("satisfaction with size of sex organs") that was judged to be irrelevant to this study. In completing the 24 items in the Body Image Scale, participants were instructed to judge their satisfaction and dissatisfaction with different body parts and characteristics, using a 6-point Likert scale that extended from "extremely dissatisfied" to "extremely satisfied." Items were scored from 1 (extremely dissatisfied) to 6 (extremely satisfied). The items were added up to yield a total score ranging from 24 to 144. High scores indicate more satisfaction, whereas low scores indicate more dissatisfaction.

The Body Image Scale was developed and first used by Berscheid et al. in 1973. In addition to the 25 specific questions on body image, Berscheid et al. included in the study 84 questions which measured such items as physical attractiveness, self-esteem, relationships,

and sexual intercourse. When completing the 25 items in the Body Image Scale, the 6-point Likert scale, that extended from "extremely dissatisfied" to "extremely satisfied," was used. The scale has demonstrated reliability, as measured by Cronbach's alpha of .86 in previous testing by Bohrnstedt, as well as criterion-related, convergent, and construct validity (Mock, 1993).

The edited version of the Body Image Scale was used in previous studies by Polivy (1977) and Mock (1993), and consisted of 22 items from Berscheid's et al. original version. The three questions excluded were questions on satisfaction with shoulders, size of sex organs, and appearance of sex organs.

Polivy (1977) used this 22 item version of the Body Image Scale to measure the psychological effects of mastectomy on a woman's feminine self-concept. In addition to the 22 items on body image, Polivy included 11 questions on self-concept, and four on satisfaction with intimate relationships. Polivy took scores from all three clusters: body image, self-concept, and satisfaction with intimate relationships; and presented them as the total self-concept scores. No reliability or validity was reported for the scale.

Mock (1993) also used the 22-item version of the Body Image Scale to measure the body image of women who had undergone mastectomy, lumpectomy, mastectomy with immediate reconstruction, and mastectomy with delayed reconstruction. Internal consistency, as measured by Cronbach's alpha, was reported as .87, indicating good reliability. In terms of this present study internal consistency reliability, measured by Cronbach's alpha, for the Body Image Questionnaire is as follows: .92 for questions 1-24, .86 for questions 25-29, and .92 for questions 1-29.

The second part of the questionnaire consisted of five additional items developed by this researcher (questions 25-29) which specifically relate to a woman's satisfaction or dissatisfaction with her breasts. The same 6-point Likert scale was used here as for part one of the questionnaire, with items scored from 1, "extremely dissatisfied," to 6, "extremely

satisfied." For this part, scores were added up to yield a total score ranging from 5-30. High scores indicated more satisfaction with the breast/s.

Scores from parts one and two of the questionnaire, questions 1-29, were added up to achieve total body image scores ranging from low scores of 29 to high scores of 174.

The third part of the questionnaire consisted of three items applicable only to women in the surgical groups. These items included one question about satisfaction or dissatisfaction with the scar from the surgery, and two open-ended questions.

Women in the surgical groups were asked to respond to a question (question 30) which pertained to their satisfaction or dissatisfaction with the scar from the breast cancer surgery. This question was scored on the same 6-point Likert scale as items 1-29, with 1 indicating "extremely dissatisfied" and 6 indicating "extremely satisfied". A higher score indicated more satisfaction with the scar.

Women in the surgical groups were also asked to respond to two open-ended questions about the impact of the breast cancer surgery on their body image and about what factors they took into consideration when they decided what type of breast surgery to have performed.

Demographic and Treatment Information Sheet

Demographic data which included information on age, marital status, race, education, children, and occupational status, were collected on the Information Sheet (Appendix D). If the woman had undergone breast cancer surgery, additional information was requested on the type of surgery, the time since the surgery, other post-surgical treatments after the surgery, and further surgeries undergone of any type.

Data Analysis

Data obtained from the questionnaire were coded and analyzed using the Statistical Package for the Social Sciences (SPSS-X) computer program. The researcher analyzed data

using frequency and distribution statistics to describe the sample's demographic and treatment characteristics. Means, standard deviations, and ranges were used to address the first research question, "What is the perception of body image held by healthy women, women who have had mastectomies, and women who have had lumpectomies?"

Analysis of variance was done to answer the second research question, "What is the difference in the perception of body image held by healthy women, women who have had a mastectomy, and women who have had a lumpectomy?"

When analyzing the questions from part three of the questionnaire, the researcher used a t-test to compare scores from the question on "satisfaction with the scar." When analyzing the first open-ended question on the impact of the breast cancer surgery on women's body image, the researcher first examined each women's response thoroughly, and second, grouped the responses according to the themes that had emerged as the units of analysis. To analyze the second open-ended question on the factors women had considered when deciding what type of surgery to have performed, the responses were read over and quantified into factors mentioned by women.

Human Rights and Ethical Considerations

In order to protect the rights of the participants, the thesis proposal was reviewed by the University of British Columbia Behavioural Sciences Screening Committee for Research and Other Studies Involving Human Subjects. Participants received a packet by mail which contained a cover letter, the questionnaire, the demographic sheets for both groups, and a stamped self-addressed envelope to the researcher. The cover letter clearly stated that participation was voluntary and that nonparticipation in the study would not affect their health care. In addition, participants were informed that they would not be under any obligation to answer the questions, and they were assured of the confidentiality of their responses by not having their name on the questionnaire at any time. Data were also only reviewed by the

researcher and the thesis committee. The return of the completed questionnaire was stated to be an indicator of the participant's consent to participate in the study.

Assumptions

The researcher assumes the following two statements to be true:

- 1) A woman's view of herself represents reality for each woman.
- 2) Those women who have not had breast surgery will reasonably represent the pre-surgical state.

Limitations

- 1) The sample is unlikely to be representative of other women in similar situations because of the small voluntary sample.
- 2) Many variables affect women's current perception of their body image. No effort was made to control variables other than surgery or no surgery.
- 3) No effort was made to identify the influence of different cultural beliefs on women's perception of their body image.

Summary

In this chapter the research design, the sampling procedure, the data collection procedures, the instruments used to collect the data from participants, and the data analysis used in the study were all described. Discussion on the ethical considerations necessary to protect the participants' rights was included, followed by the assumptions and limitations of this study.

The following chapter will present the findings of the study, which answer the two research questions, followed by a description of the ancillary findings and a section on the discussions of the findings.

CHAPTER FOUR

Presentation and Discussion of Findings

Introduction

The results of this study are discussed in the following three sections. The first section describes the sample, including the demographic characteristics of the total sample, the treatment characteristics of the two surgical groups, and the representativeness of the sample. The second section presents the answers to the two research questions, from part one and two of the questionnaire, and a description of the ancillary findings from part three of the questionnaire. The third section discusses the findings.

Description of the Sample

One hundred and twenty-two questionnaires were mailed out, with five returned marked "undeliverable." Sixty-seven questionnaires were mailed to women who responded to the advertisements, and 55 questionnaires to women who had participated in Dr. Hilton's study. Of the 83 completed questionnaires returned, 20 were excluded for the following reasons: 5 women had undergone breast reconstruction, 5 had undergone bilateral mastectomies with or without reconstruction, 2 did not fill out the questionnaires sufficiently, and 8 were either well over 10 years post surgery or over 70 years of age. Of the 63 women whose questionnaires were used in the analysis, 23 had not undergone breast cancer surgery, 22 had undergone mastectomy, and 18 had undergone lumpectomy.

Demographic Characteristics of the Sample

Demographic characteristics of the sample include age, marital status, race, educational level, number of children, and employment status.

Age

The women ranged from 35-70 years of age, with a mean age of 49.4 years (Table I and Figure 2). Over half of the women were younger than 50 years of age while about a fifth were over 59 years of age. The healthy women in the sample were significantly younger than those women who had had breast cancer surgery ($F(2,60)=6.78, p<0.01$). The healthy women had a mean age of 44.3 years, almost 7 years younger than those in the mastectomy group ($M=51.3$ years) and almost 10 years younger than those in the lumpectomy group, whose mean age was 53.9 years. None of the healthy women was older than 59 years of age.

Table I

Age Distribution of the Sample

	Group				
	Mastectomy	Lumpectomy	Healthy	Total	
	Frequency	Frequency	Frequency	Frequency	Percent
<u>Age (years):</u>					
35 - 39	3	1	5	9	14.5
40 - 44	4	2	8	14	22.6
45 - 49	3	3	5	11	17.7
50 - 54	5	2	2	9	14.5
55 - 59	2	4	3	9	14.5
60 - 64	3	2	-	5	8.1
65 - 69	1	3	-	4	6.5
70 - 74	1	-	-	1	1.6
Missing	-	1	-	1	-
Total	22	18	23	63	100.0
Mean	51.3	53.9	44.3	49.4	
SD	9.9	9.2	6.7	9.4	

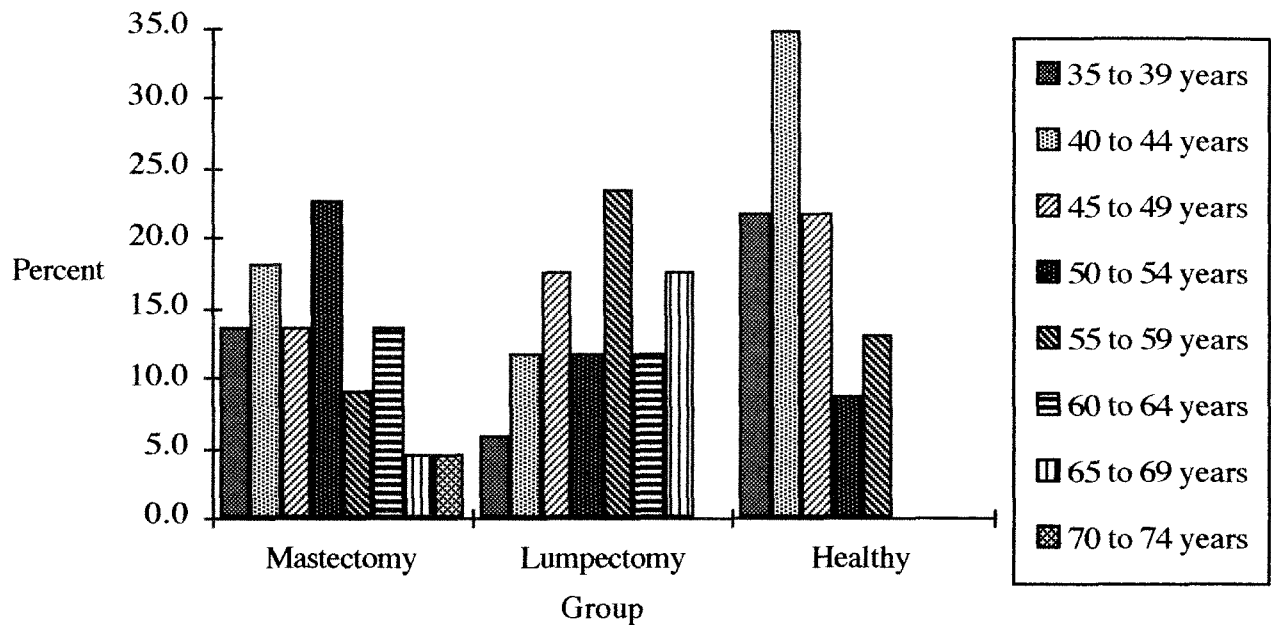


Figure 2 Age Ranges for All Groups

Marital Status

Marital status was indicated by six categories: married, separated, divorced, widowed, cohabiting, and never married. Over 60% of women in the sample were married (Table II). The majority of women in both surgical groups were married, compared to only about 39% of women in the healthy group. More women in the healthy group than in the mastectomy and lumpectomy group, however, had never married or were divorced (Table II).

Table II

Marital Status of the Sample

	Group				Percent
	Mastectomy	Lumpectomy	Healthy	Total	
	Frequency	Frequency	Frequency	Frequency	
<u>Marital Status:</u>					
Married	14	16	9	39	61.9
Separated	-	-	2	2	3.2
Divorced	2	1	5	8	12.7
Widowed	1	-	1	2	3.2
Cohabiting	2	1	2	5	7.9
Never Married	3	-	4	7	11.1
Total	22	18	23	63	100.0

Race

All participants in the study were Caucasian.

Level of Education of the Sample

The sample referred to four stages of educational preparation: no high school degree, high school degree, college or technical certificate, and university degree. Almost all the women in the sample (88.9%) had an education level beyond high school graduation (Table III). Only 11.1% had not graduated from high school. The majority of women (69.6%) in the healthy group had a university degree, compared to about 27% of women in the mastectomy group and only 11.1% of women in the lumpectomy group.

Table III

Educational Level of the Sample

	Group				
	Mastectomy	Lumpectomy	Healthy	Total	
	Frequency	Frequency	Frequency	Frequency	Percent
Educational Level:					
No high school degree	3	2	2	7	11.1
High school degree	4	7	4	15	23.8
College or technical Certificate	9	7	1	17	27.0
University degree	6	2	16	24	38.1
Total	22	18	23	63	100.0

Number of Children of the Sample

Seventy-one percent of the sample had children ($M=1.6$, $SD=1.2$), with the majority having either two or three children. Twenty-nine percent had not had a child. Information on the number of children for the whole sample as well as for each group is presented in Table IV.

Table IV

Number of Children of the Sample

	Group				
	Mastectomy Frequency	Lumpectomy Frequency	Healthy Frequency	Total Frequency	Percent
<u>Number of Children:</u>					
None	8	3	7	18	29.0
One	3	2	4	9	14.5
Two	7	6	6	19	30.7
Three	3	5	5	13	21.0
Four	-	2	1	3	4.8
Missing	1	-	-	1	-
Total	22	18	23	63	100.0
Mean	1.2	2.1	1.5	1.6	
SD	1.1	1.3	1.3	1.2	

Employment Status of the Sample

Eighty-one percent of women were employed, with the remainder unemployed, this latter section including women who had retired.

In the mastectomy group, 17 out of 22 women were employed, or 77.3%. Of the 18 women in the lumpectomy group, 14 women (77.8%) were employed. The majority of women, or 87%, in the healthy group were also employed.

Treatment Characteristics of the Sample

In this section the following treatment characteristics of the two surgical groups are discussed: type of surgery, time since surgery, whether lymph nodes were removed, results of lymph node biopsy if removed, other treatment after surgery, as well any further surgery

since the breast cancer surgery. Information from the healthy group of women about surgery on their breasts is also included.

Type of Surgery

Women who had undergone breast cancer surgery were asked about the type of the surgery they had undergone. Twenty-two women had undergone mastectomy, and 18 women had undergone lumpectomy.

Time since Surgery

The majority of women (67.5%) in the two surgical groups were one to four years post-surgery (Table V). The time since surgery for the mastectomy group ranged from one year and three months up to nine years (M=4.0), and for the lumpectomy group from one-and-half years up to eight years (M=3.8).

Table V

Time since Surgery for the Surgical Groups

	Group			Percent
	Mastectomy	Lumpectomy	Total	
	Frequency	Frequency	Frequency	
Time since (years):				
1 - 2	10	6	16	40.0
3 - 4	4	7	11	27.5
5 - 6	4	4	8	20.0
7 - 8	2	1	3	7.5
9 - 10	2	0	2	5.0
Total	22	18	40	100.0
Mean	4.0	3.8	3.9	
SD	2.5	1.7	2.1	

Lymph Node Removal

Twenty women in the mastectomy group had lymph nodes biopsied at the time of surgery. The nodes were negative for 12 of them (60.0%). All women in the lumpectomy group had lymph nodes biopsied at the time of surgery. For 81.3% of these women the results were negative.

Other Treatments after Surgery

The majority of women in both surgical groups had undergone other treatment after the breast cancer surgery (Table VI). Eight women in the mastectomy group had not undergone any treatment after the surgery, compared to two women in the lumpectomy group. Most women in the lumpectomy group had undergone radiation therapy after the surgery, compared to 27% of women in the mastectomy group. More women in the mastectomy group than in the lumpectomy group, however, had undergone some other treatment (Table VI).

Table VI

Other Treatments of the Surgical Groups

	Group			Percent
	Mastectomy	Lumpectomy	Total	
	Frequency	Frequency	Frequency	
Other Treatment:				
None	8	2	10	25.0
Chemotherapy	2	-	2	5.0
Radiation therapy	6	11	17	42.5
Chemotherapy & radiation	3	5	8	20.0
Chemotherapy & other	1	-	1	2.5
Other	2	-	2	5.0
Total	22	18	40	100.0

Further Surgeries

Women in the surgical groups were asked if they had undergone other surgery since the breast cancer surgery, and women in the healthy group were asked if they had undergone any breast surgery. Four women in the mastectomy group had undergone other surgery (two had had breast surgery, two surgery on other parts of the body), and three women in the lumpectomy group (two had had breast surgery, one surgery on another part of the body). Three women in the healthy group had undergone surgery (two had had moles removed, one had had a small lump under the arm removed).

Summary

In summary, the sample for this study consisted of 22 women who had undergone mastectomy, 18 women who had undergone lumpectomy, and 23 women who had not undergone any breast cancer surgery. The healthy women were younger than those women who had had a mastectomy and significantly younger than those who had had a lumpectomy. The majority of women in the surgical groups were married, compared to less than half of the women in the healthy group. A larger number of women in the healthy group were, however, divorced or had never been married than women in the surgical groups. The majority of women in the healthy group had received a university degree, compared to the majority of women in the lumpectomy group who had either graduated from high school or had completed a college or technical degree. In the mastectomy group most women had a college or technical degree, followed by women with a university degree. The majority of women in all three groups had children, with the mean ranging from 1.2 children for the mastectomy group, 1.5 children for healthy women, and up to 2.1 children for the lumpectomy group. Most women in all groups were employed.

The mean time since surgery was similar for both surgical groups, with the majority of women having had surgery one to four years earlier. Most women in both groups had had

lymph nodes biopsied at the time of surgery, with a slightly larger percent of women in the lumpectomy group having had negative nodes. The majority of women in both surgical groups had received other treatment after the surgery.

Representativeness of the Sample

The demographic characteristics of the sample in this study reflect reasonably well the general population of women 35-70 years of age, in British Columbia. In terms of marital status, married women made up the larger portion of the sample, a ratio which is also reflected generally in B.C. A larger portion of this sample had, however, never been married (11%), when compared to women in B.C. (6%) (Statistics Canada, 1992a). The proportion of those women in the sample with no children was also similar to women in B.C. (Statistics Canada, 1993a). The sample had achieved higher levels of education than is seen in the general population and had more women employed (81%) than in the general population (63%) (Statistics Canada, 1993b). In short, the age and marital distribution of the women were similar to B.C. women, but the sample reflected greater numbers who were employed and had higher education levels.

Since the sample consisted of both healthy women and women who had undergone breast cancer surgery their characteristics will also be discussed separately.

In general, the surgical groups reflected many characteristics one might expect for a group of women who have undergone surgery for breast cancer. The age of women in this study reflected the general distribution of women with breast cancer in B.C., with more women over 44 years of age having had breast cancer than those younger (Statistics Canada, 1992b). Seventy-four percent of women with breast cancer in this study were over the age of 44. Although 60 percent of the sample was made up of women 50 years of age and older, it did not quite reflect the incidence increase rate of nearly 11 times for women 50 years and older (Swanson, 1992), since only 25% of the sample was 60 years and older. In general,

however, women in the two surgical groups reflected the samples used in prior studies by Mock (1993), Lasry et al. (1987), and de Haes et al. (1986).

The group of healthy women in this study did not quite reflect the general population of women 35-59 years of age in B.C. When the characteristics of the healthy group in this study were compared to the general population of women 35-59 years of age in B.C., fewer women in this sample were married compared to women in B.C. (39.1% compared to 76.9%). More women in the study were, however, divorced (21.7% compared to 9.0%), or single (17.4% compared to 6.6%), and more women had had no children (30.4% compared to 15.8% of women in B.C.) (Statistics Canada, 1993a). The healthy group achieved a higher level of education than is seen in the general population (70% university degree compared to 24.8%) (Statistics Canada, 1993c) and a higher level of employment (80% compared to 47.0%).

The small sample size and the convenience method of sampling may have resulted in a sample that is not truly representative of the population for each group involved. It is, however, likely that the surgical groups are reasonably representative of women with breast cancer in terms of age, marital status, and time from surgery. The healthy group is, however, not quite representative of the general population of women in B.C.

In this section the description of the sample, including demographic characteristics of the sample, treatment characteristics of the two surgical groups, and the representativeness of the sample, was presented. The next section presents the answers to the two research questions, as well as the ancillary findings.

Findings

The findings from parts one and two of the questionnaire are presented in relation to the two research questions. The perception of body image was examined using descriptive statistics, and the differences between body image perceptions were examined by analysis of

variance (ANOVA). Ancillary findings from part three of the questionnaire are also presented.

Research Question One

The first research question asked was as follows: what is the perception of body image held by healthy women, by women who have had a mastectomy, and by women who have had a lumpectomy?

Body image satisfaction scores will be presented in the following order: 1) general body image satisfaction (items 1-24), 2) satisfaction with breast/s (items 25-29), and 3) total body image satisfaction (items 1-29). An item analysis for items 1-29 is presented in Appendix F.

Body Image Satisfaction

Scores for the general body image satisfaction consisted of scores from the first 24 items in the questionnaire. The minimum possible body image satisfaction score was 24, and the maximum possible body image score was 144. Scores for the overall sample ranged from 68 to 143 ($M=108.8$, $SD=14.9$). The most frequent scores were between 107-119 (33.3%) (Table VII).

Table VII

Distribution of Body Image Satisfaction Scores (Questions 1-24) by Group

Score	Mastectomy		Lumpectomy		Healthy		Total	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
68 - 80	-	-	-	-	1	4.3	1	1.6
81 - 93	1	4.5	6	33.3	1	4.3	8	12.7
94 - 106	8	36.4	4	22.2	7	30.5	19	30.2
107 - 119	7	31.8	5	27.8	9	39.1	21	33.3
120 - 132	2	9.1	3	16.7	4	17.5	9	14.3
133 - 144	4	18.2	-	-	1	4.3	5	7.9
Total	22	100.0	18	100.0	23	100.0	63	100.0
Mean	112.8		103.5		109.2		108.8	
SD	15.1		13.6		15.0		14.9	

Note: 24 body image items scored from 1 to 6. Minimum score possible was 24 and maximum score possible was 144.

For items 1-24, women who had undergone mastectomy had the highest mean score (M=112.8) while women who had undergone lumpectomy were the most dissatisfied (M=103.5). As seen in Table VII, the distribution of scores ranged from 68-144. When scores from all respondents were equally divided up, scores from 94 to 119 represented medium satisfaction levels, which means that the means for all three groups were in the medium level of body image satisfaction.

Scores for the mastectomy group ranged from 92 to 143. The most frequent scores for the mastectomy group were between 94-106 (36.4%). Although the majority of women (68.2%) had body satisfaction scores between 94-119, 27.3% had body satisfaction scores above 120, indicating high body image satisfaction (see Table VII). No woman in this group had body image satisfaction scores lower than 92. For the lumpectomy group the scores for part one of the questionnaire ranged from 84 to 126. For 33.3% of women, the most frequent scores

were between 81-93. Fifty percent of women had body image satisfaction scores between 94-119.

The scores ranged for the healthy group from 68 to 140 ($M=109.2$). The majority of women (69.6%) scored between 94-119. Only one woman had a low mean score of 68.

Breast Satisfaction

In this section, results from part two of the questionnaire, which pertained to breast satisfaction, are presented. In terms of women's satisfaction or dissatisfaction with their breasts, the lowest possible score was 5, and the highest possible score was 30. Overall the women had a mean satisfaction score of 22.6 ($SD=4.5$), which ranged from 10 to 30. Almost all women (92.1%) had scores 16 and over. Women in the lumpectomy group were, however, less satisfied with their breasts than women in either of the other groups (Table VIII).

The mean breast satisfaction score for the mastectomy group was 23.2 ($SD=4.8$). The distribution of score was from 10-30, with the most frequent scores equally distributed between 16-23 and 24-30. For the lumpectomy group, the mean score was 20.7 ($SD=4.2$), and the scores ranged from 14 to 28 (Table VIII). The majority of women (61.1%) scored between 16 and 23. The breast satisfaction mean score for the healthy group was 23.6 ($SD=4.0$). Over 69.0% of scores was between 24-30, indicating that more than half of the group had a high level of breast satisfaction.

Table VIII

Distribution of Breast Satisfaction Scores (Questions 25-29) by Group

Score	Group							
	Mastectomy		Lumpectomy		Healthy		Total	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
8 - 15	2	9.0	2	11.1	1	4.3	5	7.9
16 - 23	10	45.5	11	61.1	6	26.1	27	42.9
24 - 30	10	45.5	5	27.8	16	69.6	31	49.2
Total	22	100.0	18	100.0	23	100.0	63	100.0
Mean	23.2		20.7		23.6		22.6	
SD	4.8		4.2		4.0		4.5	

Note: 5 breast satisfaction items scored from 1 to 6. Minimum score possible was 5 and maximum score possible was 30.

Total Body Image Satisfaction

The total body image satisfaction scores were derived from adding items 1-24 to items 25-29. The minimum possible body image score was 29, and the maximum possible score was 174. Higher scores indicated more satisfaction, and lower scores indicated more dissatisfaction with body image.

The total body image score for the sample ranged from 82 to 173 ($M=131.5$, $SD=17.9$). Women who had undergone mastectomy had the highest mean score ($M=136.9$), women in the healthy group had a mean score of 132.8, and women in the lumpectomy group had the lowest mean score ($M=124.2$). Scores between 113 to 143 presented the medium level of total body image satisfaction. The majority of the women (63.5%) had a medium body image satisfaction score, while 14.3% of the women had a low level of body image score, and 22.2% of the women had a high level of body image score.

In summary, in this section the answers to the first research question were presented, including findings from part one of the questionnaire on general body image satisfaction, findings from part two of the questionnaire on breast satisfaction, and findings on total body image satisfaction. In the next section, research question two will be answered.

Research Question Two

The second research question asked was as follows: what is the difference in the perception of body image held by healthy women, by women who have had mastectomy, and by women who have had lumpectomy?

The ANOVA procedure was used to examine if there was a significant difference between the body image means. No significant difference was found among the groups for either the general body image means or satisfaction with breast (Table IX).

Table IX

Body Image Mean Scores by Group

Measure	Group			F	p
	Mastectomy	Lumpectomy	Healthy		
	<i>n</i> = 22	<i>n</i> = 18	<i>n</i> = 23		
Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
Total Body Image Score, Questions 1-29	136.0 (18.2)	124.2 (16.5)	132.8 (17.7)	2.33	0.11
Body Image Satisfaction, Questions 1-24	112.8 (15.1)	103.5 (13.6)	109.2 (15.0)	2.01	0.14
Breast/s Satisfaction, Questions 25-29	23.2 (4.8)	20.7 (4.2)	23.6 (4.0)	2.48	0.09

The results described in Table IX indicate that there was no significant difference in body image perception between healthy women, women who had undergone mastectomy, and women who had undergone lumpectomy.

Ancillary Findings

In part three of the questionnaire, women who had undergone breast cancer surgery were given the opportunity to answer two open-ended questions related to the effect the surgery had had on their body image, and what factors they had considered when deciding upon the type of surgery to have performed. In addition to these concerns, women were asked to evaluate their satisfaction or dissatisfaction with their scar. Analysis of response by age has been calculated for each group.

Open-Ended Question One

The first open-ended question asked was: what impact, if any, would you say your breast surgery has had on your perception of your body image?

Most women (92.5%) answered this question. Over half of the women indicated that the breast cancer surgery had had little or no impact on their perception of their body image. A small number of these women clarified that the reason the surgery had had little impact on their perception was that their husbands had been very supportive. Two women in fact indicated that the impact of surgery on body image had affected them positively because the result was an increased appreciation of their body the way it was. Other responses, however, suggested that the surgery had had a negative impact on women's body image perception. These responses revealed that some women were self-conscious, felt uncomfortable in public places (such as at beaches and swimming pools), and disliked looking in the mirror when naked.

The major themes that came out of the responses for question one were that, for some women, breast cancer surgery had had little or no impact on the women's perception of their body image, whereas, for others, breast cancer surgery had affected their perception of their body image negatively.

Open-Ended Question Two

The second open-ended question asked was: what factors did you consider in deciding to have the type of breast surgery you had?

Women were asked about factors they had considered when deciding the type of surgery to have performed. Although this question did not directly relate to body image, it was included to see if women would report considering body image alteration when choosing the type of surgery to be performed.

The data from this question revealed four major factors that affected the women's decision-making about the surgery to have performed. These factors were: women accepted the doctor's recommendation; women felt they had no choice regarding what type of surgery to have performed; women felt that the surgery would remove all the cancer; and women wanted to look as normal as possible. Over half of the women indicated that they had accepted the doctor's recommendation ($n=20$). Others women felt they did not, at the time of surgery, have any choice about what type of surgery to have performed ($n=7$). Some ($n=4$) had chosen mastectomy because they felt it would be more likely to remove all the cancer than lumpectomy. Only three women responded that they had chosen lumpectomy because they wanted to look as "normal" as possible, either for their husband's or their children's sake. Two responses included more than one factor. One woman chose lumpectomy, because she wanted to keep the nipple for breast feeding and for a more normal appearance. Another woman considered not only what the doctor recommended, but also research findings, recovery period, amount of additional treatment required, appearance, and comfort before choosing a lumpectomy.

Question 30

In addition to the two open-ended questions, women in the surgical groups were asked to answer a question pertaining to the scar from the surgery. To the question how satisfied are you with the scar from the breast surgery?, on a scale of 1 to 6, with 6 meaning greater satisfaction, women who had lumpectomy had a mean score of 5.06 (SD=.87), whereas women who had undergone mastectomy had less satisfaction, with a mean score of 4.91 (SD=1.07). The means of the groups were compared using t-test; no significant difference was found between the groups.

Responses by Age

Because the age of women overall ranged from 35 to 70 years, their response by age was calculated to see if there was any difference in general body image satisfaction and breast satisfaction among different age groups. This section presents the mean scores of different age groups for general body image satisfaction and breast satisfaction.

With regard to general body image satisfaction, the distribution of mean scores was somewhat different for each of the three groups. Generally, for women in the mastectomy group, the body image satisfaction mean scores rose with increased age; thus the youngest women had somewhat lower body image satisfaction when compared to older women in the same group (Table X). For women in the lumpectomy group, as well, some of the younger women had lower body image satisfaction scores than older women in the same group. Younger women in the healthy group were, however, slightly more satisfied with their body when compared to some of the older women in the same group (Table X).

Table X

Body Image Satisfaction Mean Score by Age Distribution

	Group					
	Mastectomy		Lumpectomy		Healthy	
	Mean	<u>n</u>	Mean	<u>n</u>	Mean	<u>n</u>
<u>Age (years):</u>						
35 - 39	99.7	3	126.0	1	119.2	5
40 - 44	108.5	4	97.5	2	103.9	8
45 - 49	107.0	3	94.3	3	109.8	5
50 - 54	112.8	5	107.0	2	96.5	2
55 - 59	108.0	2	106.5	4	114.3	3
60 - 64	126.3	3	98.0	2	-	-
65 - 69	136.0	1	100.0	3	-	-
70 - 74	133.0	1	-	-	-	-

Regarding the questions on breast satisfaction, the younger women in the mastectomy group were less satisfied with their breasts than older women in the same group. In the lumpectomy group, some of the younger women had more negative breast satisfaction scores than older women (Table XI). When the different age groups in the two surgical groups were compared, women in the mastectomy group were generally more satisfied with their breasts than women in the same age range in the lumpectomy group. Breast satisfaction for women in the healthy group did not range as much between the age groups as for the other groups; that is, younger and older women had similar satisfaction with their breasts (Table XI).

Table XI

Breast/s Satisfaction Mean Score by Age Distribution

	Group					
	Mastectomy		Lumpectomy		Healthy	
	Mean	<u>n</u>	Mean	<u>n</u>	Mean	<u>n</u>
<u>Age (years):</u>						
35 - 39	18.7	3	24.0	1	24.6	5
40 - 44	20.2	4	14.0	2	21.2	8
45 - 49	21.7	3	19.0	3	24.6	5
50 - 54	25.4	5	22.0	2	25.0	2
55 - 59	24.0	2	21.7	4	25.7	3
60 - 64	27.7	3	21.0	2	-	-
65 - 69	25.0	1	21.0	3	-	-
70 - 74	25.0	1	-	-	-	-

The second section of this chapter has discussed the results from part one and two of the questionnaire, which answered the two research questions. The ancillary findings were presented, which included; the two open-ended questions, the question on satisfaction with the scar, and responses by age. The third and final section of this chapter discusses the findings.

Discussion of Findings

The discussion of the findings will take place under three major headings: body image satisfaction, breast satisfaction, and ancillary findings. The results will also be discussed in relation to methodological concerns.

Body Image Satisfaction

This section discusses how satisfied women were with their body image and the possible reasons for the similarities and differences of the body image satisfaction.

The majority of the sample (63.5%) represented the medium level of body image satisfaction. More specifically, the majority of women in both the healthy group and the mastectomy group represented the medium level of body image satisfaction, with half of the women in the lumpectomy group representing the medium level of body image satisfaction. Although women in the mastectomy group had the highest mean score, followed by women in the healthy group, no significant difference was found between the means of the three groups, indicating that women who have undergone different types of surgeries for breast cancer, as well as healthy women, perceive their body image quite positively.

Two studies were found in the literature that used the same scale that was used in this study to measure body image of women who had undergone surgery for breast cancer. In a study by Mock (1993), the 22-item version of the Body Image Scale by Berscheid et. al. was used to measure body image after breast cancer. When the mean scores from this present study, also using only 22 items, were compared to the mean scores from Mock's study, the mean scores for the groups turned out to be similar for both studies. For example, the mean body image score for the mastectomy group in this study was 103.5, compared to 98.2 in Mock's study, and the mean body image score for the lumpectomy group was 94.9 in this study, compared to 97.2 in Mock's study.

Although it is true that Mock tested the women within two years after surgery and this researcher tested women up to ten years from surgery, the results of this study are consistent with Mock's results. The results support that body image is constant and does not change with increased time from surgery.

Mock (1993) also studied two reconstruction groups which she compared with the mastectomy group and the lumpectomy group. Similarly, in this study five women who had

answered the questionnaire for this present study, but were excluded because they had undergone reconstruction on their breast, were analyzed using the 22 questionnaire items. In a comparison of the mean body image scores of these women to the body image scores of women in Mock's study, these women turned out to have nearly the same body image score as the women in both the reconstruction groups in Mock's study. It seems then that women who have undergone breast reconstruction do not have significantly different body image satisfaction from women who have undergone mastectomy or lumpectomy.

In another study on women's feminine self-concept, Polivy (1977) used the 22-item version of the Body Image Scale to compare change in body image over time. In Polivy's study low scores indicated more satisfaction, whereas high scores indicated more dissatisfaction. To be able to compare the mean scores of this study to Polivy's results, the researcher recoded the 22 items in this study. The mean score of the mastectomy group turned out to be 50.5, for the lumpectomy group 57.9, and for the healthy group 54.4. Women in the mastectomy group in this study were therefore somewhat more satisfied with their body image than women in the mastectomy groups in Polivy's study. The mean score for the healthy group in this study was 54.4, which is somewhat lower (reflecting more satisfaction) than pre-surgery measures for all three groups in Polivy's study. A significant difference was found between the mean scores of the mastectomy groups, at $t=3.49$, $p<0.001$. Women in Polivy's study had significantly more negative body image scores than women in the mastectomy group in this study. One explanation could be that women in Polivy's study were more likely to represent women who had undergone more radical mastectomy than women in this study, who were more likely to have undergone modified radical mastectomy since that type of surgery is more common today than it was sixteen years ago.

Given that the results of this study show no significant difference among the three groups, and majority of the women in the healthy group and the mastectomy group had medium level

of body image satisfaction, as well as half of the women in the lumpectomy group, one would expect women in all groups to have similar satisfaction or dissatisfaction with body parts other than the breasts. To see if that was the case, the researcher calculated the frequency and distribution of the seven items with which women were most satisfied and dissatisfied.

Frequency and distribution of the seven items women were most satisfied with are presented in Table XII. As shown in the table, four out of seven items (height, eyes, ears, and voice) were the same for all groups, although they did not rank them in the same order. A higher mean score reflects more satisfaction.

Table XII

Frequency and Distribution of the Seven Items Women Rated As Most Satisfying

Group						
Mastectomy			Lumpectomy		Healthy	
Rank	Item	Mean	Item	Mean	Item	Mean
1	1. Height	5.41	4. Eyes	5.39	5. Ears	5.26
2	4. Eyes	5.23	5. Ears	5.33	1. Height	5.04
3	7. Mouth	5.18	6. Nose	5.11	4. Eyes	5.04
4	5. Ears	5.09	7. Mouth	5.11	22. Genitals	5.00
5	9. Voice	5.09	1. Height	5.00	16. Hands	4.96
6	10. Chin	5.05	9. Voice	5.00	14. Shoulders	4.91
7	15. Arms	5.05	12. Facial	4.89	9. Voice	4.87
attractiveness						

Some of the items in this study that ranked high in satisfaction for women can be matched with results from Berscheid's et al. study (1973) on the body image of healthy women. These were a high satisfaction with eyes, ears, mouth, and height. It is interesting to notice that three of these items are parts from the face. Although skin turgor decreases during middle age and the facial skin starts to wrinkle, which may cause some changes in the face,

the eyes, ears and mouth are likely to be somewhat more stable and less likely to have changed to any great extent over the years. This could be one explanation for the high satisfaction expressed over these three body parts.

The frequency and distribution of the seven items women were most dissatisfied with are presented in Table XIII. Five out of the seven items women which elicited the most dissatisfaction for women were the same for women in all three groups. These were abdomen, weight, hips/upper thighs, general muscle tone or development, and buttocks. In Berscheid's et al. (1973) study, four of these same items were ranked by women as most dissatisfying: abdomen, hips, weight, and buttocks. One possible explanation of the dissatisfaction with these items could be related to the concern for weight that exists in the society. It is also known that weight gain commonly occurs during middle age and that normally it is the abdomen, buttocks, hips and thighs which carry the excess fat (Gauntlett & Myers, 1990).

Table XIII

Frequency and Distribution of the Seven Items Women Rated As Most Dissatisfying

Group						
Mastectomy			Lumpectomy		Healthy	
Rank	Item	Mean	Item	Mean	Item	Mean
1	17. Size of Abdomen	3.59	2. Weight	2.56	19. Hips/upper thighs	3.57
2	2. Weight	3.73	17. Size of Abdomen	2.78	17. Size of Abdomen	3.96
3	19. Hips/upper thighs	4.05	18. Buttocks	3.06	11. Complexion	4.00
4	23. Muscle Tone	4.27	19. Hips/upper thighs	3.28	18. Buttocks	4.00
5	13. Breasts	4.32	23. Muscle Tone	3.35	2. Weight	4.04
6	24. Body appearance	4.32	24. Body appearance	4.06	23. Muscle Tone	4.13
7	18. Buttocks	4.36	15. Arms	4.28	8. Teeth	4.14

In the discussion above the seven items women were most satisfied and dissatisfied with were rank ordered. In addition to these items the item of satisfaction or dissatisfaction with breasts was identified for each group to see if any difference in satisfaction or dissatisfaction was between the groups. Women in the mastectomy group were more dissatisfied with the breast than women in the other two groups where the item mean was 4.32 for the mastectomy group, 4.50 for the lumpectomy group, and 4.70 for the healthy group. These results illustrate that although overall body image was not different, there were differences in perception of the breasts between the groups. Such a result should not be surprising since women in the mastectomy group underwent more extensive surgery on their breasts than women in the lumpectomy group.

In this study one surprising result is that the healthy group of women turned out to have the same body image satisfaction level as women in the breast cancer groups. One explanation could be that, as noted above, the healthy group was not quite representative of the general population of women in B.C. Responses from women more representative of women in B.C. might have given different results for the healthy group. The healthy women in this study had, for example, achieved a much higher level of education than the general population in B.C. Less educated women do perhaps perceive their status and security to be dependent on their physical attractiveness, whereas more educated women perceive their status to be based more on success and achievement than on their looks.

Another explanation for the healthy women having the same body image satisfaction level as women in the surgical groups could be that women in the healthy group were significantly younger than those in the surgical groups. Since youth and a youthful appearance are highly valued in today's society (Cobb, 1988; Lindberg et al., 1983), one might expect younger healthy middle-aged women to be somewhat more satisfied with their body image than older women who have undergone surgery for breast cancer. Additionally, this study found that

younger healthy women presented a slightly higher body satisfaction score than the older healthy women. However, as the attitudes toward middle age tend to be negative, and it becomes more and more difficult for the younger middle-aged woman to fit the idealized version of a young and slim woman in our society (Kahane, 1990; Cobb, 1988), it would follow that it would be increasingly difficult for them to perceive their body image very positively. Therefore, they present similar body image satisfaction as older women who have undergone breast cancer surgery. Furthermore, women who have undergone breast cancer surgery have been reported to have gained increased appreciation of themselves after having gone through the experience of having breast cancer (Kahane, 1990). One last explanation is relevant: this sample was also a convenience sample, which may have resulted in the participation of healthy women who were more satisfied with their body image than other women who did not respond.

According to the framework used in this study, the effect of breast cancer surgery on women's body image is likely to be primarily on the topological level of bodily experiences. As the degree of alteration in terms of body surface alteration is higher after a mastectomy than after a lumpectomy, one might expect the body image satisfaction to be greater for women who have undergone lumpectomy than for women who have undergone mastectomy. Although several studies have reported that women who underwent lumpectomy had more positive body image than women who had undergone mastectomy (Kemeny et al., 1988; Lasry et al., 1987), this study found that women in both groups were equally satisfied with their body image. One explanation could be that women that have been diagnosed and treated for breast cancer are not so concerned with their breast loss or disfigurement as they are with surviving. This was found to be the case in a study by Northouse (1989), who studied women both shortly after mastectomy and one month later, and in another study by Cawley et al. (1990) on women after lumpectomy. The results of this study could therefore be explained by the fact that women who underwent surgery for breast cancer some years ago

are still primarily concerned about their survival and less concerned about the breast loss or disfigurement.

The influence of age could be another explanation of the results of no significant difference between the groups. In the healthy group the younger healthy women had higher body satisfaction scores than older women, but the surgery seemed to have affected the younger group (35-39) of women in the mastectomy group more negatively than those of all other age ranges in the group. This result has also been seen in other studies where younger women have been found to be more concerned about loss of the breast than older women, who focus more on adjusting to having cancer (Ward, et al., 1989; Valanis & Rumpler, 1985). Similarly, women 40-49 years of age in the lumpectomy group also presented more negative body satisfaction scores than older women in the group. It has to be kept in mind, once again, that the sample in the study was a convenience sample and may have resulted in participation of women who were more satisfied with their body image than women who did not respond perhaps because they were dissatisfied with their body image.

Body image satisfaction scores for a group of women who had undergone a mastectomy, but who were excluded from this study because they were over 70 years of age, were analyzed to see if their body image mean score would be different from that of younger women. It turned out that these women had very similar body image mean score compared to that of all three groups of women in this study, although they were slightly (but not significantly) more dissatisfied with their body image when compared to the other mastectomy group. It seems fair to say that the impact of age may affect a woman's body image satisfaction.

Another explanation for the equal level of satisfaction for the surgical groups might lie in the attitudes of significant others. According to the framework used in this study, the attitudes of significant others is one of the Environmental Factors which influences body image perception, so how significant others react to the breast cancer and the surgery may

have a significant impact on a woman's adjustment to her surgery. If significant others can accept the woman the way she is, they can help her to accept herself (Feather & Wainstock, 1989).

Although several studies have reported that women who had undergone lumpectomy had a more positive body image than women who had undergone mastectomy, this study found no significant differences between the groups. However, a larger number of women (33%) in the lumpectomy group had a low level of body image satisfaction compared to less than 10% of women in the other two groups. At the same time, a larger number of women from the mastectomy group and from the healthy group represented a high level of body image satisfaction.

One explanation of the higher number of women in the lumpectomy group than in the mastectomy group perceiving their body image negatively could lie in the social support women received after the surgery. As social support has been associated with good adjustment after breast cancer and the major sources of potential support available to patients have been identified as health care givers, family members, and other breast cancer patients (Feather & Wainstock, 1989), there could have been some differences in the support women in the two surgical groups received after the surgery. If one recalls that, for example, that the attitudes of significant others are likely to affect the quality of support they can give to the women involved, as well as that the lumpectomy has often been considered the less traumatic type of surgery compared to mastectomy, one might conclude that women who had undergone the surgery that was less visible (lumpectomy) might have received less reaction and support from significant others and therefore felt less supported. Support for this explanation can be found in a study by Cawley, Kostic & Cappello (1990). Women who had undergone lumpectomy felt that the health care team was not supportive enough as one lady in Cawley's et al. study said, "People seem to be under the impression that if you "just" had a lumpectomy then there's nothing wrong with you"

Another explanation of the high number of women in the lumpectomy group perceiving their body image negatively could lie in the lack of support from other women who have undergone similar experience. The women who had undergone lumpectomy did perhaps not receive the same amount of support as women who had undergone mastectomy and had therefore more difficulties in their adjustment after the surgery. In a study by Cawley et al. (1990), fewer than 10% of women who had undergone lumpectomy had been visited by someone who had undergone the same surgery, and many women in that study reported feeling isolated because the lack of contact with women with similar experiences. Because women in this study's sample were not asked to identify if they had been visited by someone who had undergone the same type of surgery, or if they had belonged to any support groups for women with breast cancer, it is not possible to make any generalizations about the impact of this type of support on the women in the sample.

Another explanation of the high number of women in the lumpectomy group perceiving their body image as negative might lie in the fact that women in the lumpectomy group were somewhat older than women in the other two groups. Given that the average age of women at menopause is said to be 50-51 years (Krouse, 1987), some women in the lumpectomy group were perhaps struggling not only with their responses to their surgery but also with their changing image following menopause.

One explanation of the high number of women in the mastectomy group presenting the high level of body image satisfaction could be because of the women that had worked for the Reach to Recovery support group. Women who have experienced or are experiencing breast cancer are considered an important source of emotional support for women, since these women provide a role model that helps reduce the stigma and isolation that patients feel after surgery (Feather & Wainstock, 1989). When speaking with the researcher about participating in this study, four women indicated that they had been working for Reach to Recovery, a well-known support group for women with breast cancer. It could be assumed that these

women, who were supporting other women, had become better adjusted to their situation than other women who have undergone similar treatment but were perhaps not visited by women with similar experiences. The mean scores of the surgical groups could therefore be influenced by women such as these, explaining why the surgical groups perceived their body image more positively than the so-called typical mastectomy or lumpectomy women.

Breast Satisfaction

The majority of women in the sample (91.9%) expressed medium to very high breast satisfaction. The majority of women in the healthy group represented the high level of breast satisfaction, while the majority of women in the lumpectomy group represented the medium level, and the majority of women in the mastectomy group were equally distributed between the medium and the high level of breast satisfaction. Women in the mastectomy group perceived their breast satisfaction more positively than women in the lumpectomy group, but somewhat more negatively than women in the healthy group. There was, however, no significant difference in breast satisfaction among the three groups.

The healthy group had more women representing a high level of breast satisfaction, compared to those in the two surgical groups. This result could be expected since they had not lost a breast or were left with a disfigured breast from breast cancer surgery. Women in the healthy group were also significantly younger than women in the other groups and, given the importance society places on full firm breasts which belong more to women of younger age, women in the healthy group were more likely to fit that qualification than older women in the surgical groups who had more likely gone through menopause and whose breasts had lost fullness and firmness in response to reduced estrogen stimulation of the tissue (Dickson & Henriques, 1988).

The mastectomy group had more women presenting a high level of satisfaction with the breast than did the lumpectomy group. This point is interesting to notice since satisfaction or

dissatisfaction with the breasts had previously, in part one of the questionnaire, ranked fifth of the most dissatisfied items for the mastectomy group compared to tenth for the lumpectomy group. One explanation might be that some women in the lumpectomy group perceived the cosmetic results of the surgery to be poor, that there was a poor resemblance of the treated breast to the healthy one. They might be, however, only somewhat dissatisfied with their breasts when judged with other parts of the body (part one of the questionnaire). In addition, since most women in the lumpectomy group underwent radiation therapy after the surgery, the discoloring and hardening of the breast caused by radiation therapy in some cases might be another explanation of the lesser breast satisfaction of women in the lumpectomy group.

One explanation of the many women in the mastectomy group presenting the high level of breast satisfaction could lie in the wording of the questions. Women in the mastectomy group answered questions 25-29 by judging their remaining breast, which did not necessarily look or feel any different to the woman than did the breasts to women in the lumpectomy group. Women in the mastectomy group might have, however, been quite dissatisfied with their breast compared to other body parts.

When the researcher compared the most satisfying or dissatisfying items of questions 25-29 among the groups, the study found that symmetry ranked as the most dissatisfied item both for the mastectomy and the lumpectomy group. This result is not surprising, since women in both groups had undergone surgery on their breast, and one would expect the mastectomy group to be even more dissatisfied than the lumpectomy group because they had lost one breast. They achieved, however, a higher mean score for this item when compared to the lumpectomy group, but a lower one than the healthy group. Perhaps some women in the mastectomy group had adjusted better to their loss than had women in the lumpectomy group to their disfigurement.

Ancillary Findings

In this section findings from the two open-ended questions and question 30 on satisfaction or dissatisfaction with the scar from the surgery will be discussed and possible explanations for the findings will be given.

Open-Ended Question One

The first open-ended question was: what impact, if any, would you say your breast surgery has had on your perception of your body image?

In answer to the question what impact, if any, would you say your breast surgery has had on your perception of your body image, the majority of women in the two surgical groups indicated that the breast cancer surgery had had little or no impact on their body image. This result supports the results of other parts of the study in which no difference was found between the body image perception of healthy women and women in the two surgical groups. A few women in the mastectomy group commented that their husbands had been very supportive and specified that this support had minimized the impact of losing the breast. A similar finding was reported by Feather and Wainstock (1989), that is, that married women with breast cancer tended to indicate their husbands as the most supportive family member, and that women whose husbands offered support and understanding reported better adjustment to their situation. Indeed, that married women who undergo breast cancer surgery adjust better than unmarried women could be one explanation why, in this study, there seemed to be no difference between women in the surgical groups and the healthy women, for the majority of women in both surgical groups were married. These women are perhaps better supported than unmarried women and therefore reported little or no impact of the surgery on their body image.

The results of little or no impact of surgery on the women's body image might also be influenced by the women who were able to chose the type of surgery to have performed.

They are perhaps more satisfied with the results of the surgery because they had had something to say in the decision.

The other major theme that emerged from the responses was that the women perceived the impact of breast cancer surgery on body image to be negative. This result was not surprising because many studies that have looked at body image after breast cancer report the same finding (Kemeny et al., 1988; Schain et al., 1983). Explanations of the negative impact of the surgery on some women's body image might be explained by some of the Environmental Factors in Brown's framework. For example, since the attitudes of significant others play an important part in the woman's adjustment after surgery, the attitudes might have been more negative towards the cancer and the surgery for these women than for other women who perceived the impact to be little or none. In addition, this study found that younger women in the surgical groups were less satisfied with their body image than older women, and given the importance society places on breasts and youthful appearance, these women reporting a negative impact on their body image might be the younger women in the sample who had had more difficulties dealing with the impact of the surgery on their body image than the older women.

Open-Ended Question Two

The second open-ended question was: what factors did you consider in deciding to have the type of breast surgery you had?

The majority of women who answered the question on what factors they had considered in deciding to have the type of breast surgery they had indicated either that they had accepted the doctor's recommendation or that they did not have any choice in deciding what type of surgery to have performed. Since the decision to treat with a mastectomy is tumor-related in about 50% of all cases (Mock, 1993), the 8 responses from women that they had not had any choice are not surprising. One reason why so many women had accepted what the doctor

recommended could be that the women deferred to the doctors' expert judgment (Pierre, 1993; Valanis & Rumpler, 1985). Although no woman included this explanation in her response, women may experience pressure to comply with the expert. However, since enormous stress may result from the urgent need to make a treatment decision, women may also feel pressured to comply with the doctor's recommendation, especially since the woman is at the same time dealing with the fears and anxieties associated with having breast cancer itself.

Only three women indicated that they chose to have lumpectomy performed to keep their appearance as normal as possible. This result reflects those in other studies in which women who chose lumpectomy were concerned about their body integrity (Ward, et al., 1989). This does, however, not mean that life threat was any less for these women than other women who had perhaps chosen mastectomy.

Question 30

The question asked was: how satisfied are you with the scar from the breast surgery?

When women in the surgical groups were asked how satisfied they were with the scar from the breast surgery, no significant difference was found between the women who had undergone mastectomy and the women who had undergone lumpectomy. This result is not surprising since the satisfaction with the scar is most likely not related to the type of surgery the women had, except that the scar from the mastectomy is most likely larger than the scar from the lumpectomy. The reasons for the satisfaction could be explained by the convenience method of sampling as well as by the fact that some of the women had worked for the Reach to Recovery support group, the latter, in particular might have influenced the scores for the mastectomy group. The majority of women in both surgical groups were, however, quite or extremely satisfied with the scar, with no women reporting being quite or extremely dissatisfied. While women in this study were, on the whole, satisfied with the scar, a study

done by Bartelink et al. (1985) has reported that 62% (n=114) of women who had lumpectomy found the cosmetic results caused by the scar unsatisfactory. It should be noted, however, that this result was the judgement of the 2 plastic surgeons involved, not of the women themselves. The results of this present study could be explained by the fact that these women were well adjusted and perhaps more concerned about other things, such as survival, than the scar from the surgery.

Methodological Concerns

Methodological concerns related to sample size, convenience method of sampling, representativeness of the sample, and the instrument used. The relatively small convenience sample may have skewed the results in that each woman's response had a large impact on the overall results. Six out of 22 women in the mastectomy group represented, for example, a high level of body image satisfaction, compared to only three women in the lumpectomy group. On the other hand, 6 out of 18 women in the lumpectomy group had a low level of body image satisfaction, compared to only 1 woman in the mastectomy group. The convenience method of sampling may have resulted in participation of healthy women who were quite satisfied with their body image and of women who were not concerned about the effect of the surgery on their body image, and were therefore interested in participating. Because the sample was small the influence of the Reach to Recovery volunteers might also have influenced the results. The lack of representativeness of the groups involved compared to the general population of women in B.C. may have also skewed the results of the study: the responses of more representative women might have given different results.

In this study body image perception of the healthy women was used as an indicator of the pre-surgical body image perception of women in the surgical groups. The difficulties in comparing a healthy group of women to women who have undergone surgery for breast cancer might lie in the differences of the women's perception of the importance of the breasts

which could be influenced by the cancer diagnosis itself. Women who have experienced breast cancer perhaps perceive the importance of the breasts to be less than the healthy women do. Women in the surgical groups may consider a lost or disfigured breast a small loss compared to the loss of life. It is, however, nearly impossible to obtain pre-illness body image scores from women who might be diagnosed with breast cancer; in addition, it would be time-consuming to make a long-term follow-up on these women. While body image scores from women diagnosed with breast cancer might be obtained before surgery, these scores could still be biased by the cancer diagnosis itself. In the face of these difficulties, studying a representative group of healthy women is the second best way of obtaining pre-illness body image scores of women diagnosed with breast cancer.

Finally, the tool did not, perhaps, detect differences in body image among healthy women and women who have undergone different treatments for breast cancer. Mock (1993), also using the Body Image Scale, failed to detect a difference in body image among women after different breast cancer treatments. Since the Body Image Scale measures many body parts and characteristics that would most likely not be influenced by a breast cancer surgery, one would expect women who have undergone breast cancer surgery to be similarly satisfied or dissatisfied with many of the same body parts as the healthy women. The items which could be expected to be different are satisfaction or dissatisfaction with breasts and possibly satisfaction or dissatisfaction with arms. Having somewhat different responses from the groups for two items out of 24 would probably not be enough to detect a significant difference between the groups. Furthermore, the wording of the breast satisfaction questions (25-29) was perhaps such that only individual differences in terms of breast satisfaction or dissatisfaction could be detected, but not differences caused by the surgery. For example, women who had undergone mastectomy evaluated the remaining breast in terms of satisfaction, a satisfaction which does not have to be any different from healthy women's satisfaction with their breasts. It seems, indeed, difficult to develop a tool that simultaneously

measures body image of healthy women as well as the body image of women who have undergone surgery for breast cancer in order to detect changes caused by the surgery.

Summary

The sample consisted of 63 women, of whom 22 had undergone mastectomy, 18 had undergone lumpectomy, and 23 had not undergone any breast cancer surgery. All the women participated voluntarily in the study. The majority of women were married, had at least a high school education, and were employed. Women in the healthy group were significantly younger than women in the two surgical groups: about 10 years younger than women in the lumpectomy group, and 7 years younger than women in the mastectomy group. The healthy group also had a higher level of education. The mean times since surgery for the surgical groups were similar, 3.8 years for the lumpectomy group, and 4.0 years for the mastectomy group.

Overall, the majority of women in the sample represented the medium level of body image satisfaction, indicating that most women perceived their body image positively. No significant difference was found in body image perception among the groups. This result could be explained by factors such as (1) the healthy group was not representative for women in B.C.; (2) women in the healthy group were significantly younger than women in the surgical groups; (3) the breast cancer women focus on survival rather than disfigurement; and (4) all the women received adequate support to help them adjust better to their situation.

Although no significant difference was found in body image perception among the groups, the responses of the women varied. More women in the lumpectomy group than in the other two groups perceived their body image to be negative. Possible reasons might be that women who have undergone lumpectomy lacked support from significant others and other women in similar situations and that the possible effects of radiation therapy left women less satisfied with their body image. More women in the mastectomy group than in the two other groups

had a high level of satisfaction with their body image. This result could be explained by the fact that some of the women had had good support and that some had been working with a support group for women with breast cancer.

Although the majority of women in the two surgical groups perceived the impact of the breast cancer surgery to be little or none, some women perceived the impact to be negative. Most women in both surgical groups were quite satisfied with the scar from the breast cancer surgery. There was a tendency for young healthy women to perceive their body image more positively than older women in the same group. The reverse case held for women who had undergone mastectomy and lumpectomy: the younger women perceived their body image more negatively than the older women.

CHAPTER FIVE

Summary, Conclusions, Implications, and Recommendations

Introduction

This study was designed to examine body image perceptions among healthy women, women who had undergone mastectomy, and women who had undergone lumpectomy. Additionally, the study was designed to compare differences in body image perception between healthy women, women who have undergone mastectomy, and women who have undergone lumpectomy. An overview of the study is presented in this chapter, followed by conclusions, implications for nursing practice, and recommendations for future research.

Summary

A review of the breast cancer literature revealed that body image is an important variable in the impact breast cancer surgery has on women. Most of the studies which have compared the body image of women treated with mastectomy to the body image of women treated with lumpectomy report that women who have undergone lumpectomy have a more positive body image than women who have undergone mastectomy. Other studies have compared the body image of women treated with mastectomy to the body image of healthy women or to the body image of women who have undergone some other surgical procedures. No study was found which looked at the body image of both surgical groups, i.e., mastectomy and lumpectomy, as well as the body image of women before surgery. Since it is difficult to obtain pre-illness body image measures from women, a healthy group of women was used in this study as an indicator of the pre-surgical stage.

This study was designed to describe and to compare body image perceptions of healthy women, women who have undergone mastectomy, and women who have undergone lumpectomy. The conceptual framework that guided this study was Brown's Model of Body

Image (1977). The tools used to collect data regarding body image consisted of the edited version of the Body Image Scale (24 items) developed by Berscheid et al. (1973) and of five additional questions pertaining to the breast. One question on satisfaction with the scar was only applicable to the surgical group and was therefore not included with the body image scores when all three groups were compared. Two open-ended questions included in the questionnaire were also applicable only to the surgical groups. Demographic data sheets were prepared by the researcher to identify demographic characteristics and treatment characteristics of the women. The research questions developed for the study were:

1. What is the perception of body image held by healthy women, women who have had a mastectomy, and women who have had a lumpectomy?
2. What is the difference in the perception of body image held by healthy women, women who have had mastectomy, and women who have had lumpectomy?

One hundred and twenty-two questionnaire packages were mailed out first to women who responded to advertisements ($n=67$) and, second, to women who had previously taken part in Dr. Ann Hilton's study ($n=55$). Of the 88 questionnaires returned, 5 of them were returned marked "undeliverable", making the return rate 70.9%. A total of 63 questionnaires met the established criteria and were used in the data analysis. The statistical tests utilized included descriptive statistics and analysis of variance.

The findings related to the demographic characteristics of all the women, pertaining to age, marital status, race, educational level, number of children, and employment status. The treatment characteristics of the surgical groups pertained to the type of surgery, time since surgery, other treatments after surgery, lymph nodes removal and results, and if other surgery had been undergone since the breast cancer surgery.

The age for the sample ranged from 35 to 70 years ($M=49.4$, $SD=9.4$). All women were Caucasian and the majority were married, had graduated from high school, and had children. Over 80% of women were working.

There were 22 women in the mastectomy group, 18 women in the lumpectomy group, and 23 women in the healthy group of women. In terms of age the healthy group was significantly younger ($M=44.3$ years) than both surgical groups (mastectomy $M=51.3$, lumpectomy $M=53.9$). The majority of women in the surgical groups was married (75%), compared to less than half of the women in the healthy group. The majority of women in all three groups had children. Women in the healthy group had achieved a higher level of education than women in the surgical groups, followed by women in the mastectomy group. Over 77.0% of women in the surgical groups were working, compared to 87% in the healthy group. The treatment characteristics of the surgical groups showed the mean time since surgery to be very similar—4.0 years for the mastectomy group, and 3.8 years for the lumpectomy group. The majority of women had had lymph nodes biopsied at time of surgery. Most women had undergone further treatment after the surgery.

Overall, women had a quite positive perception of their body image. The majority of women in all groups presented the medium level of body image satisfaction. The equal level of body image satisfaction for the surgical groups and the healthy group may be explained by the cancer diagnosis itself. Women who have been diagnosed and treated for this life-threatening disease may be more concerned with surviving than with the impact the treatment has had on their body image. Additional reasons for the medium level of body image satisfaction for the surgical groups may include the support from significant others, the voluntary participation of the women, and, possibly, the relatively small sample size.

For most women breast satisfaction was in the medium to high level of satisfaction. There was no significant difference between the groups in relation to breast satisfaction. The healthy group was, however, somewhat more satisfied with their breasts than the surgical groups.

The findings indicate that there was no significant difference between body image perception of women who have undergone mastectomy, of women who have undergone lumpectomy, and of women who have not undergone any breast cancer surgery.

The majority of women who had undergone breast cancer surgery perceived the impact of surgery on their body image to be little or none. Some other women in the study reported that surgery had affected their body image negatively. The majority of women accepted their doctors' recommendations when deciding what kind of surgery to have performed, but many women felt that they did not have any choice at the time of surgery. Very few women had considered appearance after surgery when deciding what kind of surgery to have performed.

Conclusions

Owing to the small sample size and the convenience method of sampling, the results of this study are limited to this sample only. The findings, however, suggest some similarities and differences among the women. The following conclusions are based on the findings of this study.

Overall, women who have undergone mastectomy, women who have undergone lumpectomy, and healthy women perceive their body image quite positively. Women in these groups are satisfied and dissatisfied with many of the same body parts and characteristics. Although women who have undergone a mastectomy are somewhat more satisfied with their body image than healthy women and women who have undergone a lumpectomy, the difference is not significant. However, a significant number of women who had undergone lumpectomy perceived their body image negatively.

In terms of breast satisfaction, both healthy women and women who had undergone breast cancer surgery present a medium to high level of breast satisfaction. Although healthy women were somewhat more satisfied with their breasts than women who had had surgery, these two groups of women were more similar than different in their perception.

The conclusion to be drawn is that, overall, there was little difference in body image perception among women who have undergone mastectomy, women who have undergone lumpectomy, and healthy women.

Although the majority of women who underwent a mastectomy or a lumpectomy perceived the impact of the surgery on their body image to be little or none, some perceived the experience to be negative. Additionally, although the majority of women undergoing surgery for breast cancer underwent the type of treatment the doctor recommended, some women felt that they did not have a choice in deciding what type of surgery to have performed. Very few women considered body image alteration when deciding what type of surgery to have performed.

There was a tendency for younger healthy women to perceive their body image somewhat more positively than older healthy women, but there also was, a tendency for younger women who had undergone surgery for breast cancer to perceive their body image more negatively than older women that had undergone the same type of surgery.

Implications

Although the findings of this study are not generalizable some implications for nursing practice, and education are evident.

Although the majority of women in this study perceived their body image positively, there was a significant number of women who perceived their body image negatively. Therefore, nurses who provide care to women diagnosed and treated for breast cancer need to gain a broader understanding of the factors and experiences which influence a woman's body image perception. An understanding of these factors and experiences will assist the nurse to plan appropriate interventions with the goal of reducing the impact which the impending surgery might have on the woman's body image.

More specifically, nurses need to understand the concept of body image in health and illness and how different factors and experiences affect an individual's body image perception. Nurses caring for women undergoing surgery for breast cancer need to understand that each woman perceives her body image in a unique way. Therefore, the nurse needs to conduct a thorough and individualized assessment of each woman undergoing surgery for breast cancer, so that the potential concerns can be identified and preventive interventions carried out prior to their occurrence. It could be helpful to assess what physiological or psychosocial changes the woman undergoing surgery for breast cancer is experiencing as a result of the normal development of middle age and how these changes might be affecting her body image. For example, has she been experiencing any menopausal symptoms? How does she view herself as a woman in her forties or fifties? It is also important for the nurse to determine how the woman perceives her present situation in light of the impending surgery. Does the woman view the surgery as helpful or mutilating? The woman's perception of the planned surgery may be different from the nurse's perception of the situation. In terms of understanding the degree of body alteration the woman may experience after surgery, it may be important to gather some information on her perception concerning the functional loss or disfigurement of the breast, how visible she perceives the loss or disfigurement will be, and the meaning of the breast to her overall sexuality. It is also important for the nurse to assess responses of the significant others, especially the woman's partner, to the diagnosis and the impending surgery and the potential for emotional support from the woman's support system.

In addition, it is important for nurses to be aware of their own feelings about femininity and fears about body-altering surgery, so they do not unknowingly project their own values and concerns onto the patient.

This study indicated that a number of women perceived their body image negatively following a breast cancer surgery. Although this study did not specifically address why these

women perceived their body image negatively, these results have to be recognized. Nurses in community health, private physicians' offices, and hospital settings who treat or see women who have undergone surgery for breast cancer have to be aware of the possible impact of the surgery on women's body image. Because this study found that a much higher number of women who had undergone lumpectomy than women who had undergone mastectomy perceived their body image negatively, nurses need to pay more attention to women who have undergone lumpectomy. Nurses need to assess the aspects the woman perceives as negative and from there plan appropriate interventions. The nurse can explore with the patient what the patient's view is on how the breast surgery has affected her body image, how the woman feels it has affected her relationships with her partner and significant others, if it has affected her sexual relationship, and how supported the woman has felt. When appropriate, the nurse can suggest involvement of a partner in discussions, or initiate contact with other women who have undergone the same type of surgery.

Furthermore, it is important for nurses to be aware that many women diagnosed with breast cancer may be involved before surgery in the treatment decision-making process. Although the majority of women in this study accepted doctors recommendations regarding what type of surgery to have performed or felt that they did not have a choice at the time of surgery, some women might be in the position to choose the type of surgery to have performed. A nurse who combines her knowledge of the physical and psychological impact the different surgeries might have on women with an individual assessment would be in a good position to inform and counsel women who have been given the choice of deciding what type of breast surgery they want to have performed.

The implication of the findings of this study for nursing education is that by including the content relating to the body image concept in breast cancer, nursing students would not only gain a better understanding of the impact a breast cancer surgery might have on a woman's

body image, but also how the body image of healthy individuals is influenced by different factors and experiences.

Recommendations for Further Research

The findings of this study inspire some suggestions for further research in a number of areas.

The generalizability of this study is limited by small sample size, convenience method of sampling, and the high level of education achieved by women in the groups. Thus, this study should be replicated to validate the results, using a larger randomly selected sample, both for the healthy group and for the surgical groups. Further studies should select women more randomly to get responses from women with broader educational level and thus be more representative for the general population.

The overall positive body image perception of women who had undergone surgery for breast cancer found in this study along with the negative body image perception of some women suggests a variable ability of women to cope with the loss or disfigurement of the breast. Further investigation using qualitative research methods may add further information about what factors women perceive as helpful or unhelpful in dealing with the impact of the surgery on their body image. Furthermore, investigation on the influence of different bodily experiences, such as menopause, on a woman's body image perception after breast cancer surgery may add information to the differences in a woman's ability to cope with the impact of the surgery on her body image.

A more in-depth study might be needed to identify why so many women in the lumpectomy group perceived their body image negatively. This might include using qualitative research methods to investigate how the women experienced the pre-surgical and post-surgical period and the sources of the support and understanding they received both from health care professionals and significant others.

Additionally, as younger women in the surgical groups perceived their body image somewhat more negatively than older women, further research should focus on the impact breast cancer surgery has on the body image perception of younger women and on what factors are important for these women so they can deal more effectively with the experience of a lost or disfigured breast.

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Appendix A
Advertisements

Poster**To all women 35 to 65 years of age.**

I am a Registered Nurse and a student in the Master of Science Nursing program at the University of British Columbia. I am conducting a research study describing and comparing women's self-concept and body image after different types of breast cancer surgeries. A comparison will be done with women who have not had any surgery on their breasts.

I am inviting you to participate in my study provided that you are 35 to 65 years of age, and you have

- a) Not had any surgery on your breasts, or
- b) Undergone a surgery for breast cancer 2-5 years ago,
without recurrence or further surgery on your breasts.

You will be asked to fill out a questionnaire that will be sent to your home and will take about 15 minutes to complete. Questionnaire responses will be seen only by me and my thesis committee. Full anonymity is ensured.

Participation in the study is voluntary. You may decide not to answer all questions.

Your time and participation are greatly appreciated. If you wish to participate and have a questionnaire mailed to you, or if you have any questions, please call me at 224-0313.

Sincerely,

Svandis Iris Halfdanardottir, R.N., B.S.N.
School of Nursing, U.B.C.

Newspaper Advertisement**To all women 35 to 65 years of age.**

I am a Registered Nurse and a graduate nursing student at UBC seeking women 35 to 65 years of age who are willing to participate in a research study. You are invited to participate in this study if you either have not had any surgery on your breasts or you have undergone a surgery for breast cancer 2-5 years ago, without recurrence or further surgery on your breasts. Participation involves a questionnaire about body image and self-concept, which takes about 15 minutes to complete.

Please call 224-0313.

Appendix B
Cover Letters

Cover Letter to Women who Responded to Advertisements

THE UNIVERSITY OF BRITISH COLUMBIA



School of Nursing
T. 206-2211 Wesbrook Mall
Vancouver, B.C. Canada V6T 2B5

January, 1993

Dear Participant,

I am a Registered Nurse and a student in the Master of Science in Nursing program at the University of British Columbia. I am conducting a study on the effect of different types of breast cancer surgeries on women's self-concept and body image. A comparison will be done with a group of women who have never had breast surgery.

This letter is to invite you to participate in this study. Enclosed is a questionnaire, which takes about 15 minutes to complete, and a stamped envelope. If you decide to participate please fill out the questionnaire and return it to me. The completed questionnaire will be regarded as a consent from you to participate in the study. Hopefully, the information from this study will help nurses and other health care professionals to better understand the effects of breast cancer surgery on women's body image and self-concept. Although you personally may not gain from the study, researching this topic can help other women in the future.

Your participation is entirely voluntary; nonparticipation will in no way affect your health care. Should you give me your name and address in order to secure a questionnaire, I would know your name but there would be no way to know your responses. Upon completion of the study the list of names will be shredded.

Thank you in advance for your time and participation; it is greatly appreciated. If you have any questions, or if you wish to receive a copy of the results of this study, please call me at 224-0313 or call the supervisor of this study Professor Clarissa Green at 822-7507.

Sincerely,

Svandis Iris Halfdanardottir, R.N., B.S.N.
Masters Student.

Cover Letter to Women who had Participated in Dr. Hilton's Study

THE UNIVERSITY OF BRITISH COLUMBIA



School of Nursing
T. 206-2211 Wesbrook Mall
Vancouver, B.C. Canada V6T 2B5

May, 1993

Dear Participant,

I am a Registered Nurse and a student in the Master of Science in Nursing program at the University of British Columbia. I am conducting a study on the effect of different types of breast cancer surgeries on women's self-concept and body image. A comparison will be done with a group of women who have never had breast surgery.

This letter is to invite you to participate in this study. Enclosed is a questionnaire, which takes about 15 minutes to complete, and a stamped envelope. If you decide to participate please fill out the questionnaire and return it to me. The completed questionnaire will be regarded as a consent from you to participate in the study. Hopefully, the information from this study will help nurses and other health care professionals to better understand the effects of breast cancer surgery on women's body image and self-concept. Although you personally may not gain from the study, researching this topic can help other women in the future. Your participation is entirely voluntary; nonparticipation will in no way affect your health care.

Thank you in advance for your time and participation; it is greatly appreciated. If you have any questions, or if you wish to receive a copy of the results of this study, please call me at 224-0313 or call the supervisor of this study Professor Clarissa Green at 822-7507. Dr. Ann Hilton is a member of my thesis committee.

Sincerely,

Svandis Iris Halfdanardottir, R.N., B.S.N.
Masters Student.

Appendix C

Questionnaire

Please answer the following questions with a V (mark) in the boxes

Questions 1-24:

How satisfied are you with the way your body looks?

	Extremely satisfied	Quite satisfied	Somewhat satisfied	Somewhat dissatisfied	Quite dissatisfied	Extremely dissatisfied
1. Height	[]	[]	[]	[]	[]	[]
2. Weight.....	[]	[]	[]	[]	[]	[]
3. Hair.....	[]	[]	[]	[]	[]	[]
4. Eyes.....	[]	[]	[]	[]	[]	[]
5. Ears.....	[]	[]	[]	[]	[]	[]
6. Nose.....	[]	[]	[]	[]	[]	[]
7. Mouth	[]	[]	[]	[]	[]	[]
8. Teeth.....	[]	[]	[]	[]	[]	[]
9. Voice.....	[]	[]	[]	[]	[]	[]
10. Chin.....	[]	[]	[]	[]	[]	[]
11. Complexion.....	[]	[]	[]	[]	[]	[]
12. Overall facial attractiveness.....	[]	[]	[]	[]	[]	[]
13. Breasts.....	[]	[]	[]	[]	[]	[]
14. Shoulders	[]	[]	[]	[]	[]	[]
15. Arms.....	[]	[]	[]	[]	[]	[]
16. Hands	[]	[]	[]	[]	[]	[]
17. Size of abdomen	[]	[]	[]	[]	[]	[]
18. Buttocks seat.....	[]	[]	[]	[]	[]	[]
19. Hips / upper thighs	[]	[]	[]	[]	[]	[]
20. Legs and ankles	[]	[]	[]	[]	[]	[]
21. Feet.....	[]	[]	[]	[]	[]	[]
22. Appearance of genitals	[]	[]	[]	[]	[]	[]
23. General muscle tone or development.....	[]	[]	[]	[]	[]	[]
24. Overall body appearance	[]	[]	[]	[]	[]	[]

Questions 25-29:

The following questions pertain to your breasts

How satisfied are you with:

	Extremely satisfied	Quite satisfied	Somewhat satisfied	Somewhat dissatisfied	Quite dissatisfied	Extremely dissatisfied
25. Breast/s appearance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Size of breast/s.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Breast/s texture.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Symmetry of the breasts or the breast area.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Sensitivity of the breast/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

30. How satisfied are you with the scar from the breast surgery?

- ☐ 1. Extremely satisfied
- ☐ 2. Quite satisfied
- ☐ 3. Somewhat satisfied
- ☐ 4. Somewhat dissatisfied
- ☐ 5. Quite dissatisfied
- ☐ 6. Extremely dissatisfied
- ☐ Not applicable.

Questions:

What impact, if any, would you say your breast surgery has had on your perception of your body image?

☐ Not applicable

What factors did you consider in deciding to have the type of breast surgery you had?

Appendix D
Demographic Information Sheets

DEMOGRAPHIC INFORMATION SHEET FOR WOMEN WHO HAVE UNDERGONE BREAST CANCER SURGERY.

The following questions relate to specific information about yourself.

1. Age: _____
2. Marital Status: Married____Separated____Divorced____Widowed____
 Cohab____Never Married____
3. Race: White____Oriental____Native Indian____Black____Other_____
4. Education: (check highest level of education attained)
 1. No high school graduate_____
 2. High school graduate
 - Post secondary:
 3. College or Technical_____
 4. University Degree_____
5. Children: Yes [☐] No [☐] If yes, how many_____
6. Occupation: (please specify)_____
7. Did you have any lymph nodes removed when you had your breast surgery? Yes [☐] No [☐]
If yes what were the results_____
8. Time since breast cancer surgery (years):_____
9. Type of surgery: 1. Mastectomy_____
 2. Lumpectomy_____
 3. Other_____
10. Other treatments after the surgery: 1. Chemotherapy Yes [☐] No [☐]
 2. Radiation therapy Yes [☐] No [☐]
 3. Other_____
11. Have you had any further surgeries since? Yes [☐] No [☐]
If yes please specify_____
12. Have you had a reconstruction on your breast(s)? Yes [☐] No [☐]

Thank you for taking the time to complete the questionnaire packet. If you would kindly return it in the enclosed pre-addressed stamped envelope. If you would like to make any additional comment, please do so in the space provided. If you have any further questions, please call me at 224-0313. Thank you.

Additional Comments:

Appendix E
Letter of Reminder

THE UNIVERSITY OF BRITISH COLUMBIA

School of Nursing
T. 206-2211 Wesbrook Mall
Vancouver, B.C. Canada V6T 2B5

February, 1993

Dear Respondent:

Thank you for your interest and participation in my study on women's self-concept and body image, if you have already completed and returned the questionnaire.

I would appreciate your time in answering the questionnaire, if for any reason you have not been able to complete the questionnaire. Enclosed for your convenience is a second copy of the questionnaire.

If you have any questions, or if you wish to receive a copy of the results of this study, please call me at 224-0313 or the supervisor of the study Professor Clarissa Green at 822-7507

Thank you for your interest in this research and for your participation.

Sincerely,

Svandis Iris Halfdanardottir, R.N., B.S.N.
Graduate Student.

Appendix F
Frequency and Distribution of the Body Image Items, Questions 1-29

Table F-1: Frequency and Distribution of the Body Satisfaction Items, Questions 1-24

#	Item	Group	Mean	Mode	Min	Max	Rank
1.	Height	Mastectomy	5.41	5	4	6	1
		Lumpectomy	5.00	6	3	6	5
		Healthy	5.04	5	3	6	2
2.	Weight	Mastectomy	3.73	5	1	6	23
		Lumpectomy	2.56	3	1	5	24
		Healthy	4.04	3	1	6	20
3.	Hair	Mastectomy	4.95	5	3	6	10
		Lumpectomy	4.67	5	2	6	10
		Healthy	4.43	5	2	6	16
4.	Eyes	Mastectomy	5.23	5	4	6	2
		Lumpectomy	5.39	5	5	6	1
		Healthy	5.04	5	3	6	3
5.	Ears	Mastectomy	5.09	5	1	6	4
		Lumpectomy	5.33	5	5	6	2
		Healthy	5.26	5	3	6	1
6.	Nose	Mastectomy	4.86	5	3	6	13
		Lumpectomy	5.11	5	3	6	3
		Healthy	4.65	5	3	6	13
7.	Mouth	Mastectomy	5.18	5	4	6	3
		Lumpectomy	5.11	5	4	6	4
		Healthy	4.78	5	2	6	11
8.	Teeth	Mastectomy	4.68	5	2	6	16
		Lumpectomy	4.33	5	2	5	17
		Healthy	4.14	5	1	6	18
9.	Voice	Mastectomy	5.09	5	4	6	5
		Lumpectomy	5.00	5	4	6	6
		Healthy	4.87	5	3	6	7
10.	Chin	Mastectomy	5.05	5	3	6	6
		Lumpectomy	4.78	5	3	6	8
		Healthy	4.87	5	2	6	8
11.	Complexion	Mastectomy	4.95	5	2	6	11
		Lumpectomy	4.59	4	3	6	12
		Healthy	4.00	4	1	6	21
12.	Overall facial attractiveness	Mastectomy	4.86	5	4	6	14
		Lumpectomy	4.89	5	4	6	7
		Healthy	4.48	5	2	6	14

#	Item	Group	Mean	Mode	Min	Max	Rank
13.	Breasts	Mastectomy	4.32	5	1	6	19
		Lumpectomy	4.50	4	3	6	14
		Healthy	4.70	5	3	6	12
14.	Shoulders	Mastectomy	4.77	5	1	6	15
		Lumpectomy	4.72	5	3	6	9
		Healthy	4.91	5	2	6	6
15.	Arms	Mastectomy	5.05	5	4	6	7
		Lumpectomy	4.28	5	2	6	18
		Healthy	4.87	5	1	6	9
16.	Hands	Mastectomy	5.00	5	3	6	8
		Lumpectomy	4.39	5	2	6	16
		Healthy	4.96	5	1	6	5
17.	Size of abdomen	Mastectomy	3.59	3	1	5	24
		Lumpectomy	2.78	3	1	5	23
		Healthy	3.96	5	1	6	23
18.	Buttocks seat	Mastectomy	4.36	5	2	6	18
		Lumpectomy	3.06	3	1	5	22
		Healthy	4.00	4	1	6	22
19.	Hips / upper thighs	Mastectomy	4.05	3	2	6	22
		Lumpectomy	3.28	3	1	5	21
		Healthy	3.57	4	1	6	24
20.	Legs and ankles	Mastectomy	4.50	6	1	6	17
		Lumpectomy	4.56	5	2	5	13
		Healthy	4.48	4	2	6	15
21.	Feet	Mastectomy	4.95	5	3	6	12
		Lumpectomy	4.50	5	2	6	15
		Healthy	4.83	5	3	6	10
22.	Appearance of genitals	Mastectomy	5.00	5	3	6	9
		Lumpectomy	4.67	5	3	6	11
		Healthy	5.00	5	2	6	4
23.	General muscle tone or development	Mastectomy	4.27	5	2	6	21
		Lumpectomy	3.35	4	1	5	20
		Healthy	4.13	4	2	6	19
24.	Overall body appearance	Mastectomy	4.32	5	2	6	20
		Lumpectomy	4.06	4	2	6	19
		Healthy	4.39	5	2	6	17

Table F-2: Frequency and Distribution of the Breast Satisfaction Items, Questions 25-29

#	Item	Group	Mean	Mode	Min	Max	Rank
25.	Breast/s appearance	Mastectomy	4.81	5	2	6	4
		Lumpectomy	4.56	5	3	6	1
		Healthy	4.61	5	2	6	5
26.	Size of breast/s	Mastectomy	4.82	5	2	6	3
		Lumpectomy	4.39	5	3	6	2
		Healthy	4.70	5	2	6	4
27.	Breast/s texture	Mastectomy	4.95	5	2	6	1
		Lumpectomy	4.18	4	2	6	3
		Healthy	4.87	5	3	6	1
28.	Symmetry of the breasts or the breast area	Mastectomy	4.30	5	1	6	5
		Lumpectomy	3.89	5	2	5	5
		Healthy	4.87	5	3	6	2
29.	Sensitivity of the breast/s	Mastectomy	4.91	5	2	6	2
		Lumpectomy	3.94	3	2	6	4
		Healthy	4.77	5	3	6	3