1996

THE IMPACT OF BREAST CANCER ON WOMEN'S BODY IMAGE AND SEXUAL FUNCTIONING

Elayne Amy Saltzberg
University of Rhode Island

Follow this and additional works at: https://digitalcommons.uri.edu/oa_diss

Recommended Citation

Saltzberg, Elayne Amy, "THE IMPACT OF BREAST CANCER ON WOMEN'S BODY IMAGE AND SEXUAL FUNCTIONING" (1996). *Open Access Dissertations*. Paper 1084.
https://digitalcommons.uri.edu/oa_diss/1084

This Dissertation is brought to you for free and open access by DigitalCommons@URI. It has been accepted for inclusion in Open Access Dissertations by an authorized administrator of DigitalCommons@URI. For more information, please contact digitalcommons-group@uri.edu.

BF697.5
B63
S336
1996

THE IMPACT OF BREAST CANCER
ON WOMEN'S BODY IMAGE AND SEXUAL FUNCTIONING

BY

ELAYNE AMY SALTZBERG

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN
PSYCHOLOGY

36127754

UNIVERSITY OF RHODE ISLAND

1996

Abstract

This research examined the impact of breast cancer on body image and sexual functioning. Twenty women who underwent a mastectomy, twenty-one women who underwent a lumpectomy, and twenty-one women without personal history of breast disease or surgery completed measures of life experiences, marital satisfaction, body satisfaction, and sexual functioning. Data was both retrospective and prospective. The prospective data was collected in the form of daily diary ratings of body satisfaction and sexual functioning, which all participants completed for one month. Contrary to expectation, body satisfaction and sexual functioning did not differ between groups. For all groups, body satisfaction increased over time, and sexual functioning declined over time. Body image and sexual functioning items were reliably related for a few women in all three groups. Overall, results suggest that women adjust well to the consequences of breast cancer, and that after one year postsurgery, there are no major body image or sexual functioning difficulties.

Acknowledgement

This project represents much to me. First, it is the culmination of years of hard work on my part. Without the overwhelming support and influence of many individuals, however, I doubt I would have had the courage to persevere with this project or my career goals.

I extend a heartfelt thank you to my parents, whose encouragement and faith allowed me to pursue my dream of becoming a clinical psychologist. I know my father would have preferred I become a physician or financial analyst, but he nonetheless supported my endeavors. I think that this has been very challenging for him at times! My mother's interest in my training and eagerness to listen to my woes has helped me immensely along the way. To my sisters, Debi and Cheryl, I am also thankful. They have always believed in me.

I am extraordinarily grateful to my fiancé, Edward Daniels, who has offered his humor, encouragement, and assistance in abundance. I am in awe of his patience. He has changed my life in valuable ways and is helping me to develop into the person I am becoming.

My major professor, Dr. Patricia Morokoff, has taught me to persevere through challenges and to organize my thinking in a clear manner. Further, it has been my good fortune to have wonderful committee members. Dr. Denise DeZolt, my former clinical supervisor, has taught me the importance of relationships in my clinical work. I shall always remember Dr.

Janet Hirsch's contributions to my research, including her accompanying me to a physician's office to discuss my project with him. Dr. Winnie Brownell's interest in my work has meant an enormous amount to me. Because of her efforts, the University awarded me funding to attend a Los Angeles conference to present my research in August, 1994. Without her rallying for me, I would not have been able to attend the conference. I also appreciate Dr. Quina's willingness to participate in my dissertation defense. I first met her in 1989, before I came to URI, and hoped one day I would be able to work with her. Dr. Joan Chrisler was not an official committee member but deserves recognition. She has been a mentor to me and a consistent and strong source of encouragement for seven years.

This section would not be complete without a special thank you to my grandparents, both of whom have nurtured my pursuits every step along the way. My grandmother, a breast cancer survivor, has been an inspiration for me personally, and her experience with breast cancer prompted my interest in this disease.

To the breast cancer survivors involved in this research, I am indebted. Their participation made this research possible. I learned much from them.

Table of Contents

List of Tables.....	vii
List of Figures.....	viii
Introduction.....	1
Body Image.....	6
Body Image and Sexuality.....	9
Mastectomy and Body Image.....	10
Postmastectomy Body Image and Sexual Functioning.....	13
Sexual Functioning.....	13
Mastectomy and Sexual Functioning.....	15
Phases of Sexual Response.....	21
Sexual Response Cycle and Mastectomy.....	23
General Sexual Functioning.....	25
Mastectomy versus Lumpectomy.....	26
Hypotheses.....	31
Method.....	34
Participants.....	34
Measures.....	37
Procedure.....	44
Results.....	46
Overview.....	46
Comparison of Sample Groups.....	47
Time Post-surgery.....	49
Menopausal Status.....	51
Treatment Modality.....	53
Statistical Analyses of Research Hypotheses.....	53
Body Image.....	53
Sexual Functioning.....	60
Body Image and Sexual Functioning.....	69
Discussion.....	73
Body Image.....	75
Sexual Functioning.....	82
Body Image and Sexual Functioning.....	89
Limitations.....	90
Summary of General Conclusions.....	91
Issues in Lumpectomy Treatment.....	93
Partner Support.....	95
Psychological Intervention.....	96
Group Psychotherapy and Social Support.....	97
Future Directions.....	98
Breast Cancer Recovery as a Process.....	99
A Tentative Final Word.....	100
References.....	101

Appendices.....	117
1. Background and Medical History.....	117
2. Life Experiences Questionnaire.....	121
3. Relationship Satisfaction Measure.....	122
4. Body Image Scale.....	123
5. Body Exposure During Sexual Activity.....	125
6. Sexual History Form.....	128
7. Sexual Arousability Index.....	131
8. Daily Body Image Checklist.....	132
9. Daily Sexual Activity Checklist.....	133
10. Informed Consent for Breast Cancer Participants....	134
11. Informed Consent for Control Group.....	135
Bibliography.....	136

List of Tables

Table		Page
1	Means and Standard Deviations for Demographic Variables.....	48
2	Occupational Status of Participants.....	50
3	Menopausal Status of Breast Cancer Survivors....	52
4	Treatment Modalities of Breast Cancer Survivors.	54
5	Monthly Frequency of Sexual Activity.....	68
6	Correlations among Body Image and Sexual Activity Daily Rating Items.....	70

List of Figures

Figure		Page
1	Thoughts of Looking Sexy During Sexual Activity..	58
2	Preference to Wear Clothing During Sexual Activity.....	59
3	Impact of Breast Fondling on Sexual Arousal.....	62
4	Breast Touching By Partner.....	66

Introduction

The primary task of this research was to investigate body image and sexual functioning among different groups of women. The women who were compared include women who have had a mastectomy, women who have had a lumpectomy, and women without personal history of breast disease, breast surgery, or chronic illness. Body image and sexual functioning were selected as the area of focus for two reasons. First, the literature suggests that these are among the aspects of a woman's life most strongly affected by breast cancer surgery. Secondly, they represent important quality of life issues.

A second goal of this research was to measure the relationship between body image and sexual functioning among women with a mastectomy, women with a lumpectomy, and women without breast disease or surgery. This study thus provides basic information on the relationship of body image and sexual functioning, a topic which has not been addressed in previous research.

Breast cancer

According to the American Cancer Society, one of every nine women will develop breast cancer at some time in her life (American Cancer Society, 1992). There were an estimated 180,000 cases of breast cancer among American women in 1992 (American Cancer Society, 1992). Although replaced in 1986 by lung cancer as the leading cause of cancer deaths among women, breast cancer is among the most prevalent types of cancer for women (Auchincloss, 1990; Beckham & Golding, 1990), and a

large segment of women have been treated for the disease at some time in their life.

Breast cancer has a good prognosis (Beckham & Golding, 1990; National Cancer Institute, 1991) and does not exclusively target elderly women (Schain, 1985). Among women diagnosed with breast cancer, almost 100% will survive five years if the breast cancer is not invasive, 92 percent will survive five years if the cancer is localized, and 71 percent will survive five years if the cancer has spread regionally (American Cancer Society, 1992). As the population of women with breast cancer increases and survival rates improve, the number of women adjusting to the consequences of breast cancer will continue to rise (Meyerowitz, 1981).

Breast reconstruction is now widely available for women who have had breast cancer, and there is greater use of multimodal treatment interventions, i.e. surgery followed by radiation and/or chemotherapy (National Cancer Institute, 1993). Adjuvant treatment is now recommended for all women treated for breast cancer, even node negative women (with Stage I disease) (Rowland & Holland, 1990). The National Cancer Institute reports a survival advantage of 10% for women treated with adjuvant chemotherapy (Rowland & Holland, 1990). Greater numbers of women are being treated for breast cancer in an intensive manner for a more extended period of time than was the case only a few years earlier (Glanz & Lerman, 1992). One of the most common surgical treatments for breast cancer is mastectomy.

Mastectomy

A mastectomy refers to various surgeries, ranging from those that remove only the breast to those that remove the breast, chest muscles, and underarm lymph nodes (American Cancer Society, 1990a; National Cancer Institute, 1993). Mastectomy is among the surgeries thought to be most feared by women (Schain, 1991). In 1990, an estimated 100,000 women in this country underwent a mastectomy (American Cancer Society, 1990b). In most areas of the United States, surgically removing the breast has been standard treatment for breast cancer (Bransfield, 1983; Meyerowitz, 1983), and approximately 51% of women who are given a choice choose mastectomy (Wolberg, Tanner, Romsaas, Trump, & Malec, 1987). Understanding postmastectomy issues that affect quality of life is essential.

Lumpectomy

In this procedure, only the breast lump is removed, along with a sampling of the lymph nodes under the arm (American Cancer Society, 1990b; National Cancer Institute, 1993). Following a lumpectomy, hormonal therapy and/or chemotherapy may be given. A local adjuvant treatment, such as radiation, is almost always provided to increase the likely effectiveness of the surgery (Love, 1991; National Cancer Institute, 1993). The National Surgical Adjuvant Breast Project (NSABP) reports that a breast conserving approach to breast cancer treatment leads to survival rates similar to those of mastectomy in women with early forms of breast cancer (Fisher, Redmond, &

Poisson, 1989). Continued published reports of the NSABP have added to the evidence that survival rates between women who undergo a mastectomy and women who undergo a lumpectomy with adjuvant radiation are equivalent (Baker Montague, & Childs, 1979; Fisher, Bauer, Margolese, Poisson, Pilch, Redmond, Fisher, Wolmark, Deutsch, Montague, Safter, Wickerham, Lerner, Glass, Shibata, Deckers, Ketcham, Orshi, & Russell, 1985).

In this study, several measures were used to assess body image and sexual functioning, and participants were required to keep daily records for one month of their body satisfaction and sexual functioning. It was believed that women who have had a mastectomy would have more impairment in their body image and sexual functioning than would women with a lumpectomy or women who have not had breast cancer. It was also believed that there would be a significant positive correlation between sexual functioning and body image for the entire sample of women.

Justification for and Significance of the Study

Cultural Context

Breast cancer presents a unique psychological threat to women in that an eroticized body part, which symbolizes maternal, nurturing, sexual, and feminine features, becomes diseased (Metze, 1978). Female breasts are equated with sexuality and considered a symbol of beauty and womanhood (Ariel, 1987). Breast cancer threatens a body part closely connected with a woman's sexual identity, attractiveness, body image, and sense of femininity and motherhood (Beckham &

Golding, 1990, Geeslin, 1984; Hall & Fallowfield, 1989; Renneker & Cutler, 1952; Rowland & Holland, 1990; Salokari, Achte, Lindfors, Lehvonen, Vauhkonen, & Holsti, 1986; Witkin, 1979). Breasts are thought to be related to a woman's ability to attract a mate, indicative of her reproductive and nurturance abilities, and connected to her sense of sexual appeal (Schain, 1991). This seems especially traumatic given the "mammocentric" focus (Schain, 1985, p. 200) of today's breast oriented culture (Polivy, 1977).

In modern day society, attention to breasts is everywhere: in films, videos, and magazines; on posters and billboards; and in stores, schools, and offices (Wear, 1993). Women's bodies are objectified (Meyerowitz, 1981), and women are trained to believe that their femininity rests on their being "double breasted and protruding" (Witkin, 1975, p. 303).

Disfigurement of any body part is likely to affect one's sense of self (Bernstein, 1990) and psychological and social functioning (Webb, 1987). This is particularly true for women in this culture, whose self-concepts are strongly based on body satisfaction (Ariel, 1987; Ashurst & Hall, 1989; Bos, 1986; Saltzberg, 1990; Secord & Jourard, 1953).

Breast cancer is an illness that potentially disrupts what is most closely associated with the traditional female role (Mead, 1949; Meyerowitz et al., 1988). Many authors have, in fact, associated society's idealization of the female breast with the impact of mastectomy (e.g. Ashurst & Hall, 1989; Asken, 1975; Bard & Sutherland, 1955; Derogatis, 1986;

Goin, 1982; Golden, 1983; Hendrick, 1982; Levy & Schain, 1988; Meyerowitz, Chaiken, & Clark, 1988; Schain, 1985, 1991). Because of the value this culture places on the breast, some women's identity may be threatened by breast cancer.

Breast cancer has received more attention in the psychological literature than any other type of disease (Meyerowitz et al., 1988). One of the reasons for this interest is that all three cancer treatments - surgery, radiation, and chemotherapy - are represented (Rowland & Holland, 1990). Another reason for the strong interest in studying breast cancer's psychosocial impact probably has more to do with interest in the female sex role and gender identity issues (Meyerowitz et al., 1988). The potential danger inherent in this is that there may be a bias toward reaching conclusions that are as much based on stereotypes of women as on the empirical information actually gathered.

Body Image

Definition.

Body image refers to the mental representation an individual has of one's body (Fallon, 1990; Krueger, 1990; Schilder, 1950). Historically, it has been defined in various ways (Andersen & LeGrand, 1991; Fisher, 1990; Thompson, 1990). The body image construct addressed in this research refers to appearance-related body image. It involves an evaluation of one's shape, size, weight or some other feature of one's body that determines physical appearance (Thompson, 1990). Among women, body image is closely tied with self-esteem (Freedman,

1989; Saltzberg, 1990; Secord & Jourard, 1953), and can vary depending on situational context (Cash, 1991; Cash & Pruzinsky, 1990). Interest in body image as a construct has recently heightened as the reported rate of eating disorders has increased (Thompson, 1990).

One way body image has been conceptualized is as a multidimensional phenomenon involving perceptual, attitudinal, and behavioral features (Garner & Garfinkel, 1981; Rosen, Saltzberg, & Srebnik, 1989; Thompson, 1990). A particular type of body image problem primarily involves body size distortion. It can include a perceptual dysfunction, as in anorexia nervosa, whereby an individual is unable to accurately assess his/her own size. Another type of body image difficulty, known as body dissatisfaction, is more cognitively/affectively oriented. In this form of body image dysfunction, individuals may accurately assess the size of their body but respond with dysphoria (Cash & Brown, 1987). The two aspects of body image may operate together or independently (Garner & Garfinkel, 1981).

Body image problems may also involve a behavioral component. This may be manifested through a lifestyle that reflects individuals' negative views toward their appearance (Rosen, Srebnik, Saltzberg, & Wendt, 1991). For example, people with body image dissatisfaction may avoid certain situations, such as physical intimacy, that elicit attention toward physical appearance or toward a particular disliked body part or region.

The areas of emphasis in this research are the cognitive/affective and behavioral components of appearance-related body satisfaction. Cognitive aspects of body image involve thoughts about one's entire body and specific body parts. These may include beliefs and attitudes about overall appearance and specific features, as well as attentional body-focus (Cash & Pruzinsky, 1990). This affective component involves feelings of degree of comfort and satisfaction with one's body and its parts (Cash & Pruzinsky, 1990). The behavioral aspect of body image is reflected in the tendency to avoid situations that involve bodily exposure or increased attention to appearance. It may also be manifested in a tendency to engage more frequently in certain behaviors, such as checking one's reflection in a mirror. The cognitive/affective and behavioral aspects of body image appear particularly relevant for mastectomy patients.

Understanding and then restoring body image could have a positive effect on coping with cancer (Hopwood & Maguire, 1988), ameliorating low self-esteem, and enhancing general quality of life. In addition, body acceptance is often an area of emphasis in sex therapy (Faith & Schare, 1993). The relationship between body satisfaction and sexual functioning has received little empirical attention. While researchers have assumed that body image dysphoria contributes to sexual problems (e.g. Cash, 1985; Derogatis, 1980; Hopwood & Maguire, 1988), this has only recently been empirically studied (Cash & Pruzinsky, 1990). A better understanding of this

relationship in both a healthy and clinical population is important and may have clinical relevance for designing effective interventions. As elaboration of this idea follows.

Body Image and Sexuality

Pruzinsky (1990) states that despite the sparse empirical data on the relationship between sexuality and body image, "it is easy to imagine that if individuals are uncomfortable with their bodily acceptance then it would be difficult to enjoy sexual contact" (p. 182). He further speculates that body image concerns could impair any aspect of the sexual response cycle.

Few researchers have systematically studied the role of body image in sexual behavior in nonclinical populations. Faith and Schare (1993) found that scores on a body image measure that assessed conceptualizations toward one's body significantly predicted frequency of sexual behaviors. Their research suggests that fixating on perceived negative parts of one's body ("spectatoring") is associated with sexual avoidance. According to their research, individuals with a negative view of their body are more likely to engage in sexually avoidance behaviors than individuals without a negative view of their body.

Hangen and Cash (1990, 1991) and Cash (1991) have also discussed the relationship between body image and sexual functioning. In their theoretical paper, Hangen and Cash (1990) report that body image issues could affect sexual desire, lead to avoidance, or result in spectatoring that

could impair sexual arousal or orgasm. Hangen and Cash (1991) found that among male and female sexually active, heterosexual college students, negative body image was associated with a narrower range of sexual activities and with less sexual satisfaction. For women, it was also related to lower rates of orgasm.

Because of the lack of research associating body image and sexual functioning, Cash (1991) developed the Body Exposure in Sexual Activities Questionnaire (BESAQ), a measure to assess the extent to which individuals exhibit self-conscious behavior and refrain from bodily exposure in sexual situations. Cash administered the measure to sexually active college students. He found a reliable relationship between body image and sexual satisfaction. More specifically, negative feelings about one's body were positively correlated with lower rates of reported orgasm and with other types of sexual difficulties. Cash recommended that the scale be utilized with people with "anomalies of physical appearance" (p. 5).

Researching these relationships among women with a mastectomy or lumpectomy would be an important step in better understanding postoperative body image and sexuality adjustment. It would also be interesting to investigate this relationship among women in the Control Group in the proposed study, who are older than Cash's college-aged sample.

Mastectomy and Body Image

Postmastectomy body image has been addressed extensively

in the literature (e.g. Derogatis, 1980; Lamb & Woods, 1981; Lasry, Margolese, Poisson, Shibata, Fleischer, LaFleur, LeGault, & Taillefer, 1987; Lindeman, 1941; Meyerowitz, 1988; Polivy, 1977; Rennecker & Cutler, 1952; Schain, 1982, 1988). Many of these discussions are anecdotal and/or based on unstructured interviews (e.g. Harrell, 1972; Maguire, 1976). Systematically studying this relationship is an important means to accurately understanding postmastectomy concerns.

Body image changes could affect women's functioning differently (Hall & Fallowfield, 1989). The importance a woman places on her breasts, including her emotional and sexual investment in her breasts and appearance, is theorized to affect her postmastectomy view of her body and self (Maguire, 1976; Meyerowitz, 1981; Schain, 1988). Most researchers (e.g. Abt et al., 1978; Derogatis, 1980; Krukofsky, 1988) report that body image problems are inevitable postmastectomy. However, others (e.g. Andersen, 1985; Andersen & Jochimsen 1985; Salokari et al., 1986) have found that mastectomy is not necessarily detrimental to a woman's body image. Meyerowitz et al. (1988) believe that many reports of postmastectomy body image, and threats to femininity in particular, are anecdotal and without empirical validation.

Kriss and Kraemer (1986) designed a scale to measure postmastectomy body image. Their construct focused exclusively on acceptance of body parts, particularly the amputated breast region. Compared to a matched control group, women with a mastectomy had significantly more dislike for their breast

region, including the area of the missing breast.

Polivy (1977) also studied postmastectomy changes in body image. She defined body image as satisfaction with one's body parts. Polivy found that immediately after surgery, there were no body image changes among mastectomy patients. Body satisfaction decreased, however, as time progressed. Polivy theorized that mastectomy patients utilize denial as a defense mechanism after surgery in order to adjust to their altered body. She reasons that they report diminished body image when their denial inevitably breaks down over time. Polivy concluded that a mastectomy causes a woman to feel worse about her body.

Hopwood and Maguire (1988) point out that mastectomy not only involves disfigurement, but also the loss of a body part and function as well as a permanent change to a woman's body. They suggest that women may dissociate from the disfigured area and avoid contact with the region. They do not cite any empirical data, however, to support their claim. In addition, they suggest these consequences are detrimental.

In his research, Maguire (1983, as cited in Hopwood & Maguire, 1988) found that 12 to 18 months postmastectomy, 22% of women reported "severe difficulties" adjusting to the loss of their breast. Examples of avoidance behaviors suggestive of body image difficulties included removing mirrors, dressing in the dark, and becoming jealous at the sight of double breasted attractive women. The precise effect on their sexual functioning was not reported, and "severe difficulties" were

not quantified or well defined.

Perhaps some reasons for inconsistent findings are the different definitions of body image that are used, the various methods employed to measure body image, the different levels of importance women place on their breasts, and the varying amounts of postsurgery among the women in the samples.

Postmastectomy Body Image and Sexuality

Empirical investigations of the relationship between body satisfaction and sexual behaviors in nonclinical populations have begun only recently (Cash, 1991; Faith & Schare, 1993; Hangen & Cash, 1991). A completely untested question in the breast cancer literature is the relationship between body image and sexual functioning. Though disturbance of body image among postmastectomy women is assumed to contribute to sexual problems (e.g. Derogatis, 1980; Hopwood & Maguire, 1988; Woods, 1975), this has not been empirically studied. It is unknown, for example, if sexual problems are separate from changes in body image, or if they are dependent on each other (Bransfield, 1983; Schain, 1985, 1988). It is also possible that body image changes mediate the impact of mastectomy on sexuality.

Sexual Functioning

Sexuality is an integral part of living and being human (Lamb & Woods, 1981) and is an important aspect of one's quality of life (Morokoff, 1988; Schover, Schain, & Montague, 1989). Sexual functioning is vital in the rehabilitation of people with cancer and tends to be given little attention

(Burpie & Pollinsky, 1992; Schain, 1988).

One group of individuals reported to be at high risk for the development of sexual difficulties is women with breast cancer (Andersen & Jochimsen, 1985; Glanz & Lerman, 1992, Meyerowitz et al., 1988). A prominent breast surgeon reports that postmastectomy sexuality is "one of the least discussed subjects" (p. 363), and that most surgeons have not discussed sexuality with their patients unless the patients raise the matter (Love, 1991). Maguire, Brooke, and Tact's (1983) data support this notion. They found that only 2% of all physicians spoke with their patients before or after a mastectomy about sexuality. Another researcher reported that among all of the concerns of postmastectomy women, the greatest fear is the possible loss of their partner's sexual responsiveness (Witkin, 1978). In addition, Kent (1975) reports that sexual life is among the challenging areas of postmastectomy adjustment.

An often overlooked and understudied consequence of adjuvant treatment is that it leads to physiological changes that may impair female sexual response (Singer Kaplan, 1992). As previously mentioned, once reserved for women with large tumors and positive nodes, adjuvant treatment is now routinely prescribed for all women with breast cancer (Rowland & Holland, 1990; Singer Kaplan, 1992). Thus, there may be an organic basis for difficulties in any phase of the sexual response cycle. Although beyond the scope of this present research, the physiological impact of adjuvant treatment

warrants further investigation (Singer Kaplan, 1992).

Research on Mastectomy and Sexual Functioning

Based on her review of the literature on mastectomy and sexual functioning, Bransfield (1983) reports that postmastectomy women are at high risk for developing sexual problems. In her review, Meyerowitz (1980) indicates that there is sound empirical evidence to indicate that at three to four months postmastectomy, almost half of mastectomy patients report sexual dissatisfaction and changes in sexual functioning. She reports that sexual relations are among the areas of a woman's life that are most disrupted by breast cancer. Witkin (1978) suggests that women with a mastectomy perceive themselves to be less attractive and sexually desirable than before the surgery, and that this leads to feelings of sexual inadequacy. Abt et al. (1978) found that women who had a mastectomy experience a decrease in many sexual behaviors, including sexual fantasies, acting seductively, and undressing in front of her partner, as a result of their surgery.

A number of researchers have empirically investigated postmastectomy sexual functioning. In general, they have found a premastectomy to postmastectomy decrease in sexual satisfaction and decline in frequency of sexual activity. This literature is presented below.

Some of the research on postmastectomy sexual functioning is prospective. For example, in a classic study, Morris, Greer, and White (1977) compared 91 women with breast cancer

(mastectomy) and 69 women with benign breast disease prior to surgery at 3, 12, and 24 months postsurgery on a number of variables, including sexual adjustment. They found that at each time interval, mastectomy patients reported a greater deterioration in sexual adjustment than did the benign breast disease women. The postmastectomy decline in sexual adjustment, defined as attitudes about and satisfaction from sexual activity, was 18% at three months postsurgery, 27% at twelve months postsurgery, and 32% at 24 months postsurgery compared to 6%, 11%, and 27%, respectively, among the controls. It is unclear why there was such a great decline among the controls.

Maguire (1976) also conducted a prospective study of postmastectomy sexual functioning. Based on interviews of women three to four months postmastectomy, he reported that almost half (46 percent) of the women who had a mastectomy indicated a "marked, persistent, and distressing loss of interest and enjoyment in sex" (p. 407) since their surgery. In addition, he reported that 80 percent of the women in this group no longer engaged in intercourse. Unfortunately, he did not report information about the number of women who had satisfying premastectomy sexual relationships. Among the control group of women with benign breast disease, only 4 percent reported similar consequences. The one year follow-up data revealed that 28 percent of the mastectomees indicated sexual problems compared to only 3 percent of the control women. Maguire's (1976) interview data was quantified using

ratings from a four point scale (absent, mild, moderate, and marked) based on predetermined criteria.

In a similar prospective study, Maguire, Lee, Bevington, Kuchemann, Crabtree, and Cornell (1978) compared 75 women with a mastectomy and 50 women with benign breast disease on a number of variables prior to surgery and at 4 and 12 months postmastectomy. Forty-eight percent of the women reported sexual difficulties 4 months postmastectomy and 46 percent reported such problems one year postmastectomy. Among the controls, the rates were 25 and 22 percent, respectively. Among the postmastectomy women who reported sexual difficulties, 27 percent reported that these were "severe" at four months, and 10 percent reported that the problems were "severe" at twelve months. At both time intervals the rate was 6 percent among the controls. Interestingly, before treatment, fewer women who were to have a mastectomy reported sexual problems than the control women (16% versus 28%). The researchers quantified the frequency and extent of symptoms based on a four point rating system. Interviewers, about whom specific information was not provided, received three months of training in order to learn how to interview and rate responses. Unfortunately, Maguire et al. did not define "sexual difficulties" or their levels (minor, moderate, or extreme). In addition, the assessment tools with which they measured sexual distress were not identified or described, raising concerns about the adequacy, reliability, and validity of the measures and making results difficult to interpret.

Other postmastectomy and sexual functioning is retrospective. For example, Abt et al. (1978) investigated the relationship between mastectomy and sexual functioning, defined as sexual self-image, sexual attitudes, and sexual behavior. Their 47 participants varied greatly in age and time postmastectomy, tended to be well educated, and had a higher than median family income. (The authors thus believe their sample may be biased in the direction of satisfaction.) Their data indicate that there were "very definite changes" (p. 45) in sexual functioning following a mastectomy. For example, 44 percent of their sample reported a reduction in sexual behaviors. Thirty-six percent indicated that they had ceased undressing in front of their partner, and 39 percent said they now wore less revealing clothes at night. Twenty-two percent reported that they no longer reached orgasm. Unfortunately, no information was provided about the frequency of these behaviors before the mastectomy. In addition, important constructs, such as sexual behavior, were left undefined. Also, they provided no reliability or validity information about their measure.

In their retrospective study, Frank, Dornbush, Webster, and Kolodny (1978) reported descriptive data (percentages) related to sexual functioning among women with a mastectomy. The women were instructed to respond to the questions based on their memory of the phenomenon premastectomy, three months postmastectomy, and currently. Present time postmastectomy varied among the women. In general, the researchers found a

decrease in the frequency of various sexual behaviors and sexual responsiveness from premastectomy levels. For example, they found that fewer women reach orgasm from intercourse after a mastectomy (both three months and currently) than premastectomy. Almost half of the women reported that they would have liked more opportunity to discuss sexual functioning with their health care provider(s) either before or after mastectomy.

Jamison et al. (1978) also investigated postmastectomy sexual functioning. They administered a survey to 41 postmastectomy women and found that: 23 percent reported that coital orgasm was now more difficult; 21 percent indicated they had intercourse less frequently than they did premastectomy; and 24 percent indicated they were less sexually satisfied as a result of their mastectomy.

Concerned about postmastectomy sexual adjustment, Kriss & Kraemer (1986) investigated the effectiveness of group therapy on enhancing sexual behavior of mastectomy patients. They reported that before group therapy, postmastectomy women had lower sexual adjustment than healthy controls. After group therapy, the women's sexual adjustment improved but their range and frequency of sexual activity remained the same. Sexual adjustment was measured by only one global, self-report item in which participants were instructed to rate their sexual adjustment on a 5-point scale. Frequency of sexual activity was obtained by summing the responses to items about intercourse, masturbation, and orgasm. In another study,

Auchincloss (1989) found that women who fail to adjust to their breast loss were nine times more likely to develop sexual difficulties than women who did adjust to their breast loss.

As is evident from the research reviewed above, there is a consensus that mastectomy can impact negatively on women's sexual functioning. While some have claimed (e.g. Meyerowitz, 1980) that studies which rely on retrospective accounts may not be as accurate due to memory effects, both retrospective and prospective research appear to yield similar findings.

One problem with the literature on the relationship between mastectomy and sexual functioning is that it is plagued with methodological difficulties (see Bransfield, 1983, for a review). One specific flaw is that it is typically based on variables that are ignored or unclearly defined and/or measured. Examples include time post treatment, presence or absence of a partner, patient's age, marital status, stage of disease, and definition of sexual functioning (Auchincloss, 1990; Beckham & Godding, 1990; Bransfield, 1983). Other claims about postmastectomy sexual functioning are made without empirical support and/or are based on opinion (e.g., Becker, 1978; Ervin, 1973; Goin & Goin, 1981; Golden, 1983; Harrell, 1972; Kent, 1975; Krukofsky, 1988; Wabrek & Wabrek, 1976; Westgate, 1980; Woods, 1975) or on personal accounts (Brinker, 1990; Gross & Ito, 1990; Hill, 1986; Kaye, 1991; Zalon, 1978). Further, evaluation of sexual dysfunction is frequently based

exclusively on frequency and satisfaction with coitus. In addition, the definition of "sexual difficulties" has not even been agreed upon in the literature (Bransfield, 1983). This makes the literature difficult to interpret and compare.

Perhaps one reason not all postmastectomy women experience an impairment in sexual functioning is due to the different meaning women attach to their breasts (Meyerowitz, 1981), and to the centrality of their breasts to pleasurable sexual activity (Woods, 1975). For example, among women for whom breast stimulation has been central to sexual arousal and orgasm, the amputation of a breast has been theorized to be particularly detrimental to sexual functioning (Woods, 1975).

Phases of Sexual Response

One way to conceptualize sexual functioning is as a cycle of affective, cognitive, behavioral, and physiological events (Schover et al., 1989; Wise, 1983). Kaplan (1983) modified the phases of sexual response originally identified by Masters & Johnson (1966). These phases include: the desire phase, involving fantasies, thoughts, daydreams, and/or sexual interest or motivation; the arousal phase, consisting of physiological changes in women, such as vaginal lubrication and engorgement of vaginal tissue, and subjective changes involving feelings of sexual pleasure and excitement (Morokoff, 1993); orgasm phase, in which there is the sensation of orgasmic pleasure; and the resolution phase. Dysfunctions can occur in any of the first three phases of the cycle (Auchincloss, 1990; Kaplan, 1983; Masters & Johnson,

1966).

Desire phase dysfunction involves loss of subjective desire for sexual activity. With any illness or psychological or physical stress, it is normal for sexual desire to be diminished, resuming as health returns (Auchincloss, 1990).

Problems of sexual desire can be global or situational. Schover et al. (1989) report that there is no evidence as of yet that any form of cancer treatment hormonally affects women's desire. Loss of sexual desire is often associated with depression (American Psychiatric Association, 1994). Situational loss of sexual desire may signal marital difficulties. A spouse may lose desire for the partner because the threat of loss may make intimacy too painful, for example (Schover et al., 1989). Further, aversion to sex could also develop, if, for instance, the cancer diagnosis/treatment triggers memories from earlier traumas.

Arousal dysfunction results from deficient vaginal vasocongestion and/or involves impaired subjective sexual excitement (Morokoff, 1993). Premature menopause is a major physiological cause of arousal problems (Schover et al., 1989). The most prominent sexual symptom in this case would be reduced vaginal lubrication and expansion, resulting in painful and dry intercourse (Schover et al., 1989). Orgasm dysfunction involves absent or delayed orgasm (American Psychiatric Association, 1994).

Few studies investigating postmastectomy sexual functioning assess functioning across the sexual response

cycle. This is an important conceptualization to include, as it incorporates a comprehensive view. It also provides a systematic method to studying sexual functioning. The two studies of which the author is aware that have taken this approach are reviewed next.

Sexual Response Cycle and Mastectomy

Anderson and Jochimsen (1985) investigated sexual functioning retrospectively among women with breast cancer, gynecologic cancer, and healthy controls. The women with breast cancer included 16 women with Stage II disease, treated with unilateral modified radical mastectomy and adjuvant chemotherapy. Time post surgery ranged from 2 to 12 months. None of the women had undergone reconstructive surgery. The researchers found that mastectomy patients did not differ from the matched control women on the desire or orgasm phases of the sexual response cycle. However, the mastectomees (and gynecologic cancer patients) reported lower levels of sexual arousal and less frequent sexual intercourse than the control women. Interestingly, 81 percent of the breast cancer participants evaluated their present sexual life as above average or better compared to only 63 percent of the healthy controls. The extent to which the results would vary if breast cancer patients who were not receiving chemotherapy participated is unclear. During the treatment, the effects of fatigue, stress, anxiety, and medication may have altered women's sexual response. Although the authors reported that the physical side effects following chemotherapy were minimal,

they do not address the psychological effects (Thomas, 1987). Another criticism of their study is their choice of measurements for the response cycle phases. First, all of their measurement techniques for the phases rely on retrospective data. In addition, assessment of the desire and orgasm phases each involved only one question. The extent to which these capture the constructs of interest is questionable. Further, their study only included women with Stage II disease.

Gerard (1982) also investigated postmastectomy sexual functioning and focused exclusively on the arousal phase of the cycle. Gerard utilized subjective self-report as well as a photoplethysmograph to physiologically measure arousal based vaginal blood flow. She found that after watching erotic films, mastectomees reported lower arousal than a matched control group of healthy women. However, the level of physiological arousal was identical between the two groups. She reports that for mastectomees, there was a negative correlation between physiological and subjective indices of sexual arousal. The reverse was true for the healthy controls. The author postulates that anxiety prevented the mastectomy patients from correctly labeling and attending to their bodily cues. The extent to which demand characteristics, volunteer bias, and the small sample size (13 women with breast cancer; 11 healthy controls) allow for generalizability of the results is of concern.

Additional work utilizing valid measures of all aspects

of the sexual response cycle phases is warranted. Examining these phases provides a richer definition of sexual functioning and understanding of women's sexual experiences.

General Sexual Functioning

As is evident from the literature reviewed above, studies investigating the impact of mastectomy on sexuality often utilize a narrow selection of sexual behavior. Many, for example, focus exclusively on frequency of and/or satisfaction with intercourse (Schain, 1988). Sexual functioning can include a wide range of behaviors beyond intercourse, all of which are important to assess. Thus, measuring sexual functioning and satisfaction ought to ideally include a more ample representation of behaviors that reflects individual preferences and definitions of satisfaction. Sexual behaviors such as masturbation (Meyerowitz, 1988), intimate caressing, oral sex, embracing, acting seductively in front of one's partner, thoughts about sex, a range of activities related to sex, and nongenital intimacy are important. Certainly, sexual satisfaction may not exclusively involve intercourse for all women (Beckham & Golding, 1990; Bransfield, 1983; Golden, 1983). This may be particularly true among women with breast cancer. In fact, Leiber, Plumb, Gerstenzang, & Holland (1976) found that women (and men) with various types of cancer had an increased desire for nonsexual physical intimacy, such as holding hands, kissing, and hugging, and a diminished desire for intercourse.

It is important to have accurate information about the

sexual needs of women who have undergone a mastectomy. This could lead to the enhancement of women's sexual relationships, improve their quality of life, and diminish the often accompanying dysphoria from a cancer diagnosis (Schain, 1988). In addition, sexuality is an important aspect of self-esteem (Schain, 1988) and sense of self (Krukofsky, 1988). As a result, understanding and perhaps ameliorating a woman's "sexual self-efficacy" may have important implications for her self-esteem. It is also an important part of her overall recovery (Golden, 1983) and return to good health. Sexual expression is an integral part of a relationship and of being alive (Lamb & Woods, 1981), and a viable area to intervene and enhance. Given that mastectomy is a common treatment for breast cancer and that it may be associated with adverse psychological sequelae, there is an ethical obligation to better understand and treat such effects (Rosser, 1981).

Mastectomy versus Lumpectomy

As the medical literature on the comparison of survival rates has developed, research has also been conducted comparing the psychological outcome of the two different forms of surgical intervention. In the 1980's alone, thirteen studies were conducted on this topic. There are now at least thirty studies comparing the psychological outcome associated with the two procedures. (To the author's knowledge, only heterosexual women have been included in these studies. How breast cancer affects body image of lesbian women or sexual relations with other women is currently unknown.)

The studies investigating mastectomy versus lumpectomy are somewhat difficult to compare due to differences in methodology and sampling (Fallowfield & Hall, 1991). The vast majority of this research, however, suggests that women who have had a lumpectomy demonstrate higher body satisfaction (e.g. Bartelink, van Dam, & van Dongen, 1985; Kemeny, Wellisch, & Schain, 1988; Levy & Schain, 1988; Meyer & Aspergren, 1988; Sanger & Reznikoff 1981; Schain, Edwards, Gorrell, de Moss, Lippman, Gerber, & Lichter, 1983; & Wellisch, DiMatteo, Silverstein, Landsverk, Hoffman, Waisman, Handel, Waisman-Smith, & Schain, 1989) and less sexual dysfunction (e.g. Kemeny et al., 1988; Schain, Fetting, & d'Angelo, 1985; Steinberg, Juliano, & Wise, 1985; Wellisch et al., 1989) than women who have had a mastectomy, and than women who had a mastectomy plus reconstruction (Mock, 1993).

Schain et al. (1985) found that women who had a mastectomy were three times more likely to demonstrate negative feelings about their naked body than women who had a lumpectomy. Women with a mastectomy typically describe feeling disfigured and lopsided (Taylor, Lichtman, & Wood, 1987). Further, Schain, Fetting, & d'Angelo (1985) reported that mastectomy patients had more negative feelings about their nudity than did women who had a lumpectomy.

In a frequently cited study, Margolis, Goodman, & Rubin (1990) interviewed 22 women who had a mastectomy and 32 women who had a lumpectomy at least one year prior. The researchers report that women who had a mastectomy felt less physically

attractive and less sexually desirable than women who had a lumpectomy. The women who had a mastectomy also indicated that the quality of their sexual relationships had diminished after surgery, whereas women who had a lumpectomy did not experience a change in the quality of their sexual relations. For women who had a mastectomy, breast stimulation became less important in sex than it was before their surgery, and the involvement of the breast in sexual relations lessened. There was no change in the importance of breast stimulation or involvement of the breast among women who had a lumpectomy. The researchers concluded that all women who had a mastectomy "felt badly about their (naked) bodies" (p. 34), while women who had a lumpectomy "had positive feelings" (p. 35). They state that the negative impact on body image of a mastectomy can be averted by choosing a lumpectomy.

While most of the research has found that there are overwhelming benefits in terms of body image and sexual functioning for women who choose a lumpectomy, there are some researchers who are less enthusiastic. For example, Holmberg, Omne Ponten, Burns, Adami, & Bergstrom (1989) and Rutherford (1988) have found that women who had a lumpectomy do experience sexual difficulties, and that the sexual impact of their surgery is often underrated. This could be particularly true if their treatment caused changes in comfort and sensitivity of their breast or in the form of sex play that previously led to satisfaction.

Several studies have found that mastectomy and lumpectomy

procedures yield equivalent rates of general psychological symptomatology, such as anxiety and depression (e.g. Baider, Rizel, & Kaplan De-Nour, 1986; Bartelink et al., 1985; Blichert-Toft, 1992; Lasry, Margolese, Poisson, Shibata, Fleischer, LaFleur, Legault, & Taillefer, 1987; Schain et al. 1985; Schain & Fetting, 1992; Steinberg et al., 1985; Wellisch et al., 1989). In general, approximately one quarter of all women who have had breast cancer, regardless of their treatment intervention, are expected to experience clinically significantly anxiety or depression (Maguire, 1989; Rowland & Holland, 1990).

As Fallowfield, Baum, & Maguire (1987) state, the eagerly hoped for decrease in general psychological morbidity associated with lumpectomy has not been found. Further, some researchers report a higher fear of recurrence among lumpectomy patients (e.g. Bartelink et al, 1985; Rowland & Holland, 1990), while others have found equivalent rates of recurrence concern between the two groups (e.g. Schain & Fetting, 1992; Wellisch et al., 1989). Regardless of the form of surgical intervention, all women with breast cancer still have to confront that they have had a life-threatening disease that may recur (Fallowfield & Hall, 1991).

Though causal interpretation would not be possible given the correlational nature of this design, a better understanding of the relationship between sexual functioning and body image could help clinicians work with the thousands of women who undergo breast cancer surgery each year.

Interventions based on empirical findings could help to improve quality of life for women who have undergone a mastectomy or lumpectomy and who are experiencing adjustment difficulties related to their body image or sexuality.

One way in which this study improves upon previous research is by more clearly defining its constructs. For example, body image is defined exclusively as body satisfaction and is measured as both a trait and state. Though the topic of body image has received much attention in the mastectomy literature, frequently it has not been measured in an empirical manner. Sexual functioning is assessed across the phases of the sexual response cycle, and its measurement incorporates sexual behaviors other than intercourse. This also represents an improvement in the literature. In addition, the proposed study includes both prospective and retrospective measures. Prospective accounts eliminate the potential confound of memory effects inherent in a retrospective design. Furthermore, this study is the first as far as the researcher is aware to systematically study the relationship between body image and sexual functioning in a mastectomy or lumpectomy population and one of only a few studies to investigate this relationship in a nonclinical population. The use of daily ratings enabled the researcher to examine this relationship for each participant for one month on a daily basis.

In summary, previous research has suggested that there is a relationship between sexual functioning and mastectomy or lumpectomy, between body image and mastectomy or lumpectomy,

and between sexual functioning and body image. From these findings the following hypotheses were generated for the present study.

Hypotheses

Body image.

1. It is hypothesized that women with a mastectomy (wwm) experience a significantly lower rate of body satisfaction (measured by the total score of the Appearance Evaluation subscale of the Body Image Scale) than women with a lumpectomy (wwl) and than women who have not had breast cancer (wnml).
2. It is hypothesized that wwm have more dissatisfaction with their body parts, shape, muscle tone, and weight (measured by items #1-15 of the Body Image Daily Rating) than wwl and than wnml.
3. It is hypothesized that wwm experience more self-consciousness about their appearance (measured by item #17 of the Body Image Daily Rating) than wwl or than wnml.
4. It is hypothesized that wwm have less satisfaction with their appearance after gazing at their clothed body in a mirror for thirty seconds (measured by item #18 of the Body Image Daily Rating) than wwl or than wnml.
5. It is hypothesized that wwm think that they are less attractive than women their own age (measured by item #49 of the Body Image Scale) compared to wwl or wnml.
6. It is hypothesized that there are no differences between the groups in perception of the importance of the breast region in attractiveness (measured by item #51 of the Body

Image Scale).

7. It is hypothesized that wwm experience more physical self-consciousness and avoidance of body exposure in sexual situations (measured by the total score of the Body Exposure in Sexual Activities Questionnaire) than wwl or than wnml. Several items deemed particularly relevant to the mastectomy population by this researcher and which specifically involve the breast are predicted to indicate higher self-consciousness for the mastectomy sample than for the women in the other two groups. The items include: (a) frequency of thoughts during sexual activity that they look sexy, (b) preference to keep clothing on during sexual activity, (c) concern during sexual activity that the partner will notice something that is a turn-off, (d) preference to keep one's body hidden under a sheet or blanket during sexual activity, (e) comfort with the partner viewing her body naked, (f) agreement that there are body parts that she would rather her partner not view during sexual activity, (g) worrying during sexual activity about what the partner is thinking, (h) tendency to avoid certain positions because of the way her body would look, and (i) becoming distracted during sexual activity by thoughts of how certain body parts look.

8. It is hypothesized that wwm have higher levels of body satisfaction before their cancer diagnosis than presently (measured by the total score of the Appearance Evaluation subscale of the Body Image Scale).

9. It is hypothesized that there are no differences between

the groups in extent of investment in appearance (measured by the total score of the Appearance Orientation subscale of the Body Image Scale).

Sexual Functioning.

10. It is hypothesized that wwm have lower sexual arousability (measured by the total score of the Sexual Arousability Inventory) than wwl or than wnml. It is hypothesized that on three items specifically pertaining to the breast (items #81, #91, #104 of the Sexual Arousability Inventory), wwm will report lower sexual arousability than wwl or than wnml.

11. It is hypothesized that wwm have a lower frequency of intercourse, masturbation, and oral sex but more fears about intercourse (measured by individual items of the Sexual History Form) than wwl or than wnml. In addition, it is hypothesized that wwm have a higher frequency of affection behaviors, such as nongenital touching, kissing, and hugging and lower sexual desire and arousal and less frequent orgasm (measured by individual items on the Sexual History Form) than wwl or wnml. Some of these sexual functioning variables will also be measured by the Sexual Functioning Daily Rating. These include the following Sexual Functioning Daily Rating items: frequency of sexual desire (item #20), affection behaviors (item #23), sexual arousal (items #34 and #35), masturbation (item #30), oral sex (item #31), intercourse (item #29), and orgasm (item #33).

12. It is hypothesized that wwm will report lower frequencies of intercourse, masturbation, oral sex, desire, arousal,

orgasm and sexual satisfaction (measured by individual items on the Sexual History Form) after their surgery than before their breast cancer diagnosis. It is also hypothesized that wwm will have lower rates of activity specifically involving the breast (measured by specific items on the Sexual History Form).

Body Image and Sexual Functioning.

13. It is hypothesized that body satisfaction (measured by individual items #11, #13, #15, #16, #17, #18 of the Body Image Daily Rating) is positively correlated with sexual functioning (measured by the individual items #19, #20, #21, #23, #26, #28, #30, #31, #32, #34, #35, #36 of the Sexual Functioning Daily Rating).

14. It is hypothesized that there is a significant positive correlation between satisfaction with the breast region (measured by the Body Image Daily Rating item #9) and sexual functioning (measured by the Sexual Functioning Daily Rating items #20, #21, #26, #28, #35, #36) and between satisfaction with overall body satisfaction (measured by Body Image Daily Rating item #15) and sexual functioning (measured by the Sexual Functioning Daily Rating items #28, #29, #30, #31, #32, #33, #34, #35, 36).

Method

Participants

Study participants were 20 women who had undergone a breast cancer mastectomy (Mastectomy sample), 21 women who underwent a breast cancer lumpectomy (Lumpectomy sample), and

21 women with no personal history of breast disease, breast surgery, or chronic illness (Control sample).

Mastectomy Sample

The breast cancer samples were recruited in several ways. These include: Reach to Recovery Groups of the American Cancer Society in Rhode Island (1), notices posted in Rhode Island lingerie shops that sell mastectomy products (1), breast surgeons' referrals (6), a mass mailing with the Rhode Island Women's Health Collective (1), advertisements in the Narragansett Times and Providence Journal newspapers (1) and word-of-mouth (10).

Prospective participants were screened for eligibility. They were required to be: in good physical health as assessed by respondents' self-report and responses to a health screening questionnaire; in a heterosexual relationship that lasted for at least twelve months; and at least one year postsurgery. All women had Stage I breast cancer.

Research (Maguire et al., 1978, Morris et al., 1977) suggests that among breast cancer patients who develop sexual problems, there is usually a three to four month posttreatment time frame during which body image and sexual functioning problems emerge. Similarly, Polivy (1977) found that within the first year postmastectomy women implement a defense of denial, and that the impact of mastectomy on their self-concept and body image does not emerge until several months after the surgery. The sample was thus limited to women for whom at least one year had passed since their mastectomy.

Lumpectomy Sample

The lumpectomy sample was comprised of women who had a lumpectomy at least one year ago. The criteria for their participation was identical as the criteria for the mastectomy sample. They were recruited from the same sources as the women in the Mastectomy Group. These include: Reach to Recovery Groups of the American Cancer Society in Rhode Island (1), notices posted in Rhode Island lingerie shops that sell prostheses (1), breast surgeons' referrals (6), a mass mailing with the Rhode Island Women's Health Collective (1), advertisements in the Narragansett Times and Providence Journal newspapers (1) and word-of-mouth (11). All women had Stage I breast cancer.

Control Sample

The Healthy Control sample was recruited through notices in the local newspapers (2), a mass mailing with the Rhode Island Women's Health Collective (4), Rhode Island Junior League (4), lingerie shops (1), and word of mouth (10). In order to be eligible they had to be in a heterosexual relationship that has lasted for twelve months or longer. Women who are lesbians, who have had breast disease or some form of cancer or other chronic illness, or who were not in a relationship that has lasted for twelve months or longer were not eligible to participate.

Women in the groups were matched for race and marital status. The researcher attempted to recruit women who were similar in socioeconomic status, length of time in intimate

relationship, age, religion, and educational background. All participants signed an informed consent document. Confidentiality was assured to all participants.

Measures

Background and medical history. (Appendix 1) Participants provided information about their age, marital status, geographic region, length of time in relationship, education, employment, education, sex of partner, health history (especially cancer history and breast disease), cancer treatment, time since surgery, and present health status.

Life Experiences Questionnaire. (Appendix 2) This 17-item scale is based on Sarason, Johnson, and Siegel's (1978) 47 item survey in which respondents are asked to indicate whether potentially stressful life events have occurred in their life within the last year. Respondents are asked to indicate "yes" if they have experienced the event during the past 12 months, and "no" if they have not. Some of the items selected represent those that may be more common among people in mid to late life. Examples of these include death of spouse and retirement. Other items, such as marital separation, sexual difficulties, and change in financial status, are life changes experienced by the general adult population. The occurrence of any of these stressors is an important consideration in interpreting body image and sexual functioning changes among the women in the three groups.

Relationship Satisfaction. (Appendix 3) This 12-item questionnaire was modified from Roach, Frazier, & Bowden

(1981). It requires that participants indicate, using a 5-point Likert scale, their degree of agreement to questions pertaining to their relationship with their partner. Sample questions include "I worry a lot about my relationship" and "I get along well with my partner". The scale ranges from 1=strongly agree to 2=agree to 3=neutral/undecided to 4=disagree to 5=strongly disagree. Two questions ask directly about degree of relationship satisfaction ("How satisfied are you with your relationship with your partner?" and "How satisfied do you think your partner is with your overall relationship?"). Responses range from 1=extremely satisfied to 2=moderately satisfied to 3=slightly satisfied to 4=moderately dissatisfied to 5=extremely satisfied. The items are totaled, and a total score is obtained.

Appearance Orientation. (Appendix 4) This is a 12-item subscale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ) designed to assess cognitive investment in one's appearance. The Appearance Orientation subscale consists of items #30, #31, #34, #35, #37, #38, #40, #41, #43, #44, #47, and #48 of the Body Image Scale included in Appendix 4. Each item is rated on a 5-point scale (1=definitely disagree to 5=definitely agree). Examples of the items include "Before going out in public, I always notice how I look;" "it is important that I always look good;" and "I never think about my appearance." People who score high place importance on their appearance and pay attention to how they look. People who score low are apathetic about their

appearance. Scores are obtained by applying a formula specified by the MBSRQ authors (Brown, Cash, & Mikulka, 1990). An internal consistency estimate of the subscale is .85 (alpha) among women (Brown et al., 1990). Norms and additional information about validity and reliability are available (Brown et al., 1990; Cash, Winstead, & Janda, 1986).

Appearance Evaluation. (Appendix 4) This 7-item subscale of the MBSRQ measures feelings of physical attractiveness and satisfaction with one's looks and is considered an affective appraisal of one's appearance. The Appearance Evaluation subscale consists of items #32, #33, #36, #39, #42, #45, and #46 of the Body Image Scale in Appendix 4. Participants are asked to rate their level of agreement on a 5-point scale (1=definitely agree to 5=definitely disagree). Examples of items include: "My body is sexually appealing;" "I like my looks just the way they are;" and "I dislike my physique." People who score high feel mostly satisfied with their appearance. People who score low are generally dissatisfied with their appearance. A total score is obtained by applying a specific formula (Brown et al., 1990). An internal consistency estimate for women was .88 (alpha) (Brown et al., 1990). Norms and additional information about validity and reliability are available (Brown et al., 1990; Cash et al., 1986).

Feelings of attractiveness relative to female peers. (Appendix 4) This item was developed by the researcher and included as part of the Body Image Scale (item #49). It asks

women to indicate on a 5-point scale (1=much more attractive than peers to 5=much less attractive than peers) how attractive they feel compared to other women their age.

Importance of the breast in women's attractiveness.

(Appendix 4) On this item, developed by the researcher, women indicate on a 5-point scale (1=none to 5=extremely important) how important they believe women's breasts are in affecting women's appearance. It is included as part of the Body Image Scale (item #51).

Body Exposure in Sexual Activities Questionnaire (BESAQ).

(Appendix 5) This 28-item measure assesses both physical self-consciousness and avoidance of bodily exposure in sexual situations. Each item is rated on a 5-point scale from "never" (1) to "almost always" (5). Examples of questions include "During sexual activity I have thoughts that my body looks sexy" and "I prefer to keep certain articles of clothing on during sexual activity." Reliability estimates (Cronbach's alpha) for women are .88, and norms are available. Data on the scale's reliability and validity is currently being collected. The scale is scored by summing all of the items. Nine items (#52, #57, #62, #63, #65, #70, #71, #77, #78) deemed particularly relevant to the breast will be analyzed separately.

Sexual History Form. (Appendix 6) This form measures frequency and quality of various forms of sexual functioning. Frequency of foreplay, intercourse, masturbation, oral sex, affection behaviors, sexual desire, sexual arousal, and orgasm

are measured. In addition, satisfaction with the sexual relationship and with intercourse are assessed, as is perceived partner satisfaction. The additional items measure desired rate of intercourse, of masturbation, and of oral sex; perceived partner sexual desire; frequency of initiating sexual activity; length of time of foreplay; responsiveness to partner's sexual advances; and likelihood of reaching orgasm via masturbation, via partner caressing her genitals, via sexual intercourse, and via stimulation by an object. The remainder of the items include the following: partner's ease getting an erection, frequency of breast touching by partner, and the frequency of fear, of worry, and of general negative emotions during sexual relations. There are 28 items in the original form. A modified, 29-item version of this scale was adapted for the three groups. Responses for frequency items are 1=have never tried to, 2=never, 3=seldom, about 25% of the time, 4=sometimes, about 50% of the time, 5=usually, about 75% of the time, and 6=nearly always, over 90% of the time. Responses for satisfaction items were 1=extremely unsatisfactory, 2=moderately unsatisfactory, 3=slightly unsatisfactory, 4=slightly satisfactory, 5=moderately satisfactory, 6=extremely satisfactory. Norms are available for the items from the original version of the scale. This questionnaire can not be scored; it is primarily used to establish areas of dysfunction (LoPiccolo, 1987). The measure has been used to assess outcome of interventions for sexual dysfunction (e.g. LoPiccolo & Morokoff, 1986). Data on norms

are available for each item (O'Leary, 1987).

Sexual Arousalability Index (SAI). (Appendix 7) This measure is one of the most widely used to assess self-reported sexual arousal in women. It is capable of discriminating between normal and sexually dysfunctional individuals. The scale contains 28 items. Each item is rated on a 7-point Likert scale from -1 (adversely affects sexual arousal) to 5 (always causes sexual arousal). For the purpose of this research, the scale was modified from 7-points to 5-points (1=adversely affects sexual arousal; 2=does not affect sexual arousal; 3=sometimes causes sexual arousal; 4=usually causes sexual arousal; 5=almost always causes sexual arousal). Examples of items include how one would feel or think one would feel "when you see a loved one nude" or "when you masturbate." Total scores are derived from summing the ratings of these erotic experiences. Three items (#81, #91, #104) deemed particularly relevant to the breast will be analyzed separately. Psychometric analyses (Andersen, Broffitt, Karlsson, & Turnquist, 1989) of the scale indicate it has high internal consistency estimates (.92-.96) and test-retest (4 month) reliability (.74-.90). Examination of construct validity suggests a five-factor solution, with 85% of the variance accounted for, stable across time and groups. In relation to discriminant validity, the scale can distinguish between normal women and women seeking therapy for sexual dysfunction. Norms for the scale are available and are reported to be useful for middle and upper-middle class women in the United

States. (Hoon, Hoon, & Wincze, 1976). This scale has been criticized, however, for measuring arousal as a trait across relationships (Morokoff, 1993).

Body Image Daily Rating. (Appendix 8) This 19-item scale was developed by the researcher to measure daily feelings about one's body over a one month period of time. Participants are asked to rate their satisfaction with 9 specific body regions (e.g. face, chest), their general muscle tone, height, weight, overall appearance, and body shape on a 5-point scale (1=very dissatisfied to 5=very satisfied). This scale was adapted from the Body Areas Satisfaction Scale of the MBSRQ (Brown et al., 1990; Cash et al., 1986). It was modified in order to ask more specific questions about satisfaction with the breast area. Women are also asked to rate their feelings of attractiveness and self-consciousness on a 4-point scale (1=not at all to 4=extremely). The final question asks women to rate their satisfaction with their appearance after gazing at their clothed body for 30 seconds in a mirror on a 5-point scale (1=not at all satisfied to 5=extremely satisfied). A total score is obtained by summing responses (Saltzberg, 1992).

Sexual Functioning Daily Rating. (Appendix 9) This 17-item questionnaire was developed by the researcher to measure sexual functioning for each day over a one month period of time. Questions about sexual intercourse, oral sex, masturbation, sexual desire, sexual arousal, orgasm, sexual fantasies, and affection behaviors are included. Participants

are asked to answer frequency type questions (e.g. "Did you engage in sexual intercourse today?") as either "yes" or "no" and a satisfaction question ("How satisfied were you with your sexual experiences today?") on a 5-point scale from "not at all" (1) to "extremely" (5). Women are also asked to record their highest level of sexual arousal for that day and whether or not they are menstruating on that particular day. Total scores are obtained by summing the responses. (Saltzberg, 1992).

Procedure

Prospective participants contacted the researcher, whose name and phone number (Elayne A. Saltzberg, M.A.; 401-782-6182) were included in the announcements made to participants. When prospective participants called the researcher, she conducted a short telephone screening to confirm their eligibility. In order to participate, women were required to be in a heterosexual relationship that has lasted at least one year and report being in good health. The women in the cancer groups had to be at least one year post-surgery and report that they have not experienced any other forms of cancer. In order to be eligible to participate in the Control Group, women were required not to have had any form of cancer or breast surgery.

The researcher arranged to meet individually with prospective participants who met the eligibility requirements. She described the study and answered the women's questions. The meetings took place at the University of Rhode Island, or,

if more convenient, at the women's home or business.

During the individual meetings, the researcher indicated that the study's purpose is to better understand the way women feel about their bodies and about their sexuality. Prospective participants were told that the study involves filling out questionnaires. They were paid \$15.00 at the end of the study for their participation. They were also told that one aspect of participation involved completing a daily checklist of sexual functioning and body image for one month. The other aspect, they were told, involved completing a set of measures at the start (before beginning the daily ratings) of the study. Participants were assured that any information they provided was confidential.

After the researcher explained the study and answered the women's questions, the women were asked if they were interested in participating. Interested individuals were instructed to read the consent form (see Appendices 9 & 10, for women who have had breast cancer and for women who have not had breast cancer, respectively) and sign it if they were agreeable. Once the consent form was signed, participants were handed the set of psychological measures and assigned a code number. This code number was on all of their questionnaires so that the only way participants could be identified with the information they provided was through their code numbers. This information was kept in a locked file to which only the researcher had access. The return address on the envelopes of all mailings was the researcher's.

Participants then completed the questionnaires in the following sequence: Background Questionnaire, Relationship Satisfaction Measure, Life Experiences Questionnaire, Body Image Scale, Body Exposure in Sexual Activities Scale, Sexual Arousability Index, and the Sexual History Form. Women with breast cancer also completed the Treatment Questionnaire, after the Background Questionnaire. Next, all participants provided a retrospective account of their body image and sexual functioning by completing the Body Image Scale and the Sexual History Form based on how they thought they would have answered the questions before their cancer diagnosis (Cancer Groups), or five years ago (Control Group). They completed these measures last in the sequence described above. All of the measures described above were completed in the investigator's presence. When the questionnaires were completed, participants were given a packet of 28 daily rating sheets and instructions on how to complete them. To reduce memory effects, participants were asked to complete daily ratings only for the present day and at the same time each day. Participants were instructed to send the researcher their daily ratings at the end of each week and were provided a stamped, self-addressed envelope for all mailings.

Results

Overview

Three groups of women provided information pertaining to their current body image and sexual functioning. In addition, they reported on their body image and sexual functioning from

before their cancer diagnosis (Mastectomy and Lumpectomy Groups) or five years ago (Control Group). Data was both retrospective and prospective. The prospective data was collected in the form of daily diary ratings, which women completed for twenty-eight consecutive days.

Several types of analyses will be reported. First, a summary of background information comparing the three groups will be presented. The demographic and other background information is followed by a description of the tests of the fourteen hypotheses outlined previously.

Comparison of Sample Groups

Group means for the demographic variables were calculated (See Table 1). Analyses were performed to compare the sample groups. There were no significant differences in age between women in the three groups. The overall average age of the participants was 46.40 (SD = 8.66), and they ranged in age from 33-73 years. Women in the Mastectomy group averaged 48.45 years of age (SD = 8.80) and ranged in age from 35 - 73 years. The women in the Lumpectomy sample were on average 45.38 years of age (SD = 9.47) and ranged in age from 33-68. The average age of the women in the Control group was 45.48 years (SD = 7.70), and they ranged in age from 36-69 years. In addition, all women were married. In each group, there was one Asian woman. All other participants were Caucasian. There was a significant difference between the groups on income, $F(2, 58) = 8.47$ $p < .05$, such that the women in the Lumpectomy Group reported a significantly lower income than women in the two

Table 1

Means and Standard Deviations for Demographic Variables

<u>Variable</u>	<u>Group</u>							
	<u>Overall</u>		<u>Mastectomy</u>		<u>Lumpectomy</u>		<u>Control</u>	
	M	SD	M	SD	M	SD	M	SD
Age	46.40	8.66	48.45	8.80	45.38	9.47	45.48	7.70
Annual Income (1-6) ^c	3.43	1.62	3.65 ^a	1.60	2.43 ^b	1.60	4.25 ^a	1.07
Education (1-5) ^d	3.55	.70	3.25 ^a	.79	3.45 ^a	.76	3.95 ^b	.22
Partner's Age	49.11	9.55	51.15	9.27	48.95	11.00	47.33	8.25
Number of Children	1.94	1.94	2.55	2.98	1.71	1.35	1.57	.81
Body Weight (In Pounds)	145.76	23.28	139.50	20.14	149.38	25.13	148.10	24.04

a,b Unlike superscripts indicate significantly different means.

^c 1=Under \$20,000 2=\$20,000-\$25,000 3=\$26,000-\$30,000 4=\$31,000-\$40,000 5=\$41,000-\$50,000

^d 1=Less than 12 years 2=High School Graduate 3=Some College 4=College Graduate 5=Graduate School

other groups. A reliable difference in educational level was found between the groups, $F(2,57) = 6.27, p < .05$, with the Control Group reporting that they received more education on average than the women in the Clinical Groups. More of the Control Group indicated they had received some type of training after college than did women in the Clinical Groups. The vast majority of the women in the Clinical Groups indicated that they had completed college.

No significant between group differences were found in partner's age or the number of children reported. Reported body weight did not significantly differ between groups (See Table 1). Employment status was also similar between groups (See Table 2).

Several other comparisons were made between the women in the three groups. The modal religious affiliation across all groups was Christian, and most of the women identified themselves as Protestant. Smoking status did not differ between groups; one woman in each group identified herself as a smoker. Reported amount of alcohol consumption also did not differ across the three groups. Further, ANOVAs revealed that reported levels of stress within the last year (based on the Life Experiences Questionnaire) and ratings of marital satisfaction (based on the Relationship Satisfaction measure) were not significantly different between groups.

Time Post-surgery

The mean number of years post-surgery was 6.7 years for women who had a mastectomy and 3.1 years for women who had a

Table 2

Occupational Status of Participants

	<u>Mastectomy</u>	<u>Lumpectomy</u>	<u>Control</u>
Professional	10	9	12
Manager	2	4	1
Clerical	1	4	0
At Home	5	3	7
Retired	2	1	1

lumpectomy. The median number of years post-surgery was 4.6 for women who had a mastectomy and 1.8 for women who had a lumpectomy. Years since the surgery ranged from 1.0 to 23.2 for women who had a mastectomy and 1.0 to 9.0 years for women who had a lumpectomy.

An ANOVA was conducted to compare time post-surgery for the women in the two cancer treatment groups. A significant difference emerged, $F(1,39) = 6.99$, $p < .05$, indicating a greater length of time postsurgery for women in the Mastectomy Group. In order to evaluate whether time postsurgery should be used as a covariate, this variable was correlated with all of the dependent variables for the two cancer treatment groups. No significant correlations were found for either group, and therefore time postsurgery was not included in further analyses.

Menopausal Status

Information about the menopausal status of women in the clinical groups was obtained. As illustrated in Table 3, the vast majority of women in both cancer groups were premenopausal before their cancer treatment. During treatment, all women who had a mastectomy stopped menstruating, while menses ceased for approximately one-third of the women who had a lumpectomy. After treatment, the menopausal status of the majority of women in both groups was different than it was before their treatment. A total of twelve of the thirty previously menstruating women in the clinical groups completely stopped menstruating and were considered to have

Table 3

Menopausal Status of Women Who Had Breast Cancer

	<u>BEFORE TREATMENT</u>	<u>AFTER TREATMENT</u>
Mastectomy (n=20)	13 premenopausal	see below **
	6 postmenopausal	same
	1 perimenopausal	same
Lumpectomy (n=21)	17 premenopausal	see below **
	3 postmenopausal	same
	1 perimenopausal	same

DURING CHEMOTHERAPY

	<u>Menses Stopped</u>	<u>Menses Continued</u>
Mastectomy (n=13)	13	0
Lumpectomy (n=9)	6	3

**MENOPAUSAL STATUS POST-TREATMENT FOR PREMENOPAUSAL WOMEN

	<u>More Irregular</u>	<u>More Frequent</u>	<u>Heavier</u>	<u>Less Often</u>	<u>Lighter</u>	<u>Stopped</u>	<u>Same</u>
Mastectomy (n=13)	1	0	1	2	0	7	2
Lumpectomy (n=17)	0	2	0	3	1	5	6

experienced a chemical-induced menopause.

Treatment Modality

The breakdown of the types of treatment women in the clinical groups received is represented in Table 4. As illustrated, the majority of women who had a mastectomy had adjuvant chemotherapy. Among women who had a lumpectomy, eight had adjuvant radiation and chemotherapy, and seven had adjuvant radiation.

Body Image

Several hypotheses examined differences in body image between the three groups. To test these hypotheses, MANOVAs were conducted, in which group and time served as the two independent variables. All between group analyses involving body image variables were also conducted employing MANCOVAs, with education utilized as a covariate. The two different types of analyses yielded the same results. Results from the MANOVAs are reported. Both within and between group correlational analyses were performed on daily rating data.

Body satisfaction (Hypotheses #1 and #8). A 3 x 2 ANOVA was conducted on the Body Image Scale to determine if there were differences in body satisfaction between the women in the groups. The three level variable, Group, consisted of the following levels: Mastectomy, Lumpectomy, and Control. The two level repeated variable was Time, consisting of the following levels: current and former, which was pre-diagnosis in the case of the cancer groups, or five years ago for the Control Group. The main effect for group was not significant,

Table 4

Treatment Modalities of Breast Cancer Participants

<u>Procedure</u>	<u>Number of Participants</u>
Mastectomy Only	6
Mastectomy and Chemotherapy	10
Mastectomy and Radiation	0
Mastectomy and Tamoxifen	1
Mastectomy, Chemotherapy, and Radiation	1
Mastectomy, Chemotherapy, and Tamoxifen	2
Standard Radical Mastectomy	5
Modified Radical Mastectomy	15
Offered Reconstructive Surgery	15/20
Underwent Reconstructive Surgery	3/20
Immediate (TRAM-flap)	1
Delayed (saline implant; multiple implantation)	2
Lumpectomy Only	0
Lumpectomy and Chemotherapy	0
Lumpectomy and Radiation	7
Lumpectomy, Radiation, and Chemotherapy	8
Lumpectomy, Radiation, and Tamoxifen	4
Lumpectomy, Radiation, Chemotherapy, and Tamoxifen	1
Lumpectomy Plus Other (Holistic Approach)	1

indicating that contrary to hypothesis #1, body satisfaction did not significantly differ for the women in three groups.

The ANOVA revealed a statistically significant effect for time, $F(1,58) = 36.84$, $p < .01$ for body satisfaction for all women. Over time, women in all groups reported higher rates of body satisfaction, contrary to the prediction that body satisfaction would decrease for women who had had cancer. In addition, the ANOVA revealed that the interaction between time and group was not significant.

Attractiveness relative to peers (Hypothesis #5). Women were asked to compare their perceived attractiveness with their perception of their peers' attractiveness. A 3 x 2 repeated measures ANOVA was conducted. The three level independent variable was Group (Mastectomy, Lumpectomy and Control). The two level variable was repeated (former and current). Results of the ANOVA revealed no differences between groups. Thus, support for the hypothesis was not found.

Perceived importance of breast to attractiveness (Hypothesis #6). A 3 x 2 ANOVA was conducted. The three level independent variable was Group (Mastectomy, Lumpectomy, and Control). The two level dependent variable was repeated (former and current). The ANOVA revealed that the women in the three groups did not vary on their current rating of the perceived hypothetical importance of the breast in determining a woman's attractiveness. This is consistent with what had been hypothesized.

Appearance orientation (Hypothesis #9). A 3 x 2 ANOVA was

conducted to compare the amount of investment in appearance of the women in the three groups. The three level variable, Group, consisted of the following levels: Mastectomy, Lumpectomy, and Control. The two level repeated variable was time, and consisted of present and former. The ANOVA revealed that there were no significant effects for group or time, and there was no significant interaction. These results are consistent with the hypotheses.

Satisfaction with specific body parts (Hypothesis #2). A oneway MANOVA with 19 dependent variables (representing each item of the Body Image Daily Rating) was performed on women's daily body satisfaction ratings. The three levels of the independent variable, Group, were Mastectomy, Lumpectomy, and Control. The values for each variable were averaged over the 28 days for each participant. No significant between group differences were found.

Physical self-consciousness (Hypothesis #3). A oneway ANOVA was performed on the daily diary ratings of reported feelings of physical self-consciousness. The three levels of the Group variable were Mastectomy, Lumpectomy, and Control. The dependent variable was the daily diary ratings averaged across the 28 days. The effect for group was not significant.

Mirror-based rating of appearance (Hypothesis #4). A oneway ANOVA was performed on women's daily rating of their satisfaction with their appearance after gazing at their clothed body in a mirror for 30 seconds. Their ratings were averaged over the 28 days. The three levels of the Group

variable were Mastectomy, Lumpectomy, and Control. No significant effect for Group was found, and the hypothesis was not supported.

BESAO (Hypothesis #7). A one-way ANOVA comparing the three groups revealed no significant main effect for group on the measure assessing comfort with body exposure during sexual activity. Support for the hypothesis was not found. In addition to comparing groups on the total BESAO score, groups were compared on nine individual items. On two items pertaining specifically to the breast, differences between groups emerged. More specifically, women who had a mastectomy reported that they had significantly fewer thoughts during sexual activity of looking sexy than women in the other two groups, $F(2,55) = 5.96$, $p < .05$ (See Figure 1.) In addition, as represented in Figure 2, women in the Control Group reported significantly greater preference to keep clothing on during sexual activity than women in the Mastectomy Group $F(2,59) = 3.65$, $p < .05$. No differences emerged on any of the other items for which a priori hypotheses were made. That is, no main effects were found for the following items: concern during sexual activity that their partner will notice something that is a turn-off; preference to keep one's body hidden under a sheet or blanket during sexual activity; comfort with partner viewing her body naked; agreement that there are body parts she would rather he not view during sexual activity; worrying during sexual activity about what her partner is thinking; tendency to avoid certain positions

Figure 1

Thoughts of Looking Sexy During Sexual Activity

Figure 2

Preference to Wear Clothing During Sexual Activity

1=Never 2=Rarely
3=Sometimes 4=Often
5=Almost Always

because of the way her body would look; and becoming distracted during sexual activity by thoughts of how certain body parts look.

Sexual Functioning

Analyses were conducted across and within individual participants' daily ratings. Several hypotheses examined sexual functioning between the three groups. To test these hypotheses, ANOVAs were conducted in which Group and Time served as the two independent variables. All between group analyses involving sexual functioning variables were also conducted employing ANCOVAs, with education utilized as a covariate. The two methods yielded similar results. Only the results from the ANOVAs are reported. Both between and within group correlational analyses were also conducted on the daily rating data.

Sexual arousability (Hypothesis #10). A one-way ANOVA was conducted to determine if there were differences in SAI total scale scores between the three groups. The three levels of the independent variable, Group, were Mastectomy, Lumpectomy, and Control. No main effect for Group was found. Separate one-way ANOVAs were conducted on three SAI scale items specifically pertaining to the breast. A significant effect for Group was found on arousability when one's partner fondles the breast area with his mouth and tongue $F(2,52) = 3.35, p < .05$. Tukey follow-up tests revealed that this behavior was more frequently experienced by the women in the Control Group than women in the Mastectomy sample as sexually arousing (See

Figure 3). No significant effect for group emerged on the other two items: when partner fondles the breast area with his hands, or when he touches or kisses the nipple area.

Sexual functioning (Hypotheses #11, 12). Twenty-nine 3 x 2 repeated measures ANOVAs were conducted on the items on the SHF. The three level variable, Group, consisted of the following levels: Mastectomy, Lumpectomy, and Control. The two level variable, Time, included Current and Former as the two levels. The findings described below are divided by category. A conservative alpha level of .001 was used to guard against an increase in Type 1 error that would occur from conducting the 29 analyses.

Sexual desire. No differences were found in frequency of reported sexual desire between groups. The main effect for time was significant, however, $F(1,59) = 12.92$, $p < .01$ such that women reported significantly less sexual desire currently than retrospectively. The interaction was not significant. For women's rating of their partner's sexual desire, the group effect was not significant. The main effect for Time was significant, showing perceived partner desire to decrease over time, $F(1,59) = 24.46$, $p < .01$. The interaction was not significant.

Sexual arousal and pleasure. Women were also asked the frequency with which they experience physiological signs of sexual arousal. The main effect for group was not significant, but the effect for time was significant, $F(1, 59) = 5.88$, $p < .05$, with women indicating that they experience physiological

Figure 3

Reported Impact of Breast Fondling on Sexual Arousal

sexual arousal less frequently now than formerly. The interaction was not significant.

The pattern of results was the same when women were asked about their subjective feelings of pleasure during sexual activity. The main effect for group was not significant. A significant main effect for time $F(1,59) = 7.67, p < .05$ emerged, and the interaction was not significant. Thus, the groups did not differ in subjective sexual pleasure but their subjective pleasure significantly decreased over time.

Partner's erection. No significant effect for group or time was found for the partner's reported difficulty/ease in getting an erection.

Sexual behaviors. No significant differences between groups were found for the frequency of sexual intercourse or women's rating of their desired frequency of sexual activity. However, a main effect for time was found for both items $F(1,59) = 45.97, p < .01$ and $F(1,59) = 8.38, p < .01$, respectively, indicating that all women reported that they engaged in sexual intercourse less frequently now than they did previously, and that presently they wanted to engage in intercourse less frequently than they did previously. The interaction was not significant for either of these items.

The frequency of masturbation did not vary by group or by time. Desired frequency of masturbation did not differ across groups or over time. Frequency of oral sex was not significantly different across groups but significantly decreased over time $F(2,59) = 11.41, p < .01$ for all groups.

There was no interaction effect. There was no main effect for group in desired rate of oral sex across the groups but a main effect for time did emerge $F(1,59) = 5.81, p < .05$, indicating that women's current desired rate of oral sex was significantly less than their retrospective account.

The results further indicate no difference between groups in the reported percentage of time they initiate sexual activity. Similarly, no differences were found over time, and the interaction was not significant. For the length of time women reported engaging in foreplay, there were no significant group or time effects. The interaction was not significant. Satisfaction with the sexual relationship was not statistically different between women in the three groups or over time. Women were also asked to indicate on the SHF which of five descriptions best characterized their sexual life. On this item, there was a significant main effect for time, $F(1,59) = 13.64, p < .05$. Their rating decreased over time from "better than average" to "mediocre". No main effects were found for group or time when women rated their perception of their partner's satisfaction with the sexual relationship.

Women were also asked how they respond to partner's sexual advances. While no main effect for group was found, a main effect for time, $F(1,59) = 5.57, p < .05$, revealed that women reportedly tended to be more receptive before than currently.

Results of the question asking participants if they reach orgasm during intercourse indicated no main effect for group

or time. A significant main effect for group was found on the question asking about the likelihood of reaching orgasm when masturbating, $F(2,59) = 4.25$, $p < .05$. ANOVA follow-up testing indicated that the women in the Control Group reported that they were significantly more likely to reach orgasm through masturbation than the women in the Lumpectomy Group, $F(2,59) = 5.30$, $p < .01$. The main effect for time was not significant.

Engaging in affection behaviors (hugging and other nongenital activity) was not significantly different across groups but significantly decreased over time, $F(1,59) = 7.66$, $p < .05$. The interaction was not significant. Women were also asked the extent to which their partner touches their breast area. There was no main effect for group, but a main effect for time, $F(1,59) = 6.27$, $p < .05$ was found, indicating that overall, the partner touched the breast area less frequently over time. A significant interaction was also found, $F(2,59) = 5.51$, $p < .05$. Follow-up tukey tests for the interaction effect revealed that at Time 2, women in the Mastectomy Group indicated that their partner currently touched their breast area significantly less often than did the partners of women in the Control Group, $F(2,59) = 3.60$, $p < .05$. No significant differences emerged between the groups at Time 1. There was no significant difference between Time 1 and Time 2 for women in the Control or Lumpectomy Groups. (See Figure 4.)

No significant differences emerged between groups or time, nor was the interaction significant, when women were

Figure 4

Breast Touching by Partner

1=Never 2=Rarely 3=Sometimes 4=Often 5=Almost Always

asked if they experience negative feelings, including disgust, shame, or guilt during sexual intercourse. While there were no differences across groups in reported fear of having sexual relations, there was a significant decrease over time, $F(1,59) = 7.72$, $p < .05$ for women. The interaction was not significant. In addition, levels of worry about sexual relations were not significantly different between women in the three groups or over time. The interaction was not significant. Overall ratings of the sexual relationship were statistically equivalent across group and over time. The interaction was not significant.

Daily ratings of sexual behaviors (Hypotheses #11,12). Several sexual behaviors were tallied across 28 days of ratings and averaged for each group to determine group differences in reported frequency of these behaviors over the one month period of time for which participants kept daily diary ratings of their sexual functioning. These variables include: (1) number of sexual fantasies, (2) number of days women reported engaging in affection behaviors with their partner, (3) number of days women reportedly initiated sexual activity, (4) number of days women reported they had intercourse, (5) number of days women reportedly masturbated, (6) number of days women indicated they had oral sex, (7) number of days breast stimulation was reportedly part of their sexual activity, and (8) the number of orgasms they indicated they had over the one month period of time. (See Table 5.) This data was analyzed by obtaining the average for each

Table 5
Monthly Frequency of Sexual Activity

	<u>MASTECTOMY</u>		<u>LUMPECTOMY</u>		<u>CONTROL</u>	
	<u>M</u>	<u>Range</u>	<u>M</u>	<u>Range</u>	<u>M</u>	<u>Range</u>
Number of Fantasies	14.35	0 - 65	12.83	1 - 59	16.05	0 - 54
Days of Affection Behaviors	26.9	23 - 28	21.52	1 - 28	24.10	12 - 28
Days of Initiated Sex	1.95 ^a	0 - 9	1.87 ^b	0 - 12	1.93 ^a	0 - 8
Days of Intercourse	3.95	0 - 13	5.05	0 - 17	4.57	0 - 8
Days of Masturbation	1.66 ^a	0 - 23	.72 ^a	0 - 8	1.89 ^b	0 - 9
Days of Oral Sex	1.95	0 - 14	2.67	0 - 8	2.48	0 - 8
Days of Breast Stimulation	1.73 ^b	0 - 16	1.24 ^a	0 - 17	.31 ^a	0 - 10
Days of Orgasms	2.19 ^b	0 - 11	1.82 ^a	0 - 13	.79 ^a	0 - 17

Unlike superscripts indicate significantly different means.

variable for each subject, and this averaged value was used in the analyses. When the frequency of these sexual functioning indices was compared using a one-way (Group) ANOVA, there was a significant main effect, Hotellings $T(34) = 1.66, p < .05$. Univariate F-tests revealed that the groups significantly differed on the frequency of affection behaviors they engaged in during the month, $F(2,59) = 5.86, p < .01$, with the Mastectomy Group engaging in significantly more affection behaviors than the Lumpectomy Group. No other significant differences were found.

Body image and sexual functioning (Hypotheses #13 and #14).

The relationship between body image and sexual functioning was measured using the daily ratings. Intra-subject correlations were performed between body image and sexual functioning variables for each participant across the twenty-eight days. (See Table 6).

Overall body satisfaction was positively correlated with sexual intercourse only for one woman in the Lumpectomy Group, and not for any women in the other two groups. A significant negative relationship was found between overall body satisfaction and sexual intercourse for one woman in the Control Group. Overall body satisfaction and masturbation were positively correlated for two women with a mastectomy, but not for any women with a lumpectomy or in the Control Group. No significant negative relationships were found. Overall body satisfaction was significantly positively related to oral sex for one woman in the Control Group but not for any women in

Table 6

Number of Significant Correlations for Month of Daily Ratings

	<u>MASTECTOMY</u>		<u>LUMPECTOMY</u>		<u>CONTROL</u>	
<u>Body Satisfaction</u>	+	-	+	-	+	-
Intercourse	0	0	1	0	0	1
Masturbation	2	0	0	0	0	0
Oral Sex	0	0	0	0	1	0
Breast Stimulation	0	0	0	0	1	0
Orgasm	1	1	0	0	0	2
Subjective Arousal	0	0	1	0	1	0
<u>Breast Satisfaction</u>						
Weight	3	4	4	0	6	0
Overall Appearance	2	1	5	1	6	1
Shape	4	0	5	0	6	1
Body Satisfaction	1	1	4	0	4	0
Phys. Attractiveness	2	1	5	0	3	0
Self-Consciousness	0	6	0	3	1	2
Mirror Rating	1	1	2	0	3	0
Stress	1	1	0	1	2	2
Sexual Desire	1	2	0	1	3	0
Sexual Fantasizing	1	1	0	2	0	1
Initiate sex	0	1	0	0	0	0
Intercourse	0	0	0	0	0	0
<u>Sexual Desire</u>						
Sexual Fantasizing	7	0	9	0	12	0
Partner Support	1	0	1	0	5	0
Affection Behaviors	0	0	0	0	0	3
Menstruation	1	0	0	0	1	0
Partner interest	3	1	9	0	11	0
Orgasm	2	0	0	0	1	0
Subjective Arousal	1	0	0	0	3	0
Physical Arousal	3	0	0	0	2	0
<u>Weight</u>						
Overall Appearance	4	1	5	0	11	0
Shape	6	0	3	0	11	0
Attractiveness	1	0	4	0	4	0
Self Consciousness	0	1	0	3	1	4
Mirror Rating	1	0	6	0	7	0
Stress	0	1	1	0	1	3
Sexual Desire	1	0	0	0	1	0
Sexual Fantasizing	1	0	0	0	1	0
Physical Arousal	0	0	0	0	1	0

the other two groups. No negative relationships between these two variables emerged for any of the women. Support was not found for this hypothesis.

Several correlations were performed between breast satisfaction and satisfaction with different body image and sexual functioning variables for all women, using the daily ratings. The variables with which breast satisfaction were correlated include items from the Body Image Daily Rating, such as: weight, overall appearance, shape, and overall body image; with feelings of physical attractiveness, physical self-consciousness, mirror ratings of attractiveness, amount of stress, sexual desire, number of sexual fantasies, the initiation of sexual activity, and sexual intercourse.

Results of the correlational analyses indicate that for two women who had a mastectomy, breast satisfaction was significantly related in a positive direction to perceived attractiveness. For one woman who had a mastectomy, there was a significant negative relationship between these two variables. For five women with a lumpectomy, a significant positive relationship emerged between breast satisfaction and perceived attractiveness, and no negative correlations were found. For women in the Control Group, three positive correlations and no negative correlations between these variables were found among participants. Breast satisfaction and overall appearance satisfaction were correlated significantly in a positive direction for two women who have had a mastectomy and negatively for one woman with a

mastectomy; significantly positive for five women who have had a lumpectomy and negatively for one woman with a lumpectomy; and significantly positive for six women in the control group and negative for one woman in the control group. Breast satisfaction and overall body image were correlated in a significant and positive direction for one woman with a mastectomy, four women with a lumpectomy, and four women from the control group. For one woman in the Mastectomy group, these variables were reliably and negatively related. There were no significant negative relationships between these two variables for any women in the other two groups.

Breast satisfaction and sexual desire were positively correlated for one woman in the Mastectomy Group, no women in the Lumpectomy Group, and for three women in the Control Group. For two women in the Mastectomy Group, one woman in the Lumpectomy Group, and for no women in the Control Group these variables were reliably correlated in a negative direction.

Weight satisfaction was correlated with other body image and sexual functioning variables, and sexual desire was correlated with additional sexual functioning variables. The number of participants for whom significant positive and negative correlations emerged is also represented in Table 7.

The total number of women in each group for whom significant correlations were found was tallied, and separate analyses of variance (ANOVAs) were conducted to determine if the number of significant relationships varied between groups. Results of these ANOVAs indicate that the number of both

significant positive and negative correlations between groups did not differ for any variables across the groups.

Discussion

The primary objective of this research was to examine the impact of a mastectomy on body satisfaction and sexual functioning for women. A secondary aim was to investigate the relationship between body image and sexual functioning among women who have had breast cancer and women who have not had breast cancer or a chronic illness. Three groups of women participated in this research; women who have had a mastectomy, women who have had a lumpectomy, and women without history of breast disease or breast surgery. Among the most important and unexpected findings are the numerous group similarities that emerged. Throughout the following discussion, "before", "prior", and "earlier" refer to before the women's breast cancer diagnosis, or, in the case of the women who did not have breast cancer, five years ago.

The three groups of participants in this research did not differ in terms of age, partner's age, number of children, smoking status, or body weight. However, they differed in annual income and educational background. More specifically, women in the Lumpectomy Group reported a significantly lower annual income than women in the two other groups. Further, women in the Control Group reported significantly more years of education than women in the two other groups.

The apparent difference in income between groups may be attributed to the ambiguous wording of the item used to assess

income. When answering the question on range of personal income, some women, primarily the women who had undergone a lumpectomy, only included their individual income, and others considered both their husband's and their own income in their determination of their personal income. Since the women were recruited from similar settings and were homogeneous in most other ways, the difference in income may not be as significant as it might otherwise be considered. The reported annual income level among the Mastectomy Group was approximately \$35,000. For the Lumpectomy and Control Groups it was \$28,000 and \$35,000, respectively. It should be noted that the significant income differences do not correspond exactly to the significant group differences in education. This lends further support to the possibility that income differences may have been due to differences in interpretation of the question.

The impact of the income and education differences between groups was examined closely, however. In fact, all analyses were conducted utilizing a statistical analysis (MANCOVA) that eliminated the effects of education. The results were identical to the results that were derived when the effects of education were not partialled out. Even though the results of these analyses suggest that the differences may not be critical, it is plausible that the differences in education and income are more centrally related to the body image and sexual functioning results than the researcher deems them to be. It is important to keep the differences in income

and educational background between groups in mind when interpreting the results. It can not be discounted that such differences existed.

Body Image

The hypothesis that women who had undergone a mastectomy would report less body satisfaction than women with a lumpectomy and than women without a history of breast disease or surgery was not supported. Rather, nonsignificantly different levels of body satisfaction were expressed by women in the three groups. This was true whether body image was measured as a trait (Body Image Scale) or as a state (Body Image Daily Rating).

A possible explanation for this surprising finding is that women who have had breast cancer, and particularly the women who have had the more disfiguring surgery of a mastectomy, have developed alternate ways of relating to their body. They may, for example, have cultivated a more instrumental view of their body, in which they have a greater appreciation for its various functions and for their general health than they formerly had. It seems plausible that they are less likely to objectify their body now and instead are more likely to view their body as a whole. (By "objectify", the researcher is referring to the tendency to see one's body as part-objects or ornaments, as a collection of parts. Objectification of one's body is a natural consequence of having internalized sociocultural messages regarding female beauty.) This type of transformation in their relationship

with their body may have helped to mitigate against any decreases in body satisfaction that could have occurred from losing a breast (mastectomy) or in some way altering one of their breasts (lumpectomy). They may also have found other aspects about themselves that they like (e.g. their fortitude and strength in combatting a traumatic illness), or other parts of their body that they deem attractive, to counter any detrimental changes in body image.

Women with breast cancer may also have reframed their perception of their scarred body parts to a more positive one. An example is of a woman who had a lumpectomy and thought of her scars as "a half moon and a sun". Another woman decided to modify her view of her mastectomy site. She told her concerned seven-year-old daughter that her breast was not feeling well, and wasn't it wonderful that the doctor could remove the breast "and make (me) all better"? The active coping strategies of the women who have had cancer seem to serve to protect against any overall body image (and sexual functioning) difficulties in postsurgery adjustment. Many participants spoke of their scars as a badge of courage.

The notion that women who have had a mastectomy tended not to objectify their bodies is further supported by the finding that they were far less likely than women without breast cancer to incorporate weight into their overall assessment of their body. In fact, for almost three times as many women in the Control Group compared to women in the Mastectomy Group, there was a reliable relationship between

weight satisfaction and overall appearance satisfaction. Weight, a traditionally central feature of women's determination of their body satisfaction (Rodin, Silverstein, & Striegel-Moore, 1985) and one that would be consistent with an objectified view of one's body, was reliably related to appearance satisfaction for only four women with a mastectomy.

An additional consideration in addressing the equivalent levels of body satisfaction that were found is that women who choose a lumpectomy may have more anticipatory body image concerns than women who opt for a mastectomy (Margolis & Goodman, 1984; Margolis, Goodman, Rubin, & Pajac, 1989; Rowland & Holland, 1990). Although the present research did not explicitly measure anticipatory body image concerns, results of this investigation do not coincide with the above investigators' findings. In the present research, women who had a lumpectomy showed levels of body satisfaction (both before and currently) that were not different from the women in the Mastectomy Group. There may indeed be other reasons that contribute to why women with breast cancer choose a lumpectomy.

Another unexpected finding in this research was that body satisfaction increased over time. That is, women indicated that they felt more satisfied with their body now than they believed they formerly did. The explanation for this may be the same as that offered above; that over time, women's view of their body becomes less objectifying, and they develop more appreciation for its functional features. The present research

suggests that this phenomenon occurs among all women, regardless of whether they have experienced a life-threatening disease, and may have more to do with age and the accumulation of life experiences. Participants provided anecdotal support for this idea when they indicated that after giving birth, their focus on trying to attain the cultural ideal of physical perfection drastically declined, as other issues in their life, such as parenting, became more important. This finding is supported by other researchers (e.g. Atalbe & Thompson, 1993).

A similar explanation for age related increases in body satisfaction patterns can be derived from the adult psychological development literature. In their review, Datan, Rodeheaver, & Hughes (1987) found that although absolute personality changes due to age are minimal, there is an age-related increase in responsiveness to internal cues. They also found that the importance of external standards declines with age. This could help to explain the increase in body image over time. After all, appearance standards are set externally, by the culture (Saltzberg & Chrisler, 1995). Responding more to internal cues and less to external cues is consistent with an increase in body satisfaction.

The improved body satisfaction over time found in this research parallels the results of Pliner, Chaiken, & Flett (1990), who looked at body image changes among women and men age 10-79. They found that the importance of appearance diminished with age for both men and women. Results of the

present research are different from those of Thomas and Freeman (1990), however, whose research suggests that body satisfaction ("body esteem") stays constant with age in women age 17-55.

In the present study, women also provided a prospective account of body satisfaction (daily ratings), one that can be viewed as more state-based compared to the more trait-based, global measurement of body image described above. This data examined satisfaction with particular body parts and features over a one month period of time. The analyses revealed equivalent levels of satisfaction with the face, arms, shoulders, torso, muscle tone, waist, stomach, weight, shape, overall satisfaction, and overall appearance, between women in all three groups. It indeed seems feasible, as suggested earlier, that after experiencing a traumatic and potentially fatal life event, the women with cancer have become less concerned about meeting societal standards of physical beauty and have developed an alternate system for deriving satisfaction from their body. They may judge their body less critically, and body features like weight and the shape of one's thighs, traditionally central determinants in women's body satisfaction, become less important.

Another way in which body image decline may have been tempered was via a modification in the breast cancer survivors' value system. Many women in the cancer groups and particularly Mastectomy Group commented on their shift in values. They indicated that as a result of their cancer

diagnosis, they no longer worry about the same matters that formerly concerned them and instead have greater appreciation for life. This phenomenon, in which cancer survivors report feeling less hassled by everyday stressors and more grateful for each day, has been documented in the literature (e.g. Grandstaff, 1976; Sorensen, 1994). Other researchers (e.g. Meyerowitz, Sparks, & Spears, 1979) have found that many women who have had breast cancer report improved interpersonal relationships, another possible mitigator of body image decrements.

There were several other clinically important body image findings. One such finding is that no significant differences were expressed in investment in their appearance (both between groups and over time). Having breast surgery, then, did not prompt the women to spend undue energy and time presenting themselves. It also did not serve the opposite function of causing them to abandon their investment in or concern about their appearance, a phenomenon that may be associated with a bleaker outlook on life, depression, or social withdrawal. Although women who had a mastectomy were the only ones who showed any decrease in appearance orientation over time, this was not a reliable decline.

A secondary purpose of this study was to explore the relationship between satisfaction with various body parts. It was of interest to learn that few significant relationships emerged. It is noteworthy, however, that the number of people in the Mastectomy Group for whom breast satisfaction was

positively correlated with other body features was fewer than it was in the other two groups, and that breast satisfaction was positively related to satisfaction with other body features for more women in the Control Group than for women in either of the two Cancer Treatment Groups. This is consistent with the idea that any dissatisfaction the women with breast cancer have they keep somewhat contained so as not to allow it to permeate their feelings about other body parts or features. In addition, women who had a mastectomy had the greatest number of negative relationships when "breast" was correlated with other body image (or sexual functioning) variables. This suggests that there may be some "splitting off" or separation of the breast for these women in their post-surgery adaptation. While some researchers have suggested that this may be undesirable (e.g. Abt et al., 1978; Frank et al., 1978, Kriss & Kraemer, 1986; Margolis et al., 1990), this form of healthy denial can also be viewed as an adaptive strategy that enhances adjustment.

As Fallowfield & Hall (1991) point out, to say that breast surgery, in which an important body part is altered or removed, leads to changes in body image is somewhat tautological. By definition, removing or reshaping the breast will affect how one sees one's body. What is of greater importance is to understand the impact this type of bodily change has on each woman, and how it affects other aspects of her functioning.

Some women in this research may have been sad or even

somewhat dissatisfied with their body or its parts but nonetheless coped well and kept their dissatisfaction contained. For other women, changes in how their chest area looked may have led to difficulties in other areas of their life. However, to assume that all women who have a mastectomy suffer from body dissatisfaction and that this pervades their entire range of functioning is simplistic and incorrect. There are individual factors for each woman (Rowland & Holland, 1987) that are important in understanding how her surgery affects her relationship with her body and her sexual relations. Surgeons and researchers may erroneously assume that the primary focus of women who have been diagnosed with breast cancer is breast loss (Fallowfield & Hall, 1991). The assumption that body image concerns take precedence over any other concerns is typical (e.g. Bartelink et al., 1985; de Haes, van Oostrom, Welvaart, 1986; Kemeny et al., 1988).

Sexual Functioning

Many unexpected nonsignificant group differences emerged when the sexual functioning of women in the three groups was compared. These are important findings, as they suggest that the sexual functioning of women with breast cancer need not inevitably decline, at least not for an extended period of time (e.g. more than one year after surgery).

Unfortunately, the daily rating questionnaire did not address all of the same topics as were represented by the other primary sexual functioning instrument (SHF). In fact, the only overlap included the frequency of affection

behaviors, frequency of initiating sexual activity, and the rate of engaging in intercourse, masturbation, oral sex, and breast stimulation. Further, it should be kept in mind that all of the women in the cancer groups were at least one year post-surgery. On average the women in the Mastectomy Group were more years post-surgery than the women in the Lumpectomy Group. The range of 1-23 and 1-9 years, respectively, was vast. Thus, these results do not provide any information about the earlier impact and adjustment period immediately following breast cancer surgery, a time within which a more difficult adjustment period typically occurs for women who have undergone either a lumpectomy or mastectomy (e.g. Steinberg et al., 1985).

Based on the trait-like, global measure of sexual functioning (SHF), all women expressed similar levels of sexual desire. Physiological and subjective sexual arousal, as well as subjective arousability, did not differ between groups. In addition, the frequency of and satisfaction with sexual activity was not different for women in the three groups. Desired frequency of sexual activity, frequency of masturbation, desired frequency of masturbation, frequency of oral sex, and desired frequency of oral sex were also not different between groups. Similarly, rates of initiating sexual activity, responsiveness to partner's sexual advances, and amount of foreplay did not differ between groups. Further, similar findings across groups were reported on likelihood of orgasm from intercourse and amount of affection behaviors.

Ratings of their partner's sexual desire, and satisfaction with the sexual relationship did not differ between groups. In addition, satisfaction with the sexual relationship was similar for women who had a mastectomy, lumpectomy, or no breast disease.

Based on the daily ratings, which were prospective and more state-based, there was only one between group difference. The women in the Mastectomy Group reported a significantly greater number of days during the month when they engaged in affection behaviors compared to the women in the Lumpectomy Group. This closeness with their partner may help to protect against any decline in body image or sexual satisfaction.

It is interesting that when asked about affection behaviors on the global measure (SHF), no between group differences emerged, yet differences did arise when the data was collected in an alternative manner. Obtaining information in the form of a daily rating may be a superior and more reliable method than requiring women to complete a global measure in which they must rely on their memory and provide an estimate of the frequency of their behavior.

One possible explanation for the overall lack of between group differences on the sexual functioning indices is the same as that which was proposed earlier in understanding the similar levels of body satisfaction expressed by women in the three groups. It seems plausible that women in the cancer groups have protected themselves against any decline in sexual functioning by use of their active coping mechanisms. This may

take, for example, the form of determination and resolve not to allow their illness experience to hamper the enjoyment they derive from an important aspect of quality of life, sexual relations. It is possible that they have altered their style of sexual expression, such that they now employ different positions or forms of activities that may make them feel more comfortable. (However, no between-group differences emerged when women were asked about position changes directly.) The nonsignificantly different sexual functioning findings between groups may also suggest that women who had a mastectomy or lumpectomy are able to use their sexual relations as a means of affirming their "aliveness", and as a source of experiencing pleasure. Women who have had breast cancer may also now feel a new level of closeness to their partner, which may contribute to the satisfaction they derive from sexual relations with him (Salokari et al., 1986; Sorensen, 1994). The paralleling of the body image and sexual functioning findings is noteworthy and supports the idea that these constructs may go hand-in-hand, at least when measured as global concepts.

Another important set of findings pertaining to sexual functioning has to do with the impact on sexual functioning of the passage of time. As described earlier, all women completed the measures based on the present, and they also provided a retrospective account of how they believe they formerly would have responded to the same questions.

First, all women reported that they and their partner

currently experience less sexual desire than they did before. Further, the women indicated that they had more subjective and physiological sexual arousal before than they experience currently. (Although there was a main effect for time, the means for before and after for the nonclinical women on these two items were identical, suggesting that for them, there was less of a perceived impact of time on their, and their partner's, level of arousal.) All women indicated that they have a lower frequency of sexual intercourse and oral sex now than before, and that they all want to have less intercourse and oral sex now than they used to want to have. Their rates of initiating sex over time were equivalent, as were the amount of foreplay they had and the ease with which the partner was able to get an erection. All women reportedly had a similar rate of masturbating and a comparable desired rate of masturbating as they formerly had. Women indicated that they tended to be less responsive now than they used to be when their partner made sexual advances. They also reported they are as likely to reach orgasm from intercourse as they used to be, but that they engage in fewer affection behaviors now than they engaged in earlier. Their reported levels of shame, guilt, worry, and disgust while engaged in sexual relations did not change over time, but they are reportedly less fearful about sexual activity currently than they used to be. Their satisfaction with the sexual relationship did not differ over time when they were asked to rate their "satisfaction with the sexual relationship", but when asked to

endorse the most fitting description of their present sexual life, ratings decreased over time from "better than average" to "mediocre" for women in all three groups.

The tendency for some aspects of sexual functioning, including self-reported sexual interest and frequency of sexual intercourse and other sexual activities, to decrease over time is consistent with the results of several other researchers' (e.g. see Morokoff, 1988; Pfeiffer, Verwoerd, & Davis, 1972) results. Menopausal status has also been linked with changes in sexual functioning, with postmenopausal women reporting a decline in sexual functioning, including sexual interest and frequency of intercourse (e.g. Bottiglioni & DeAloysio, 1982; Hallstrom, 1977). Morokoff (1988) concludes in her review that menopause does lead to a decrease in sexual desire, coital frequency, vaginal lubrication, and frequency of sexual activity. That there was a decline in the participants' sexual functioning is consistent with what is expected with the passage of time and menopausal status.

Results of analyses on sexual activity involving the breast yielded inconsistent findings. First, there were some between-group differences on items pertaining specifically to feelings about and sexual activity with the breast. For example, group differences were found on the frequency of the partner touching the woman's breast area. More specifically, women who had a mastectomy indicated that their partner currently touched their breast area less than he did before the cancer diagnosis, and significantly less frequently than

the partner of women in the other groups touched their breast. (This was the only between-group difference on the SHF.) There were no differences on women's retrospective account of the amount of breast touching by their partner.

It is not clear, from this data, how the women in the Mastectomy Group felt about the change in breast touching, i.e. if it was due to their request, or based on the partner's assumption that she would prefer that he not touch her breast area. This decreased touching of the breast may be part of the women's adaptive strategy to maintain satisfaction with other body features and focus on other aspects of their body and forms of sexual activity. However, it is not consistent with the idea of confronting via in vivo exposure the site of their surgery, an approach that they also seemed to utilize at times. Obtaining more information about this finding is important, as researchers (e.g Schain, 1988; Witkin, 1978) have documented that a detrimental cycle can ensue in which the partner's hesitancy in touching the woman's breast is interpreted as avoidance, neglect, or rejection when it may have more to do with miscommunication.

Another significant between group difference emerged on the amount of arousal that results from the partner fondling the woman's breast area with his mouth and tongue. Women with a mastectomy found this significantly less arousing than women in the Control Group. There were no differences between groups, however, when the method of the fondling was his hand, or when the question was asked in terms of the partner kissing

the nipple area. It may be the more intimate nature of the question ("fondling with his mouth and tongue") that accounts for the group difference found on this item.

There were other nonsignificant group differences on sexual activity items specifically or possibly related to the breast. These include: preference to stay under a sheet or blanket to hide one's body during sex, comfort with partner viewing her body naked, agreement that there are body parts she would rather he not see during sex, proclivity to avoid certain positions because of the way her body would look, and becoming distracted during sex by thoughts of how particular body parts look. The fact that their dissatisfaction was not more generalized and that it did not translate into behavioral avoidance is psychologically adaptive.

Body Image and Sexual Functioning

Results of the correlations among daily rating variables revealed few reliable relationships, either positive or negative, and the number of such relationships did not significantly differ between the three groups. Generating an explanation for this is difficult, as logic and prior research (e.g. Cash, 1991; Faith & Schare, 1993) suggest that body satisfaction and sexual functioning would be more strongly associated, and correlated for more individuals. This is the first research, as far as the investigator knows, that examines this relationship in older women, in women who have had breast cancer, and on a prospective basis. Additional research is needed to clarify these relationships.

Limitations

Several limitations to this study exist. First, it is important to remember that observed differences in the groups may not have been caused by the type of surgery. Further, there are self-selection factors in the findings that could be controlled only through random assignment to treatment group, which this study did not have. Many other factors (e.g. nature of decision making process, relationship with surgeon) not directly measured may have influenced choice of surgery and outcome. On the other hand, women who would agree to be randomly assigned to treatment are probably not representative of all women with breast cancer and of the women who would choose only mastectomy or only lumpectomy. Although a random assignment design would be an improvement over the current design, it too would have limited generalizability.

Women with a mastectomy may have felt compelled to present themselves in as positive a light as possible. Or, women with a lumpectomy may have felt a greater investment to present themselves in a positive manner in order to justify their selection of a somewhat newer form of treatment. Another important consideration is that the validity of the women's retrospective accounts of their body satisfaction and sexual functioning is likely hampered by retrospective biases, which may have modified women's recollections of their earlier experiences.

Time postsurgery was different between groups. The longer postoperative period for the mastectomy patients than the

lumpectomy patients provided them with additional time to adjust. (However, correlational analyses revealed that time post-surgery was not reliably related to any of the sexual functioning or body image indices.) Ideally, postoperative periods for both cancer groups should be equivalent if these groups are to be compared. It may also be that a larger study would be required in order for statistical tests to have revealed any significant between group differences (Fallowfield & Hall, 1991).

A large volunteer bias is inherent in the present study's design. The volunteers for this research may not be representative of women who have had breast cancer or even of all women who volunteer to participate in breast cancer research. Women who are experiencing lower levels of body image or sexual functioning may be less comfortable with these issues and may be less inclined to volunteer for such a study.

Summary of General Conclusions

Overall, the findings suggest that many women who have had early forms of breast cancer adapt well several years postsurgery to changes in their body and sexual functioning. The present research findings are consistent with Glanz' and Lerman's (1992) and the Psychological Aspects of Breast Cancer Study's (1987) review of the literature; the majority of women who have had a mastectomy exhibit no excess distress compared to other breast cancer survivors or healthy women one year postoperatively. Rowland and Holland (1990) also reach the conclusion in their review that although breast cancer has a

complex psychological impact, women generally do not develop serious psychological symptoms as a result of the experience. Similarly, in Andersen, Andersen, & deProsse's (1989) longitudinal study of women with early stage cancer of various types, short-term, limited difficulties emerged, but these were transitory and did not lead to significant disruption.

Results of the present study suggest that women in the Mastectomy Group adapt in different ways. At times they seem to actively confront their scars, both emotionally and physically, and at other times focus on other aspects of their body and sources of sexual pleasure. This may be part of the "healthy denial" and avoidance that have been documented as a psychologically useful form of psychosocial adjustment (e.g. Glanz & Lerman, 1992; Haber, Acuff, Ayers, Freeman, Goodheart, Kieffer, Lubin, Mikesell, Siegel, & Wainrib, 1993; Meyerowitz, 1983).

Another conclusion that can be drawn from this research is that the relationship between body satisfaction and sexual functioning is not necessarily a direct one. For example, in the case of the breast cancer participants, it seems important to pay attention to such possible mediating variables as time postsurgery, presurgery body image and sexual functioning, perceived and actual quality of social support, and effectiveness of personal coping strategies.

The relationship between body image and sexual functioning may also vary depending on the form of measurement and the types of definition employed. Women may answer

questions differently when completing a daily diary rating versus a general retrospective measure. (In the present research, this was more relevant to the sexual functioning findings than to the body image results.) When completing a daily rating, one's memory and the necessity to generalize are less central. However, when answering a global measure, memory and generalization are more prominently involved. This latter form of measurement also leaves more room for error, including over- or underestimates. It seems important to utilize multi-methods, i.e. prospective and retrospective methods, in order to obtain a fuller picture of the phenomena under study. Otherwise, results of one approach may be deemed to reflect "the truth", when actually, if measured in another format, the results may be vastly different. Although reconciling different results can be challenging, it provides a more accurate view of the phenomena under study.

Issues in Lumpectomy Treatment Intervention

That many of the outcome variables were similar for both cancer groups speaks to the fact that breast conserving treatment can be associated with negative sequelae. When discussing breast cancer, it is important to keep in mind that the first and foremost fear of women with breast cancer may not necessarily be the loss of their breast, or appearance concerns, but rather the loss of their life (Fallowfield, Baum, & Maguire, 1987). Whether women select a mastectomy or lumpectomy, they still have to confront the same fact that their illness is life threatening. The assumption that women's

primary fear relates to their appearance may also be the foundation for the belief that mastectomy is more traumatic for younger and attractive women (e.g. Timothy, as cited in Fallowfield & Hall, 1991).

Although women who have had a lumpectomy do not face a marked change in their body shape, they have a unique set of psychological concerns that results from surgery and/or radiation therapy (Levy & Schain, 1988; Rowland & Holland, 1990; Rutherford, 1988). They may be concerned about the long-term consequences of radiation, for example. If the radiation has caused changes in the breast's texture, they may experience reduced sensation in that breast and worry about how to detect another malignancy, particularly if there have been changes in the fibrosis of the breast tissue. They may also have difficulty adjusting to enlarged and pronounced pores on the breast that was radiated, and they may experience pain in the scar area. Particularly if they were not told that the breast may lack sensitivity, softness, or contour, they may be disappointed in the outcome of the procedure. Superimposed on this might also be a sense of guilt that they "should" be happy that they were able to keep their breast. Further, as mentioned prior, their sexual functioning may be impacted by their adjuvant treatment (Singer-Kaplan, 1992). As Levy, Haynes, Lathrop, Herberman, & Lea (1992) found, lumpectomy is not a panacea to breast cancer treatment.

Serving to further complicate adjustment from lumpectomy is that the changes described above may not be addressed or

deemed important because the woman has retained her breast. Women who saved their breast typically receive less sympathy from others because they are perceived as not having experienced as great a trauma as women who underwent a mastectomy (Rowland & Holland, 1990).

Partner Support

Many of the women in the cancer groups commented on the importance of their partner in helping them to adjust to the consequences of their disease, particularly in the spheres of sexual functioning and body image. The partners' support of their spouse was deemed paramount by the participants, and other researchers (e.g. Giltner, 1994; Northouse, 1988, 1989; Steinberg et al., 1985) have documented its importance. In fact, Omne-Ponten (1994), found that the quality of the marital relation was one of the strongest predictors of the women's general psychosocial outcome. The fact that the women in the Mastectomy Group were married an average of 20 years may have helped to mitigate against any decline in marital relations (Jamison et al., 1978; Northouse & Swain, 1987; Wellisch, 1985), body image or sexual functioning. Carter, Carter, & Silvanas (1993) and Carter & Carter (1993) both conclude that two to three years after a mastectomy, couples generally adapt well both as couples and as individuals. Some marriages even improve after breast cancer (Gates, 1980). Few (approximately 7%) end in divorce after a diagnosis of breast cancer (Lichtman & Taylor, 1986). Several women in this study also spoke of improved family relations, something other

researchers have also described (e.g. Meyerowitz, Sparks, & Spears, 1979).

Psychological Interventions

Most participants indicated that they have never sought professional psychological help. All of the participants' treatment providers were male, and most women stated that they felt uncomfortable raising issues of body image and sexual functioning with them.

Psychologists can play an important role in improving women's adjustment to breast cancer by providing support and information in both an individual and group format to women and possibly their partners. It is critical that women be given an opportunity to discuss post-adjustment issues. Involving the partner in the interventions, especially when there are sexual difficulties, might also be warranted. Physicians could also benefit from training in discussing concerns about diagnosis, treatment, and adjustment to breast cancer with their patients.

Researchers (e.g. Schain, 1987; Witkin, 1978, 1979) suggest that couples engage in such activities as sensate pleasuring and communication about feelings and fears as soon as possible, even while the women are still in the hospital. Witkin (1979) recommends that confrontation occur as quickly as possible, even if discomfort results. This desensitization is deemed useful, and there are long term benefits from sharing this experience early in the recovery process (Schain, 1987). Ignoring the issues of sexual anxiety will reinforce

abstinence and may be perceived by one or both of the partners as disinterest or neglect. A psychologist's sensitivity and gentle inquiries about their sexual life may help to mitigate against any misunderstandings or unnecessary decline in their sexual relations.

Other components of the role of a psychologist in working with couples could include addressing such issues as position reorientation of each partner in bed, particularly if the breast the partner fondled is the one that was removed or is sore due to radiation. Suggesting, for example, that the couple change positions (e.g. to scissors position) to avoid injury to the operative area may help to improve sexual relations. Work may need to be done on increasing the arousal response of the untreated breast if the treated or removed breast was the favored one. The couple's repertoire may need to be broadened (Schain, 1994).

Group Psychotherapy and Social Support

Social support is an important component in quality of life and longevity and a useful way to combat the effects of stress (Cohen & Wills, 1985). Although assessment of social support is beyond the direct scope of this research, it will be briefly addressed. Other studies suggest that women with metastatic breast cancer who participate in group therapy have a significantly longer survival time than women who do not have it (Spiegel, Bloom, Kraemer & Goitheil, 1989). Individual psychotherapy (behavioral, psychodynamic, and cognitive therapy) has also been shown to improve survival

time and immune function (Grossarth-Maticek & Eysenck, 1989). Indeed, there is a critical role and need in breast cancer treatment for psychologists.

Future Directions

Important future directions for research involving women and breast cancer include studying lesbian women, who may be at increased risk due to reproductive patterns or other factors; single women; young women (under 45); women of color, who die at higher rates than Caucasian women (Haber et al., 1993); disabled women, who may have barriers to screening; and the partners of women who have/have had breast cancer (Wellisch et al., 1978). The vast majority of studies, including this one, consider only the adjustment of married women. This disregards approximately 40% of women with breast cancer, who are not married (Fallowfield & Hall, 1991). Another important area to study includes immediate relatives, such as daughters, of women with breast cancer (Rowland & Holland, 1990). It would also be interesting to compare the adjustment of two groups of women who have had a recurrence; women who have had reconstructive breast surgery and women who have not had such surgery. Continuing to develop programs designed to enhance the well-being of women with breast cancer is another important goal (Gaskin, LoBuglio, Kelly, Doss, & Pizitz, 1989). Prospective studies in which attention is paid to psychological, as well as biological, factors is essential.

Specific questions arising from this research that are potential areas of further research include investigating the

role of an external prosthesis in body image and sexual functioning of women with a mastectomy, learning more about the relationship women with a mastectomy develop with their remaining breast, and conducting a longitudinal or cross-sectional study to better elucidate the process of adjusting to breast cancer. It would also be interesting to include women with benign breast disease as an additional comparison group. Looking specifically at body satisfaction and menopausal status is another idea for future research.

Breast Cancer Recovery as a Process

No one experiences breast cancer in exactly the same way as someone else (Haber et al., 1993; Wear, 1993). Clearly, there is a multiplicity of responses that vary as she lives through the experience. In Audre Lorde's (1980) account of her experience with breast cancer, she writes "I want to write rage but all that comes is sadness"(p. 13). She later reflects on her experience as one that allowed her to live a more fully considered life, due to a deepening that resulted from facing her mortality.

The women who volunteered to participate in this study were survivors in many senses of the word. They have worked hard to transcend the fear, anger, and sadness brought on by breast cancer. Acceptance of what happened seemed to have developed from their active roles and belief that they could have an influence on the course of their disease (Metzger, 1988; Snyderman & Snyderman, 1987). Wear (1993) writes that with each attempt to work through the trauma of breast cancer-

-the surgery, questions, stares, prognosis--the survivor becomes closer to looking at her life differently.

A Tentative Final Word

The belief that changes in a woman's breast caused by breast cancer will inevitably lead to detriments in body image or sexual functioning is not supported by this research. Results of this research support Meyerowitz et al.'s (1988) hypothesis that assumptions and stereotypes have led to the belief that breast cancer diagnosis and treatment unavoidably cause problems in body image and sexual functioning. The tendency for health care providers to insist that women use a breast prosthesis immediately, to persuade them to undergo breast reconstruction, and/or to focus on physical appearance may not be helpful for all women. These types of recommendations are based on the inaccurate assumption that a particular form of appearance concern is universal. It is also critical to point out, however, that there is a substantial literature not reviewed here showing better recovery in women who have had reconstructive surgery (e.g. Schain, 1991). It seems important, as Meyerowitz et al. (1987) recommend, that "clinicians and researchers...attend to sex roles issues without falling prey to sex role stereotypes (p. 82)."

The number of women with breast cancer who are living longer continues to increase, and it is becoming even more essential to enhance understanding of adjustment to breast cancer, from diagnosis through long-term adjustment. I hope this research will serve as a means toward that end.

References

- Abt, V., McGurrian, M., & Heintz, L. (1978). The impact of mastectomy on sexual self-image, attitudes, and behavior. Journal of Sex Education and Therapy, 4, 43-46.
- American Cancer Society (1990a). Breast cancer: Understanding treatment options. NIH Publication No. 91-2675.
- American Cancer Society (1990b). Mastectomy. A treatment for breast cancer. NIH Publication No. 91-658.
- American Cancer Society. (1992). Cancer facts and figures. Atlanta, GA: American Cancer Society, Inc.
- American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.
- Andersen, B.L. (1985). Sexual functioning morbidity among cancer survivors. Cancer, 55, 1835-1842.
- Andersen, B., Andersen, B., & deProsse, C. (1989). Controlled prospective longitudinal study of women with cancer: II. Psychological outcomes. Journal of Consulting and Clinical Psychology, 57, 692-697.
- Andersen, B.L., Broffitt, B., Karlsson, J., & Turnquist, D. (1989). A psychometric analysis of the sexual arousability index. Journal of Consulting and Clinical Psychology, 1, 123-130.
- Andersen, B.L. & Jochimsen, P.R. (1985). Sexual functioning among breast cancer, gynecologic cancer, and healthy women. Journal of Consulting and Clinical Psychology, 53, 25-32.
- Andersen, B.L. & LeGrand, J. (1991). Body image for women: Conceptualization, assessment, and a test of its importance to sexual dysfunction and medical illness. The Journal of Sex Research, 28, 457-477.
- Ariel, I.M. (1987). Breast cancer. A historic review: Is the past prologue? In I.M. Ariel and J.B. Cleary (Eds.), Breast cancer diagnosis and treatment. (pp.3-26). New York: McGraw-Hill.
- Ashurst, P. & Hall, Z. (1989). Understanding women in distress. New York: Tavistock/Routledge.

- Asken, M.J. (1975). Psychoemotional aspects of mastectomy: A review of the literature. American Journal of Psychiatry, 131, 56-69.
- Atalbe, M. & Thompson, J. (1993). Body image changes during early adulthood. International Journal of Eating Disorders, 13, 323-328.
- Auchincloss, S.S. (1990). Sexual dysfunction in cancer patients: Issues in evaluation and treatment. In J.C. Holland and J.H. Rowland (Eds.), Handbook of psychooncology: Psychological care of the patient with cancer (pp. 383-413). New York: Oxford University Press.
- Baider, L., Rizel, S., & Kaplan De-Nour, K. (1986). Comparison of couples' adjustment to lumpectomy and mastectomy. General Hospital Psychiatry, 8, 21-257.
- Baker, R. (1990). Review of Mastectomy or Breast Conservation in the management of primary breast cancer: Psychosocial factors. Oncology, 4, 104.
- Bard, M. & Sunderland, A.M. (1955). Psychological impact of cancer and its treatment: IV. Adaptation to radical mastectomy. Cancer, 8, 656-672.
- Bartelink, H., van Dam, F., & van Dongen, J. (1985). Psychological effects of breast conserving therapy in comparison with radical mastectomy. International Journal of Radiation: Oncology-Biology-Physics, 11, 381-385.
- Beckham, J.C. & Godding, P.R. (1990). Sexual dysfunction in cancer patients. Journal of Psychosocial Oncology, 8, 1-16.
- Becker, H. (1978). Psychodynamic aspects of breast cancer. Differences in younger and older patients. Psychotherapy and Psychodynamics, 32, 287-296.
- Bernstein, N.R. (1990). Objective bodily damage: Disfigurement and dignity. In T. Cash and T. Pruzinsky (Eds.), Body images. Development, deviance, and change (pp. 131-148). New York: The Guilford Press.
- Blichert-Toft, M. (1992). Breast conserving therapy for mammary carcinoma: Psychosocial aspects, indications, and limitations. Annals of Medicine, 24, 445-451.

- Bloom, J. & Spiegel, D. (1984). The relationship of two dimensions of social support to the psychological well-being and social functioning of women with advanced breast cancer. Social Science and Medicine, 19, 831-837.
- Bos, G. (1986). Sexuality of gynecological cancer patients: Quantity and quality. Journal of Psychosomatic Obstetrics and Gynaecology, 5, 217-224.
- Bottiglioni, F. & DeAloysio, D. (1982). Female sexual activity as a function of climacteric conditions and age. Maturitas, 4, 31-47.
- Bransfield, D. (1983). Breast cancer and sexual functioning: A review of the literature and implications for future research. International Journal of Psychiatry in Medicine, 12, 197-211.
- Brinker, N. (1990). The race is run. One step at a time. New York: Simon & Schuster.
- Brown, T.A., Cash, T.F., & Mikulka, P.J. (1990). Attitudinal body image assessment: Factor analysis of the Body-Self Relations Questionnaire. Journal of Personality Assessment, 55, 135-144.
- Burpie, G. & Polinsky, M. (1992). Intimacy and sexuality after cancer treatment: Restoring a sense of wholeness. Journal of Psychosocial Oncology, 10, 19-33.
- Carter, R. & Carter, C. (1993). Individual and marital adjustment in spouse pairs subsequent to mastectomy. American Journal of Family Therapy, 21, 291-300.
- Carter, R., Carter, C., & Siliunas, M. (1993). Marital adjustment and interaction of couples after a mastectomy. Journal of Psychosocial Oncology, 11, 69-82.
- Cash, T. (1985). Physical appearance and mental health. In J.A. Graham & A.M. Kligman (Eds.), The psychology of cosmetic treatments (pp. 196-216). New York: Prager.
- Cash, T. (1991). The body exposure in sexual activities questionnaire (BESAQ). Paper presentation at the annual conference of the Association for Advancement of Behavior Therapy. New York, NY.

- Cash, T. and Brown, T. (1987). Body image in anorexia nervosa and bulimia nervosa: A review of the literature. Behavior Modification, 11, 487-521.
- Cash, T.F., Winstead, B., & Janda, L. (1986). The great American shape-up: Body image survey report. Psychology Today, 20, 30-37.
- Dackman, L. (1990). Up front. Sex and the postmastectomy woman. New York: Viking.
- Datan, N., Rodeheaver, P., & Hughes, F. (1987). Adult development and aging. Annual Review of Psychology, 38, 153-180.
- de Haes, J., van Ostrom, M., Welvaart, K. (1986). The effect of radical and conserving surgery on the quality of life of early breast cancer patients. European Journal of Surgery and Oncology, 12, 337-342.
- Derogatis, L.R. (1980). The unique impact of breast and gynecologic cancers on body image and sexual identity in women: A reassessment. In J.M. Vaeth (Ed.), Body image, Self-esteem, and Sexuality in Cancer Patients (pp. 1-14). Basel, Switzerland: Karger.
- Ervin, C. (1973). Psychologic adjustment to mastectomy. Medical Aspects of Human Sexuality, 7, 42-65.
- Faith, M.S. & Schare, M.L. (1993). The role of body image in sexually avoidant behavior. Archives of Sexual Behavior, 22, 345-356.
- Fallon, A. (1990). Culture in the mirror: Sociocultural determinants of body image. In T.Cash and T. Pruzinsky (Eds.), Body images. Development, deviance, and change. (pp. 80-109). New York: The Guilford Press.
- Fallowfield, L. J. (1990). Psychological outcomes of different treatment policies in women with early breast cancer outside a clinical trial. British Medical Journal, 301, 575-580.
- Fallowfield, L.J., Baum, M., & Maguire, G. (1987). Addressing the needs of the conservatively treated breast cancer patient: Discussion paper. Journal of the Royal Society of Medicine, 80, 696-700.
- Fallowfield, L.J. & Hall, A. (1991). Psychosocial and sexual impact of diagnosis and treatment of breast cancer. British Medical Bulletin, 47, 388-399.

- Fisher, S. (1990). The evolution of psychological concepts about the body. In T. Cash and T. Pruzinsky (Eds.), Body image. Development, deviance, and change. (pp. 3-20). New York: The Guilford Press.
- Fisher, B., Redmond, C., & Poisson, R. (1989). Eight year results of a randomized clinical trial comparing total mastectomy and lumpectomy with and without irradiation in the treatment of breast cancer. New England Journal of Medicine, 320, 822-828.
- Fisher, B., Bauer, M., Margolese, R., Poisson, R., Pilch, Y., Redmond, C., Fisher, E., Wolmark, N., Deutsch, M., Montague, E., Safter, E., Wickerham, L., Lerner, H., Glass, A., Shibata, H., Deckers, P., Ketcham, A., Orshi, R., & Russel, I. (1985). Five-year results of a randomized clinical trial comparing total mastectomy and segmental mastectomy with or without radiation in the treatment of breast cancer. New England Journal of Medicine, 312, 665-673.
- Frank, D., Dornbush, R.L., Webster, S.K., & Kolodny, R.C. (1978). Mastectomy and sexual behavior: A pilot study. Sexuality and Disability, 1, 16-26.
- Freedman, R. (1987). Bodylove. Learning to like our looks-- and ourselves. A practical guide for women. New York: Harper & Row.
- Garner, D.M. & Garfinkel, P.E. (1981). Body image in anorexia nervosa: Measurement, theory, and clinical implications. International Journal of Psychiatry in Medicine, 11, 263-284.
- Gaskin, T., LoBuglio, A., Kelly, P., Doss, M., & Pizitz, N. (1989). STRETCH: A rehabilitative program for patients with breast cancer. Southern Medical Journal, 82, 467-469.
- Gates, CC. (1980). Husbands of mastectomy patients. Patient Counseling and Health Education 1, 38-41.
- Geeslin, C.R. (1984). A woman is more. The women, the disease, and the technology of breast cancer. Unpublished doctoral dissertation, The Union for Experimenting Colleges and Universities, Cincinnati, Ohio.
- Gerard, D. (1982). Sexual functioning after mastectomy: Life vs. lab. Journal of Sex and Marital Therapy, 8, 305-315.

- Giltner, M. (1994). The relationship of age and social supports to sexual adjustment in postmastectomy women. (Doctoral dissertation, California State University, Long Beach, 1993). Dissertation Abstracts International, 32/02, 581.
- Glanz, K. & Lerman, C. (1992). Psychosocial impact of breast cancer: A review. Annals of Behavioral Medicine, 14, 204-212.
- Goffman, I. (1963). Stigma. Englewood Cliffs, NJ: Prentice-Hall.
- Goin, M.K. (1982). Psychological reactions to surgery of the breast. Clinics in Plastic Surgery, 9, 347-354.
- Goin, M.K., & Goin, J.K. (1981). Midlife reactions to mastectomy and subsequent breast reconstruction. Archives of General Psychiatry, 38, 225-227.
- Golden, M. (1983). Female sexuality and the crisis of mastectomy. Danish Medical Bulletin, 30, 13-16.
- Grandstaff, N. (1976). The impact of breast cancer on the family. Frontiers of Radiation Therapy and Oncology, 11, 145-146.
- Grossarth-Marticek, R. & Eysenck, H. (1989). Length of survival and lymphocyte percentage in women with mammary cancer as a function of psychotherapy. Psychological Reports, 65, 315-321.
- Gross, A. & Ito, D. (1990). Women talk about breast surgery. From diagnosis to recovery. New York: Crown.
- Haber, S. Acuff, C., Ayers, L., Freeman, E., Goodheart, C., Kieffer, C., Lubin, L., Mikesell, S., Siegel, M., Wainrib, B. (1993). Breast cancer: A psychological treatment manual. Phoenix, AZ: Division of Independent Practice.
- Hall, A. & Fallowfield, L. (1989). Psychological outcome of treatment for early breast cancer: A review. Stress Medicine, 5, 167-15.
- Hallstrom, T. (1977). Sexuality in the climacteric. Clinics in Obstetrics and Gynecology, 4, 227-239.
- Harrell, H.C. (1972). To lose a breast. American Journal of Nursing, 72, 676-677.
- Hendrick, S.S. (1982). Women's health issues: Breast cancer. The Counseling Psychologist, 10, 115-116.

- Holmberg, L., Omne Penten, M., Burns, T., Adami, H., & Bergstrom, R. (1989). Psychological adjustment after mastectomy and breast conservation treatment. Cancer, 64, 969-974.
- Hoon, E.F., Hoon, P.W., & Wincze, J.P. (1976). An inventory for the measurement of female sexual arousability: The SAI. Archives of Sexual Behavior, 5, 291-300.
- Hopwood, P. & Maguire, G.P. (1988). Body image problems in cancer patients. British Journal of Psychiatry, 153, 47- 50.
- Jacobson, P. & Holland, J.C. (1990). Psychological reactions to cancer surgery. In J.C. Holland & J.H. Holland (Eds.), Handbook of Psychooncology. (pp. 117-133). New York: Oxford University Press.
- Jamison, K.R., Wellisch, D., & Pasnau, R.O. (1978). Psychosocial aspects of mastectomy: I. The woman's perspective. American Journal of Psychiatry, 135, 432-436.
- Kahane, P. (1990). No less a woman. Ten women shatter the myths about breast cancer. New York: Prentice-Hall.
- Kaplan, H. S. (1983). The evaluation of sexual disorders: Psychological and medical aspects. New York: Brunner/Mazel.
- Kaplan, H.S. (1992). A neglected issue: The sexual side effects of current treatment for breast cancer. Journal of Sex and Marital Therapy, 18, 3-18.
- Karvas, C. (1994). Women's perceptions of mastectomy events and chemotherapy-induced alopecia (Doctoral dissertation, Texas Tech University, 1993). Dissertation Abstracts International, 32/04, 1168.
- Kaye, R. (1991). Spinning straw into gold. New York: Simon & Schuster.
- Kemeny, M, Wellisch, D., & Schain, W. (1988). Psychosocial outcome in a randomized surgical trial for treatment of primary breast cancer. Cancer, 62, 1231-1237.
- Kent, S. (1975). Coping with sexual identity crises after mastectomy. Geriatrics, 10, 145-146.

- Kriss, R.T., & Kraemer, H.C. (1986). Efficacy of group therapy for problems with postmastectomy self-perception, body image, and sexuality. The Journal of Sex Research, 22, 438-451.
- Krueger, D. (1990). Developmental and psychodynamic perspectives on body-image change. In T. Cash & T. Pruzinsky (Eds.), Body image. Development, deviance, and change. (pp. 255-272). New York: Guilford Press.
- Krukofsky, B. (1988). Sexuality counseling of people with chronic illness. In E. Weinstein and E. Rosen (Eds.), Sexuality Counseling: Issues and implications (pp. 259-273). Pacific Grove, CA: Brooks Cole Publishers.
- Lamb, M. & Woods, N. (1981, April). Sexuality and the cancer patient. Cancer Nursing, 137-144.
- Lasry, C., Margolese, R., Poisson, R., Shibata, H., Fleishcer, D., Legault, S., & Taillefer, S. (1987). Depression and body image following mastectomy and lumpectomy. Journal of Chronic Diseases, 40, 529-534.
- Leiber, L., Plumb, M., Gerstenzang, M., & Holland, J. (1976). The communication of affection between cancer patients and their spouses. Psychosomatic Medicine, 38, 379-389.
- Lerman, E. (1983). Perceived changes in physical self-concept and marital and sexual relations in patients who have had mastectomy and breast reconstruction surgery (Doctoral dissertation, Virginia Consortium for Professional Psychology, 1982). Dissertation Abstracts International, 45/04B, 1291.
- Levy, S., Herberman, R., Lee, J., Lippman, M., & d'Angelo, T. (1989). Breast conservation versus mastectomy: Distress sequelae as a function of choice. Journal of Clinical Oncology, 7, 367-375.
- Levy, S. & Schain, W. (1988). Psychologic response to breast cancer: Direct and indirect contributors to treatment outcome. In M. Lippman, A. Lichter, & D. Danforth (Eds.), Diagnosis and Management of Breast Cancer. (pp. 439-456). Philadelphia: W.B. Saunders Company.
- Levy, S., Haynes, M., Lathrop, T., Herberman, R., & Lea, J. (1992). Mastectomy versus breast conservation surgery: Mental health effects at long-term follow-up. Health Psychology, 11, 349-354.

- Lichtman, R. & Taylor, S. (1986). Close relationships and the female cancer patient. In B.L. Andersen (Ed.), Women with Cancer: Psychological Perspectives (pp. 257-288). New York: Springer-Verlag.
- Lindemann, E. (1941). Observations on psychiatric sequelae to surgical operations in women. American Journal of Psychiatry, 98, 132-139.
- LoPiccolo, J. (1987). In O'Leary, K.D. (Ed.), Assessment of marital discord. An integration for research and clinical practice. (Appendix VI.). Hillsdale, NJ: Lawrence Erlbaum.
- Lorde, A. (1980). The Cancer Journals. San Francisco: Aunt Lute/Spinster Press.
- Love, S. (1991). Dr. Susan Love's Breast Book. Reading, MA: Addison-Wesley.
- Maguire, G.P. (1989). Breast conservation versus mastectomy: Psychological considerations. Seminars in Surgical Oncology, 5, 137-144.
- Maguire, G.P. (1976). The psychological and social sequelae of mastectomy. In S.G. Horrells (Ed.), Modern Perspectives in the Psychiatric Aspects of Surgery. (pp. 390-421). New York: Brunner/Maisels Incorporated.
- Maguire, G.P., Brooke, M., & Tact, A. (1983). The effect of counseling on physical disability and social recovery after mastectomy. Clinical Oncology, 9, 319-324.
- Maguire, G.P., Lee, E.G., Bevington, D.J., Kuchemann, C.S., Crabtree, RJ, & Cornell, CE. (1978). Psychiatric problems in the first year after mastectomy. British Medical Journal, 1, 963-965.
- Margolis, G., Goodman, R., & Rubin, A. (1990). Psychological effects of breast-conserving cancer treatment and mastectomy. Psychosomatics, 31, 33-39.
- Margolis, G., Goodman, R., Rubin, A., & Pajac, T.F. (1989). Psychological factors in the choice of treatment for breast cancer. Psychosomatics, 30, 192-197.
- Masters, W. & Johnson, V. (1966). Human sexual response. New York: Bantam.

- Mead, M. (1949). Male and female. A study of the sexes in a changing world. New York: William Morrow.
- Metze, E. (1978). Couples and mastectomy. In P.C. Brand and P.A. Van Keep (Eds.), Psychosocial aspects of early detection treatment (pp. 25-31). Baltimore, MD: University Park Press.
- Metzger, D. (1988). The Woman who Slept with Men to Take the War out of Them and Tree. Berkeley, CA: Wingbow Press.
- Meyer, L. & Aspegren, K. (1988). Long-term psychological sequelae of mastectomy and breast conserving treatment for breast cancer. Acta Oncologica, 28, 13-18.
- Meyerowitz, B.E. (1980). Psychosocial correlates of breast cancer and its treatments. Psychological Bulletin, 87, 108-131.
- Meyerowitz, B.E. (1981). The impact of mastectomy on the lives of women. Professional Psychology, 12, 118-127.
- Meyerowitz, B.E. (1983). Postmastectomy coping strategies and quality of life. Health Psychology, 2, 117-132.
- Meyerowitz, B.E., Chaiken, S., & Clark, L. (1988). Sex roles and culture: Social and personal reactions to breast cancer. In M. Fine and A. Asch (Eds.), Women with disabilities: Essays in psychology, culture, and politics. (pp. 72-89). Philadelphia: Temple University Press.
- Meyerowitz, B.E., Sparks, F., & Spears, F. (1979). Adjuvant chemotherapy for breast carcinoma: Psychological implications. Cancer, 43, 1613-1618.
- Mock, V. (1993). Body image in women treated for breast cancer. Nursing Research, 42, 153-157.
- Morganstern, H., Geilert, G., Walter, S., Ostfeld, A., & Siegel, B. (1984). The impact of a psychosocial support program on survival with breast cancer: Importance of selection bias in program evaluation. Journal of Chronic Diseases, 37, 273-282.
- Morokoff, P. (1988). Sexuality in perimenopausal and post menopausal women. Psychology of Women Quarterly, 12, 489-511.

- Morokoff, P. (1993). Female sexual arousal disorder. In W. O'Donohue and J. Geer (Eds.), Handbook of the assessment and treatment of sexual dysfunctions. Des Moines, IA: Allyn & Bacon.
- Morokoff, P., & LoPiccolo, J. (1986). A comparative evaluation of minimal therapist contact and 15-session treatment for female orgasmic dysfunction. Journal of Consulting and Clinical Psychology, 54, 294-300.
- Morris, T. (1979). Psychological adjustment to mastectomy. Cancer Treatment Review, 6, 41-61.
- Morris, T., Greer S., & White, P. (1977). Psychological and social adjustment to mastectomy: A two year follow-up. Cancer, 40, 2381-2387.
- National Cancer Institute (1993). What you need to know about breast cancer. NIH Publication No. 94-1556.
- Noles, S.W., Cash, T.F., & Winstead, B.A. (1985). Body image, physical attractiveness, and depression. Journal of Consulting and Clinical Psychology, 53, 88-94.
- Northouse, L.L. (1989). A longitudinal study of the adjustment of patients and husbands to breast cancer. Oncology Nursing Forum, 16, 511-516.
- Northouse, L.L. (1988). Social support in patients' and husbands' adjustment to breast cancer. Nursing Research, 37, 91-95.
- O'Leary K.D. (1987). Assessment of marital discord. An integration for research and clinical practice. Hillsdale, NJ: Lawrence Erlbaum.
- Omne-Ponten, M. (1994). Psychosocial adjustment after breast cancer in stages I/II: A longitudinal study including assessments of women and husbands (Doctoral dissertation, Uppsala University, 1993). Dissertation Abstracts International, 55-03, 836.
- Pfeiffer, E., Verwoerd, A., & Davis, G. (1972). Sexual behavior in middle life. American Journal of Psychiatry, 128, 1262-1267.
- Pliner, P., Chaiken, S. & Flett, G. (1990). Gender differences in concern with body weight and physical appearance over the lifespan. Personality and Social Psychology Bulletin, 16, 263-273.

- Polivy, J. (1977). Psychological effects of mastectomy on a woman's feminine self-concept. The Journal of Nervous and Mental Disease, 164, 77-87.
- Pruzinsky, T. (1990). Psychopathology of body experience: Expanded perspectives. In T. Cash and T. Pruzinsky (Eds.), Body image. Development, deviance, and change (pp. 170-189). New York: Guilford.
- Psychological Aspects of Breast Cancer Study Group: Psychological response to mastectomy: A prospective comparison study. (1987). Cancer, 59, 189-196.
- Ray, C. (1977). Psychological implications of mastectomy. British Journal of Social and Clinical Psychology, 16, 373-377.
- Ray, C. (1978). Adjustment to mastectomy. In P.C. Brand and P.A. Van Keep (Eds.), Breast cancer: Psychosocial aspects of early detection and treatment (pp. 33-43). Baltimore, MD: University Park Press.
- Renneker, R. & Cutler, M. (1952). Psychological problems of adjustment to cancer of the breast. Journal of the American Medical Association, 148, 833-838.
- Roach, A., Frazier, L., & Bowden, S. (1981). The Marital Satisfaction Scale: Development of a measure for intervention research. Journal of Marriage and the Family, 43, 537-545.
- Rodin, J., Silberstein, L., & Stiegel-Moore, R. (1985). Women and weight: A normative discontent. In Theo B. Sondregger (Ed.), Nebraska symposium on motivation: Psychology and gender (pp. 267-307). Lincoln: University of Nebraska Press.
- Rosen, J., Saltzberg, E., & Srebnik, D. (1989). Cognitive behavior therapy for negative body image. Behavior Therapy, 20, 393-404.
- Rosen, J., Srebnik, D., Saltzberg, E., & Wendt, W. (1991). Development of a body image avoidance questionnaire. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 3, 32-37.
- Rosser, J. (1981). The interpretation of women's experience. A critical appraisal of the literature on breast cancer. Social Science and Medicine, 15E, 257-265.

- Rowland, J.H., & Holland, J.C. (1990). Breast Cancer. In J.H. Rowland & J.C. Holland (Eds.), Handbook of Psychooncology. (pp. 188-207). New York: Oxford University Press.
- Rutherford, D. (1988). Assessing psychosexual needs for women experiencing lumpectomy. A challenge for research. Cancer Nursing, 11, 244-249.
- Salokari, M., Achte, K., Lindfors, O., Lehvonen, R., Vauhkonen, M., & Holsti, L. (1986). Self-concept and body image in breast cancer. Psychiatria Fennica, Supplement, 171-178.
- Saltzberg, E. & Chrisler, J. (1995). Beauty is the beast: Psychological effects of the pursuit of the perfect female body. In J. Freeman (Ed.), Women; A Feminist Perspective (pp. 306-315). Mountain View, CA: Mayfield.
- Sanger, C. & Reznikoff, M. (1981). A comparison of the psychological effects of breast saving procedures with the modified mastectomy. Cancer, 48, 2431-2436.
- Sarason, I., Johnson, J., & Siegel, J. (1978). Assessing the impact of life changes: Development of the Life Experiences Survey. Journal of Consulting and Clinical Psychology, 46, 932-946.
- Schain, W.S. (1985). Breast cancer surgeries and psychosexual sequelae: Implications for remediation. Seminars in Oncology Nursing, 1, 200-205.
- Schain, W.S. (1987). Sexual and reproductive issues in breast cancer. In Proceedings of the Workshop on Psychosexual and Reproductive Issues Affecting Patients with Cancer (pp. 58-64). San Antonio, TX: American Cancer Society.
- Schain, W.S. (1988). The sexual and intimate consequences of breast cancer treatment. Cancer Journal for Clinicians, 38, 155-161.
- Schain, W.S. (1990). Self-esteem, sexuality, and cancer management. In J.G. Goldberg (Ed.), Psychotherapeutic Treatment of Cancer Patients. (pp. 316-336). New York: The Free Press.
- Schain, W. (1991). Psychosocial factors in mastectomy and reconstruction. In R.B. Noone (Ed.), Plastic and Reconstructive Surgery of the Breast. (pp 327-343). Philadelphia: Mosby Yearbook.

- Schain, W.S. (1994, April). Sex and the cancer survivor. Coping, 3, 28.
- Schain, W. & Fetting, J. (1992). Modified radical mastectomy versus breast conservation: Psychosocial considerations. Seminars in Oncology, 19, 239-243.
- Schain, W., Findley, P., D'Angelo, T. et al (1985). A prospective psychosocial assessment of breast cancer patients receiving mastectomy or radiation therapy in a randomized clinical trial. Proceedings. American Society of Clinical Oncology, 4 (No. C-968): 248.
- Schain, W., Edwards, B., Gorrell, C., de Moss, E., Lippman, M., Gerber, L., & Lichter, A. (1983). Psychosocial and physical outcomes of primary breast cancer therapy: mastectomy vs excisional biopsy and irradiation. Breast Cancer Research and Treatment, 3, 377-382.
- Schilder, P. (1950). The image and appearance of the human body. New York: International Universities Press.
- Schover, L. Schain, W., & Montague, D. (1989). Sexual problems of patients with cancer. In V. DeVita, S. Hellman, & S. Rosenberg, (Eds.), Cancer Principles and Practices of Oncology, Volume 2. (pp. 2191-2204). Philadelphia, PA: Lippincott.
- Secord, P.P. & Jourard, S.M. (1953). The appraisal of body-cathexis: Body cathexis and the self. Journal of Consulting Psychology, 17, 343-347.
- Silberfarb, P.M., Maurer, L.H., Crouthame, C.S. (1980). Psychosocial aspects of neoplastic disease: I. Functional status of breast cancer patients during different treatment regimens. American Journal of Psychiatry, 137, 450-455.
- Snell, W.E., Fisher, T.D., & Miller, R.S. (1991). Development of the sexual awareness questionnaire: Components, reliability, and validity. Annals of Sex Research, 4, 65-92.
- Snyderman, A. & Snyderman, R. (1987). The psychological aspects of women with breast cancer. In I. M. Ariel and J.B. Cleary (Eds.), Breast Cancer: Diagnosis and Treatment. (pp. 531-536). New York: McGraw Hill.

- Sorensen, M. (1994). Psychosocial factors in quality of life for long-term survivors of breast cancer and their spouses (Doctoral dissertation, California School of Professional Psychology, Berkeley, 1994). Dissertation Abstracts International, 55/02, 607.
- Spiegel, D. Bloom, J., Kraemer, H., Gottheil, E. (1989). Effects of psychosocial treatment on survival of patients with metastatic breast cancer. The Lancet, 8668, 888-891.
- Steinberg, M., Juliano, M., & Wise, L. (1985). Psychological outcome of lumpectomy versus mastectomy in the treatment of breast cancer. American Journal of Psychiatry, 142, 34-39.
- Taylor, S., Lichtman, R., Wood, J., et al. (1987). Illness related and treatment related factors in psychological adjustment to breast cancer. Cancer, 55, 2506-2513.
- Thomas, J. (1987). Problems in a study of the sexual response of women with cancer: Comment on Andersen and Jochimsen. Journal of Consulting and Clinical Psychology, 55, 120-121.
- Thomas, C. & Freeman, R. (1990). The body esteem scale: Construct validity of the female subscales. Journal of Personality Assessment, 54, 204- 221.
- Thompson, J.K. (1990). Body image disturbance. Assessment and treatment. New York: Pergamon.
- van Heeringen, C., van Moffaert, M., & de Cuypere, G. (1989). Depression after surgery for breast cancer. Psychotherapy and Psychosomatics, 51, 175-179.
- Wabrek, A.J. (1987). Rehabilitative intervention: Interventions with couples. In Proceedings of the Workshop on Psychosexual and Reproductive Issues Affecting Patients with Cancer (pp. 129-136). San Antonio, TX: American Cancer Society.
- Wabrek, A.J. & Wabrek, C.J. (1976). Mastectomy. Sexual implications. Primary Care, 3, 803-810.
- Wear, D. (1993). "Your breasts sliced off": Literary images of breast cancer. Women and Health, 20, 81-100.
- Webb, M.S. (1987). Disfigurement: Personal, psychosocial, and ethical aspects. The Journal of Medical Humanities and Bioethics, 8, 110-119.

- Wellisch, D. (1985). The psychologic impact of breast cancer on relationships. Seminars in Oncology Nursing, 1, 195-199.
- Wellisch, D., DiMatteo, R., Silverstein, M., & Landsverk, J., Hoffman, R., Waisman, J., Handel, N., Waisman-Smith, B., & Schain, W. (1989). Psychosocial outcomes of breast cancer therapies: Lumpectomy versus mastectomy. Psychosomatics, 30, 365-373.
- Wellisch, D., Jamison, K., & Pasnau, R. (1978). Psychosocial aspects of mastectomy: II. The man's perspective. American Journal of Psychiatry, 135, 543-546.
- Westgate, B. (1980). Sexual and personal relationships of the mastectomees. Sexuality and Disability, 3, 162-164.
- Wise, T. N. (1983). Sexual dysfunction in the medically ill. Psychosomatics, 24, 787-805.
- Witkin, M.H. (1978). Psychosexual counseling of the mastectomy patient. Journal of Sex and Marital Therapy, 4, 20-28.
- Witkin, M.H. (1979). Psychological concerns in sexual rehabilitation and mastectomy. Sexuality and Disability, 2, 54-59.
- Wolberg, W., Tanner, M., Romsaas, E., Trump, D., & Malec, J. (1987). Factors influencing options in primary breast cancer treatment. Journal of Clinical Oncology, 5, 68-74.
- Woods, N.F. (1975). Influences on sexual adaptation to mastectomy. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 4, 33-37.
- Zalon, J. (1978). I am whole again. New York: Random House.

Background Questionnaire

1. Your age: _____ years
2. Your race: (1) _____ Caucasian (2) _____ Asian (3) _____ Hispanic
(4) _____ African American (5) _____ Other
3. Your height: _____ feet _____ inches
4. Your weight: _____ pounds
5. Your religion: (1) _____ Protestant (2) _____ Jewish
(3) _____ Catholic (4) _____ Other
6. Highest educational level attained: (1) _____ Less than 12 years
(2) _____ high school graduate (3) _____ some college
(4) _____ college graduate (5) _____ graduate/professional school
7. Personal range of annual income:
(1) _____ under \$20,000 (2) _____ between \$20-25,000
(3) _____ between \$26-30,000 (4) _____ between \$31-40,000
(5) _____ between \$41-50,000 (6) _____ over \$50,000
8. Your current employment status:
(1) _____ full-time (2) _____ part time
(3) _____ retired (4) _____ unemployed
(5) _____ student (6) _____ other
9. Your present occupation:
(1) _____ professional (2) _____ manager (3) _____ clerical/technical
(4) _____ semi-skilled (5) _____ unskilled worker (6) _____ homemaker
(7) _____ retired (8) _____ disabled (9) _____ other (specify)
10. Are you currently involved in a relationship with a man?
(1) _____ yes (2) _____ no
IF no, you have now finished the survey.
IF yes, please continue.
11. What is your marital status?
(1) _____ married (2) _____ single (3) _____ divorced
(4) _____ widowed (5) _____ living together but not married
12. How long have you been involved in your present intimate relationship?
(1) _____ 6-9 months (2) _____ 10-12 months (3) _____ 1-2 years
(4) _____ 2-3 years (5) _____ 4-5 years (6) _____ 6-8 years
(7) _____ 8-10 years (8) _____ 11-15 years (9) _____ 15-20 years
(10) _____ 20-25 years (11) _____ over 25 years
13. How old is your partner? _____ years
14. What is his present occupation?
(1) _____ professional (2) _____ manager (3) _____ clerical/technical
(4) _____ semi-skilled (5) _____ unskilled (6) _____ unemployed

Appendix 1

15. How many years have you been living together?
(1) ☐ less than one year (2) ☐ 1-2 years (3) ☐ 2-4 years
(4) ☐ 4-6 years (5) ☐ 7-9 years (6) ☐ 10-11 years
(7) ☐ 12-13 years (8) ☐ over 14 years
16. What is your partner's approximate annual income?
(1) ☐ under \$20,000 (2) ☐ between \$20-25,000
(3) ☐ between \$26-30,000 (4) ☐ between \$31-40,000
(5) ☐ between \$41-50,000 (6) ☐ over \$50,000
17. What cosmetic surgery procedures have you had?
(1) ☐ none (2) ☐ suction lipectomy (3) ☐ breast augmentation
(4) ☐ breast reduction (5) ☐ face lift (6) ☐ rhinoplasty
(7) ☐ other
18. To how many children did you give birth? _____
19. How would you rate your present level of health?
(1) ☐ excellent (2) ☐ good
(3) ☐ fair (4) ☐ poor
20. Do you smoke cigarettes?
(1) ☐ yes (2) ☐ no
21. If yes, how many cigarettes per day? _____
22. Do you drink alcohol?
(1) ☐ yes (2) ☐ no
23. If yes, how much per day?
(1) ☐ one 8 oz. glass of wine/beer or less
(2) ☐ more than one 8 oz. glass of wine/beer
24. Have you ever been diagnosed with cancer?
(1) ☐ yes (2) ☐ no
If yes:
25. When? 19____
26. What type of cancer?
(1) ☐ breast (2) ☐ skin
(3) ☐ lung (4) ☐ ovarian/cervical (5) ☐ other
27. What type of treatment(s) did you receive?
(1) ☐ radiation (2) ☐ other
(3) ☐ surgery (4) ☐ chemotherapy
28. Have you ever had any type of breast disease?
(1) ☐ yes (2) ☐ no
29. If yes: What type? (1) ☐ cancer
(2) ☐ cyst
(3) ☐ other (please specify): _____

Please add any other information you would like the researcher to know:

Appendix 1

For Women who Have Been Treated for Breast Cancer:

1. What was the month and year of your breast cancer diagnosis?
_____ 19 _____
2. What was the month and year of your breast cancer surgery?
_____ 19 _____
3. What type of a mastectomy did you have?
(1) _____ standard radical mastectomy (breast and chest wall removed)
(2) _____ modified radical mastectomy (only breast removed)
(3) _____ lumpectomy
4. Were you offered breast reconstruction surgery? (1) _____ yes (2) _____ no
5. Have you had breast reconstruction?
(1) _____ yes (2) _____ no
6. If yes, what type of reconstruction?
(1) _____ saline implant(s) (2) _____ silicone implant (3) _____ skin flap
(4) _____ other (please specify) (5) _____ did not have reconstruction
7. Was your reconstruction delayed or immediate?
(1) _____ delayed (2) _____ immediate (at same time as cancer surgery)
(3) _____ did not have reconstruction
8. Are you satisfied with the results of the reconstruction?
(1) _____ very satisfied (2) _____ somewhat satisfied
(3) _____ somewhat dissatisfied (4) _____ very dissatisfied
(5) _____ did not have reconstruction
9. What types of treatment for breast cancer did you receive?
(1) _____ none (2) _____ radiation (3) _____ chemotherapy (4) _____ hormonal therapy
10. When was the most recent treatment of this type? _____ years ago
Please fill in 0 if your last treatment was less than a year ago.
11. How have you been affected within the last 6 months by the following physical symptoms from cancer surgery or treatment?

	Not affected by	Extremely affected by
a. Soreness in the area of the affected breast.....0	1	2 3
b. Swollen arm0	1	2 3
c. Fatigue0	1	2 3
d. Nausea.....0	1	2 3
e. Limited arm movement.....0	1	2 3
f. Tightness in chest.....0	1	2 3
g. Other.....0	1	2 3
12. How much of your hair did you lose during chemotherapy?
(1) _____ none (2) _____ 25% (5) _____ 100%
(3) _____ 50% (4) _____ 75% (6) _____ did not have chemotherapy

13. What was your menstrual status before your diagnosis?

- (1) ☐ post menopausal (at least one year without menstruation)
 (2) ☐ peri-menopausal (irregular periods; up to 1 year since last regular period)
 (3) ☐ pre-menopausal (regular menstruation)
 (4) ☐ other (please describe) _____

14. Is your present menstrual status different from when you were diagnosed with breast cancer?

- (1) ☐ yes (2) ☐ no

15. What is your menstrual status now?

- (1) ☐ I have completely stopped menstruating
 (2) ☐ I menstruate more often
 (3) ☐ I menstruate less often
 (4) ☐ I menstruate more heavily
 (5) ☐ I menstruate less heavily
 (6) ☐ Other

16. If you had chemotherapy, did your menstrual cycle stop while you were undergoing treatment?

- (1) ☐ yes (2) ☐ no (3) ☐ did not have chemotherapy

17. If you had chemotherapy and stopped menstruating, has your menstrual cycle resumed since your treatment?

- (1) ☐ yes (2) ☐ no (3) ☐ did not have chemotherapy

18. Do you consider yourself to be overweight?

- (1) ☐ yes (2) ☐ no

19. With whom could you talk most comfortably about your sexual activity?

- (1) ☐ Physician (3) ☐ Sex therapist (5) ☐ Nurse
 (2) ☐ Psychologist (4) ☐ Self-help group (6) ☐ Other

LIFE EXPERIENCES QUESTIONNAIRE

Listed below are events which sometimes bring about change in the lives of those who experience them. Please indicate whether or not you have experienced the events listed below **WITHIN THE LAST YEAR**.

**PLEASE ANSWER THE FOLLOWING QUESTIONS ON THE ANSWER SHEET PROVIDED.
PLEASE USE A #2 PENCIL WHEN FILLING IN THE BUBBLES.**

1. Death of spouse (A)____yes (B)____no
2. Death of family member (A)____yes (B)____no
3. Loss of job (A)____yes (B)____no
4. Marital separation (A)____yes (B)____no
5. Sexual difficulties (A)____yes (B)____no
6. Personal illness/injury (A)____yes (B)____no
7. Death of close friend (A)____yes (B)____no
8. Retirement (A)____yes (B)____no
9. Change in financial status (A)____yes (B)____no
10. Change of residence (A)____yes (B)____no
11. Illness of close friend (A)____yes (B)____no
12. Illness of family member (A)____yes (B)____no
13. Increased arguing with partner (A)____yes (B)____no
14. Difficulties at work (A)____yes (B)____no
15. other _____ (A)____yes (B)____no
16. other _____ (A)____yes (B)____no
17. other _____ (A)____yes (B)____no

RELATIONSHIP SATISFACTION SCALE

*****PLEASE answer these questions on the answer sheet using a #2 pencil*****

18. How satisfied are you with your overall relationship with your mate?

- (A)___extremely satisfied (B)___moderately satisfied (C)___slightly satisfied
(D)___moderately dissatisfied (E)___extremely dissatisfied

19. How satisfied do you think your mate is with your overall relationship?

- (A)___extremely satisfied (B)___moderately satisfied (C)___slightly satisfied
(D)___moderately dissatisfied (E)___extremely dissatisfied

20. I worry a lot about my relationship.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

21. I feel that I am "in a rut" in my relationship.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

22. My relationship has a bad effect on my health.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

23. My present relationship is not one I would want to remain in permanently.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

24. My partner regards me as an equal.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

25. My partner inspires me to do my best work.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

26. I get along well with my partner.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

27. I have definite difficulty confiding in my partner.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

28. My partner does not listen to what I have to say.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

29. I am definitely satisfied with my relationship.

- (A)___strongly agree (B)___agree (C)___neutral/undecided
(D)___disagree (E)___strongly disagree

BODY IMAGE SCALE

Please answer the following questions ON THE ANSWER SHEET USING A #2 PENCIL. Please circle the best response. There are no right or wrong answers.

30. Before going out in public, I always notice how I look.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

31. I am careful to buy clothes that will make me look my best.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

32. My body is sexually appealing.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

33. I like my looks just the way they are.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

34. I check my appearance in a mirror whenever I can.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

35. Before going out, I usually spend a lot of time getting ready.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

36. Most people would consider me good-looking.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

37. It is important that I always look good.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

38. I use very few grooming products.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

39. I like the way I look without my clothes.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

40. I am self-conscious if my grooming isn't right.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

(Please continue on the next page.)

Appendix 4

41. I usually wear whatever is handy without caring how it looks.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

42. I like the way my clothes fit me.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

43. I don't care what people think about my appearance.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

44. I take special care with my hair grooming.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

45. I dislike my physique.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

46. I am physically unattractive.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

47. I never think about my physique.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

48. I am always trying to improve my physical appearance.

A	B	C	D	E
Definitely Disagree	Mostly Disagree	Neither Agree nor disagree	Mostly Agree	Definitely Agree

49. How attractive do you feel compared to other women your age?

(A) _____ Much more attractive	(B) _____ Slightly more attractive
(C) _____ About the same	(D) _____ Slightly less attractive
(E) _____ Much less attractive	

50. How important is your breast region in affecting your feelings of your physical attractiveness?

(A) _____ Very important	(B) _____ Moderately important
(C) _____ Slightly important	(D) _____ Relatively unimportant
(E) _____ Not at all important	

51. What is the relationship between a woman's breast area and her attractiveness?

(A) _____ None	(B) _____ Breasts do not have much of a role in attractiveness
(C) _____ Breasts have a moderate role	(D) _____ Breasts have an important role
(E) _____ Breasts have an extremely important role in attractiveness	

Thank you! I know these questions are difficult to answer. I appreciate your participation.

Body Exposure and Sexual Activities Questionnaire

On the following pages is a list of statements regarding thoughts and behaviors which an individual may experience or enact during sexual encounters. Please read each statement carefully and identify how characteristic it is of you and your experiences. Please answer these questions on the answer sheet using a #2 pencil. Remember, there is no right or wrong answer.

52. During sexual activity, I am constantly thinking that my partner will notice something about my body that is a turn-off.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
53. During sexual activity, I worry that my partner will find aspects of my physique unappealing.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
54. During sexual activity, I am unaware of how my body looks.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
55. During sexual activity, something about the way my body looks makes me feel uncomfortable.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
56. I am comfortable while being undressed by my partner.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
57. I prefer to keep my body hidden under a sheet or blanket during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
58. I am comfortable with my partner looking at my genitals during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
59. During sexual activity, I worry that my partner will find my body repulsive.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
60. During sexual activity, I worry that my partner will think the size and shape of my sex organs are inadequate or unattractive.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
61. When it comes to my partner seeing me naked, I have nothing to hide.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
62. During sexual activity, I have thoughts that my body looks sexy.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS

Appendix 5

63. I don't like my partner to see me completely naked during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
64. During sexual activity, I expect my partner to be excited by seeing me without my clothes.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
65. I prefer to keep certain articles of clothing on during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
66. I am self-conscious about my body during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
67. During sexual activity, I worry that my partner will find the appearance or odor of my genitals repulsive.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
68. During sexual activity, I try to hide certain areas of my body from my partner's view.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
69. During sexual activity, I keep thinking that parts of my body are too unattractive to be sexy.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
70. There are parts of my body I don't want my partner to see during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
71. During sexual activity, I worry about what my partner thinks about how my body looks.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
72. During sexual activity, I worry that my partner could be turned off by the way parts of my body feels to his touch.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
73. During sexual activity, it is hard for me not to think about my weight.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
74. I feel self-conscious if the room is too well lit during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS
75. I am generally comfortable having parts of my body exposed to my partner during sexual activity.
A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS

Appendix 5

76. During sexual activity I enjoy having my partner look at my body.

A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS

77. During sexual activity there are certain poses or positions I avoid because of the way my body would look to my partner.

A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS

78. During sexual activity I am distracted by thoughts of how certain parts of my body look.

A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS

79. Prior to or following sexual activity I am comfortable walking naked in my partner's view.

A	B	C	D	E
NEVER	RARELY	SOMETIMES	OFTEN	ALMOST ALWAYS

SEXUAL HISTORY FORM

Please remember that there are no right or wrong answers to the following questions.

Also, please answer directly on this questionnaire.

1. How often do you and your mate have sexual intercourse?

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

2. How often would you like to have sexual intercourse?

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

3. How often do you masturbate?

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

4. How often would you like to masturbate?

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

5. How often do you have oral sex?

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

6. How often would you like to have oral sex?

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

7. How often do you have sexual desire? This may include wanting to have sex, planning to have sex, etc.

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

8. How often does your partner feel sexual desire?

(1) _____ more than once a day	(2) _____ once a day	(3) _____ 3 or 4 times per week
(4) _____ twice a week	(5) _____ once a week	(6) _____ once every 2 weeks
(7) _____ once a month	(8) _____ less than once a month	(9) _____ not at all

9. What percentage of the time do you initiate sexual intercourse or activity?

(1) _____ 0%, never	(2) _____ 25%, sometimes
(3) _____ 50%, my partner and I initiate equally	(4) _____ 75%, usually
(5) _____ 100%, I always initiate	

Appendix 6

10. For how many years have you and your mate been having sexual intercourse?
(1) less than 6 months (2) less than 1 year (3) 1 to 3 years
(4) 4 to 6 years (5) 7 to 10 years (6) more than 10 years
11. For how long do you and your mate usually engage in sexual foreplay (kissing, petting) before having sexual intercourse?
(1) less than 1 minute (2) 1 to 3 minutes (3) 4 to 6 minutes
(4) 7 to 10 minutes (5) 11 to 15 minutes (6) 16 to 30 minutes
(7) 30 minutes to 1 hour
12. Overall, how satisfactory to you is your sexual relationship with your mate?
(1) extremely unsatisfactory (2) moderately unsatisfactory
(3) slightly unsatisfactory (4) slightly satisfactory
(5) moderately satisfactory (5) extremely satisfactory
13. Overall, how satisfactory do you think your sexual relationship is to your mate?
(1) extremely unsatisfactory (2) moderately unsatisfactory
(3) slightly unsatisfactory (4) slightly satisfactory
(5) moderately satisfactory (5) extremely satisfactory
14. How satisfactory to you is intercourse with your mate?
(1) extremely unsatisfactory (2) moderately unsatisfactory
(3) slightly unsatisfactory (4) slightly satisfactory
(5) moderately satisfactory (5) extremely satisfactory
15. When your mate makes sexual advances, how do you usually respond?
(1) usually accept with pleasure (2) accept reluctantly
(3) often refuse (4) usually refuse
16. If you try, is it possible for you to reach orgasm through masturbation?
(1) have never tried (2) never (3) seldom, about 25% of the time
(4) sometimes, 50% of the time (5) usually, 75% of the time
(6) nearly always, over 90% of the time
17. If you try, is it possible for you to reach orgasm by having your genitals caressed by your mate?
(1) have never tried (2) never (3) seldom, about 25% of the time
(4) sometimes, 50% of the time (5) usually, 75% of the time
(6) nearly always, over 90% of the time
18. If you try, is it possible for you to reach orgasm through sexual intercourse?
(1) have never tried (2) never (3) seldom, about 25% of the time
(4) sometimes, 50% of the time (5) usually, 75% of the time
(6) nearly always, over 90% of the time
19. Can you reach orgasm through stimulation of your genitals by a vibrator or other means, such as running water or rubbing with some object, etc?
(1) have never tried (2) never (3) seldom, about 25% of the time
(4) sometimes, 50% of the time (5) usually, 75% of the time
(6) nearly always, over 90% of the time

Appendix 6

20. When you have sex with your mate, including foreplay and intercourse, do you notice some of these things happening: your breathing and pulse speeding up, and/or wetness in your vagina?

- (1)____ have never tried (2)____ never (3)____ seldom, about 25% of the time
(4)____ sometimes, 50% of the time (5)____ usually, 75% of the time
(6)____ nearly always, over 90% of the time

21. When you have sex with your mate, including foreplay and intercourse, do you experience a feeling of sexual pleasure and/or excitement?

- (1)____ have never tried (2)____ never (3)____ seldom, about 25% of the time
(4)____ sometimes, 50% of the time (5)____ usually, 75% of the time
(6)____ nearly always, over 90% of the time

22. What percentage of the time that you have sex do you include affection behaviors, such as nongenital caressing, body massage?

- (1)____ have never tried (2)____ never (3)____ seldom, about 25% of the time
(4)____ sometimes, 50% of the time (5)____ usually, 75% of the time
(6)____ nearly always, over 90% of the time

23. Does your partner have difficulty getting an erection?

- (1)____ has never tried (2)____ never (3)____ seldom, about 25% of the time
(4)____ sometimes, 50% of the time (5)____ usually, 75% of the time
(6)____ nearly always, over 90% of the time

24. Does your partner touch your breast area?

- (1)____ has never tried (2)____ never (3)____ seldom, about 25% of the time
(4)____ sometimes, 50% of the time (5)____ usually, 75% of the time
(6)____ nearly always, over 90% of the time

25. When you have intercourse with your mate, do you have negative emotional reactions, such as fear, disgust, shame, or guilt?

- (1)____ never (2)____ rarely, less than 10% of the time (3)____ seldom, less than 25% of the time
(4)____ sometimes, 50% of the time (5)____ usually, 75% of the time
(6)____ nearly always, over 90% of the time

26. How often do you engage in affection behaviors, such as kissing, nongenital intimacy, body massage, etc?

- (1)____ not at all (2)____ less than once a month (3)____ once a month
(4)____ once every 2 weeks (5)____ once a week (6)____ twice a week
(7)____ 3-4 times a week (8)____ once a day (9)____ more than once a day

27. Which best describes your present sexual life?

- (1)____ could not be worse (2)____ not as good as it could be
(3)____ mediocre (4)____ better than average (5)____ could not be better

28. Are you afraid to have sexual relations?

- (1)____ very often (2)____ often (3)____ occasionally
(4)____ rarely (5)____ never

29. Do you worry about having sexual relations?

- (1)____ not at all because I do not have them (2)____ very often
(3)____ sometimes (4)____ a little bit (5)____ nearly never, and I am having sexual relations

SEXUAL AROUSABILITY INDEX

The experiences in this inventory may or may not be sexually arousing to you. There are no right or wrong answers. Read each item and then indicate on the answer sheet how sexually aroused you feel when you have the described experience, or how sexually aroused you think you would feel if you actually experienced it. Use a #2 pencil please.

The meaning of the numbers is given below:

- A= adversely affects arousal; unthinkable, repulsive, distracting
 B= doesn't affect sexual arousal
 C= sometimes causes sexual arousal; slightly arousing
 D= usually causes sexual arousal; moderately arousing
 E= almost always sexually arousing; very arousing

How you would feel or think you would feel if you were actually involved in this experience:

- 80 When your partner stimulates your genitals with his mouth and tongue A B C D E
 81 When your partner fondles your breast area with his hands A B C D E
 82 When you see your partner nude A B C D E
 83 When your partner caresses you with his eyes A B C D E
 84 When your partner stimulates your genitals with his finger A B C D E
 85 When you are touched or kissed on the inner thigh by your partner A B C D E
 86 When you caress your partner's genitals with your fingers A B C D E
 87 When you read a pornographic or "dirty" story A B C D E
 88 When your partner undresses you A B C D E
 89 When you dance with your partner A B C D E
 90 When you have intercourse with your partner A B C D E
 91 When your partner touches or kisses your nipple area A B C D E
 92 When you caress your partner (other than genitals) A B C D E
 93 When you see pornographic pictures or slides A B C D E
 94 When you lie in bed with your partner A B C D E
 95 When your partner kisses you passionately A B C D E
 96 When you hear sounds of pleasure during sex with your partner A B C D E
 97 When your partner kisses you with an exploring tongue A B C D E
 98 When you read suggestive or pornographic poetry A B C D E
 99 When you see a strip show A B C D E
 100 When you stimulate your partner's genitals with your mouth and tongue A B C D E
 101 When your partner caresses you (other than genitals) A B C D E
 102 When you see a pornographic film A B C D E
 103 When you undress your partner A B C D E
 104 When your partner fondles your breast area with his mouth and tongue A B C D E
 105 When you make love in a new or unusual place with your partner A B C D E
 106 When you masturbate A B C D E
 107 When your partner has an orgasm A B C D E

DAILY BODY IMAGE CHECKLIST

Please indicate how satisfied you are **TODAY** with each of the following areas of your body using the scale below. Please use the answer sheet to fill in the circle that best describes your feeling **TODAY**.

A Very DISsatisfied	B Mostly DISsatisfied	C Neither Satisfied Nor Dissatisfied	D Mostly Satisfied	E Very Satisfied	
1. Face (facial feature, complexion).....	A	B	C	D	E
2. Hair (color, thickness, texture).....	A	B	C	D	E
3. Lower Torso (buttocks, thighs, legs).....	A	B	C	D	E
4. Waist	A	B	C	D	E
5. Stomach	A	B	C	D	E
6. Shoulders	A	B	C	D	E
7. Arms	A	B	C	D	E
8. Chest.....	A	B	C	D	E
9. Breast region	A	B	C	D	E
10. General muscle tone.....	A	B	C	D	E
11. Weight.....	A	B	C	D	E
12. Height.....	A	B	C	D	E
13. Overall appearance.....	A	B	C	D	E
14. Body shape.....	A	B	C	D	E
15. What is your overall body satisfaction for today?.....	A	B	C	D	E
16. How attractive do you feel today?					
A) _____very UNattractive B) _____mostly UNattractive C) _____neutral					
D) _____mostly attractive E) _____very attractive					
17. Are you self conscious about your appearance today?					
A) _____not at all B) _____slightly C) _____moderately D) _____extremely					
18. Please gaze in a full length mirror at your entire clothed body for 30 seconds. Rate your level of satisfaction today with your body on a scale from A (not at all) to E (extremely satisfied).					
A B C D E					
19. On a scale from A (none) to E (extremely high), please rate your general level of stress today.					
A B C D E					

DAILY SEXUAL ACTIVITY CHECKLIST

Please answer the following on the answer sheet using a #2 pencil.
THANK YOU!

20. Please rate your highest level of sexual desire today.

NONE

EXTREMELY HIGH

A B C D E

21. How many sexual fantasies did you have today? A=0 B=1 C=2 D=3 E=4 or more

22. How much emotional support did you receive from your partner today?

(A) none (B) a little (C) some (D) a lot

23. Did you engage in any affection behaviors today (nongenital intimacy, kissing)?

(A) yes (B) no

24. If you engaged in affection behaviors today, how satisfying were they to you?

NOT AT ALL

EXTREMELY

A B C D E

25. Are you menstruating today? (A) yes (B) no

26. Did you initiate sex today? (A) yes (B) no

27. How interested was your partner in satisfying your sexual needs today?

NOT AT ALL

EXTREMELY

A B C D E

28. Did you engage in sexual activity today? (A) yes (B) no

IF NO, YOU HAVE FINISHED THE QUESTIONNAIRE

IF YES, PLEASE CONTINUE

Did you engage in the following activities today?

29. Intercourse (A) yes (B) no

30. Masturbation (A) yes (B) no

31. Oral Sex

female to male (A) yes (B) no

male to female (A) yes (B) no

32. Breast stimulation (A) yes (B) no

33. How many orgasms did you have today? A = 0 B = 1 C = 2 D = 3 E = 4 or more

34. During sexual activity today, what was your highest level of subjective sexual arousal?

NONE

EXTREMELY HIGH

A B C D E

35. What was the greatest degree of vaginal wetness or swelling of vaginal tissue you experienced today?

NONE

EXTREMELY HIGH

A B C D E

36. How satisfied were you with your sexual experiences today?

NOT AT ALL

EXTREMELY

A B C D E

Appendix 10

The University of Rhode Island
Department of Psychology
Kingston, RI 02881

CONSENT FORM FOR RESEARCH

I have been asked to take part in a research project described below. The researcher will explain the project to me in detail. I should feel free to ask questions. If I have more questions later, Elayne A. Saltzberg, M.A., the person mainly responsible for this study, (401-782-6182), will discuss them with me.

I have been asked to take part in a study of women's attitudes toward their bodies and sexual functioning. The goal of the research is to learn more about how women who have had breast cancer feel about their bodies and about sexual activities. It involves women who have had breast cancer answering questions on these topics.

If I decide to take part in this study, here is what will happen: There are two parts to this research, both of which involve answering questionnaires. First, I will complete a set of questionnaires. These questionnaires contain questions about body image and sexual activities and take about one hour to complete. Then, I will keep a short daily record for one month. This record is in a checklist format and includes questions on body image and sexual activities. It should take about 5 minutes or less per day to complete. I will be paid \$15.00 at the end of the study for my participation.

For some people, answering these questions may potentially be embarrassing and cause feelings of discomfort due to the personal nature of the questions. Elayne A. Saltzberg, M.A., the principal researcher, will be available to me if I would like to discuss these feelings with her. She will also provide a list of resources of other professionals with whom I could discuss my feelings. Although there will be no direct benefit to me for taking part in this study, the researcher may learn more about how women who have had breast cancer feel about their bodies and about sexuality.

My part in this study is confidential. None of the information will identify me by name. I will be assigned an identification number. This number will be on all of my questionnaires. No questionnaires, except the consent form, will have my name attached. A list will be kept separately with all of the participants' names and identification numbers. All records, including the list with my name and identification number, will be kept in a locked file, to which only the researcher has access.

If this study causes me any injury, I should write or call the office of the Vice Provost for Research, 70 Lower College Road, University of Rhode Island, Kingston, Rhode Island, telephone: (401) 792-2635.

The decision whether or not to take part in this study is up to me. I do not have to participate. If I decide to take part in the study, I may quit at any time. Whatever I decide will in no way penalize me. If I wish to quit I simply inform Elayne A. Saltzberg, M.A. at 782-6182 of my decision.

If I am not satisfied with the way this study is performed, I may discuss my complaints with Elayne A. Saltzberg, M.A. or with Patricia Morokoff, Ph.D., at (401)792-2193, who is supervising the research. In addition, I may contact the office of the Vice Provost for Research, 70 Lower College Road, University of Rhode Island, Kingston, Rhode Island, telephone: (401) 792-2635.

I have read the Consent Form. My questions have been answered. My signature on this form means that I understand the information and agree to participate in this study.

signature of Participant

signature of Researcher

Typed/printed name

Typed/Printed name

Date

Date

Appendix 11

The University of Rhode Island
Department of Psychology
Kingston, RI 02881

CONSENT FORM FOR RESEARCH

I have been asked to take part in a research project described below. The researcher will explain the project to me in detail. I should feel free to ask questions. If I have more questions later, Elayne A. Saltzberg, M.A., the person mainly responsible for this study, (401-782-6182), will discuss them with me.

I have been asked to take part in a study of women's attitudes toward their bodies and sexual functioning. The goal of the research is to learn more about how women feel about their bodies and about sexual activities. It involves women answering questions on these topics.

If I decide to take part in this study, here is what will happen: There are two parts to this research, both of which involve answering questionnaires. First, I will complete a set of questionnaires. These questionnaires contain questions about body image and sexual activities and take about one hour to complete. Then, I will keep a short daily record for one month. This record is in a checklist format and includes questions on body image and sexual activities. It should take about 5 minutes or less per day to complete. I will be paid \$10.00 at the end of the study for my participation.

For some people, answering these questions may potentially be embarrassing and cause feelings of discomfort due to the personal nature of the questions. Elayne A. Saltzberg, M.A., the principal researcher, will be available to me if I would like to discuss these feelings with her. She will also provide a list of resources of other professionals with whom I could discuss my feelings. Although there will be no direct benefit to me for taking part in this study, the researcher may learn more about how women who have had breast cancer feel about their bodies and about sexuality.

My part in this study is confidential. None of the information will identify me by name. I will be assigned an identification number. This number will be on all of my questionnaires. No questionnaires, except the consent form, will have my name attached. A list will be kept separately with all of the participants' names and identification numbers. All records, including the list with my name and identification number, will be kept in a locked file, to which only the researcher has access.

If this study causes me any injury, I should write or call the office of the Vice Provost for Research, 70 Lower College Road, University of Rhode Island, Kingston, Rhode Island, telephone: (401) 792-2635.

The decision whether or not to take part in this study is up to me. I do not have to participate. If I decide to take part in the study, I may quit at any time. Whatever I decide will in no way penalize me. If I wish to quit I simply inform Elayne A. Saltzberg, M.A. at 782-6182 of my decision.

If I am not satisfied with the way this study is performed, I may discuss my complaints with Elayne A. Saltzberg, M.A. or with Patricia Morokoff, Ph.D., at (401)792-2193, who is supervising the research. In addition, I may contact the office of the Vice Provost for Research, 70 Lower College Road, University of Rhode Island, Kingston, Rhode Island, telephone: (401) 792-2635.

I have read the Consent Form. My questions have been answered. My signature on this form means that I understand the information and agree to participate in this study.

signature of Participant

signature of Researcher

Typed/printed name

Typed/Printed name

Date

Date

Bibliography

- Abt, V., McGurrian, M., & Heintz, L. (1978). The impact of mastectomy on sexual self-image, attitudes, and behavior. Journal of Sex Education and Therapy, 4, 43-46.
- American Cancer Society (1990a). Breast cancer: Understanding treatment options. NIH Publication No. 91-2675.
- American Cancer Society (1990b). Mastectomy. A treatment for breast cancer. NIH Publication No. 91-658.
- American Cancer Society. (1992). Cancer facts and figures. Atlanta, GA: American Cancer Society, Inc.
- American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.
- Andersen, B.L. (1985). Sexual functioning morbidity among cancer survivors. Cancer, 55, 1835-1842.
- Andersen, B., Andersen, B., & deProsse, C. (1989). Controlled prospective longitudinal study of women with cancer: II. Psychological outcomes. Journal of Consulting and Clinical Psychology, 57, 692-697.
- Andersen, B.L., Broffitt, B., Karlsson, J., & Turnquist, D. (1989). A psychometric analysis of the sexual arousability index. Journal of Consulting and Clinical Psychology, 1, 123-130.
- Andersen, B.L. & Jochimsen, P.R. (1985). Sexual functioning among breast cancer, gynecologic cancer, and healthy women. Journal of Consulting and Clinical Psychology, 53, 25-32.
- Andersen, B.L. & LeGrand, J. (1991). Body image for women: Conceptualization, assessment, and a test of its importance to sexual dysfunction and medical illness. The Journal of Sex Research, 28, 457-477.
- Ariel, I.M. (1987). Breast cancer. A historic review: Is the past prologue? In I.M. Ariel and J.B. Cleary (Eds.), Breast cancer diagnosis and treatment. (pp.3-26). New York: McGraw-Hill.
- Ashurst, P. & Hall, Z. (1989). Understanding women in distress. New York: Tavistock/Routledge.

- Asken, M.J. (1975). Psychoemotional aspects of mastectomy: A review of the literature. American Journal of Psychiatry, 131, 56-69.
- Atalbe, M. & Thompson, J. (1993). Body image changes during early adulthood. International Journal of Eating Disorders, 13, 323-328.
- Auchincloss, S.S. (1990). Sexual dysfunction in cancer patients: Issues in evaluation and treatment. In J.C. Holland and J.H. Rowland (Eds.), Handbook of psychooncology: Psychological care of the patient with cancer (pp. 383-413). New York: Oxford University Press.
- Baider, L., Rizel, S., & Kaplan De-Nour, K. (1986). Comparison of couples' adjustment to lumpectomy and mastectomy. General Hospital Psychiatry, 8, 21-257.
- Baker, R. (1990). Review of Mastectomy or Breast Conservation in the management of primary breast cancer: Psychosocial factors. Oncology, 4, 104.
- Bard, M. & Sunderland, A.M. (1955). Psychological impact of cancer and its treatment: IV. Adaptation to radical mastectomy. Cancer, 8, 656-672.
- Bartelink, H., van Dam, F., & van Dongen, J. (1985). Psychological effects of breast conserving therapy in comparison with radical mastectomy. International Journal of Radiation: Oncology-Biology-Physics, 11, 381-385.
- Beckham, J.C. & Godding, P.R. (1990). Sexual dysfunction in cancer patients. Journal of Psychosocial Oncology, 8, 1-16.
- Becker, H. (1978). Psychodynamic aspects of breast cancer. Differences in younger and older patients. Psychotherapy and Psychodynamics, 32, 287-296.
- Bernstein, N.R. (1990). Objective bodily damage: Disfigurement and dignity. In T. Cash and T. Pruzinsky (Eds.), Body images. Development, deviance, and change (pp. 131-148). New York: The Guilford Press.
- Blichert-Toft, M. (1992). Breast conserving therapy for mammary carcinoma: Psychosocial aspects, indications, and limitations. Annals of Medicine, 24, 445-451.

- Bloom, J. & Spiegel, D. (1984). The relationship of two dimensions of social support to the psychological well-being and social functioning of women with advanced breast cancer. Social Science and Medicine, 19, 831-837.
- Bos, G. (1986). Sexuality of gynecological cancer patients: Quantity and quality. Journal of Psychosomatic Obstetrics and Gynaecology, 5, 217-224.
- Bottiglioni, F. & DeAloysio, D. (1982). Female sexual activity as a function of climacteric conditions and age. Maturitas, 4, 31-47.
- Bransfield, D. (1983). Breast cancer and sexual functioning: A review of the literature and implications for future research. International Journal of Psychiatry in Medicine, 12, 197-211.
- Brinker, N. (1990). The race is run. One step at a time. New York: Simon & Schuster.
- Brown, T.A., Cash, T.F., & Mikulka, P.J. (1990). Attitudinal body image assessment: Factor analysis of the Body-Self Relations Questionnaire. Journal of Personality Assessment, 55, 135-144.
- Burpie, G. & Polinsky, M. (1992). Intimacy and sexuality after cancer treatment: Restoring a sense of wholeness. Journal of Psychosocial Oncology, 10, 19-33.
- Carter, R. & Carter, C. (1993). Individual and marital adjustment in spouse pairs subsequent to mastectomy. American Journal of Family Therapy, 21, 291-300.
- Carter, R., Carter, C., & Siliunas, M. (1993). Marital adjustment and interaction of couples after a mastectomy. Journal of Psychosocial Oncology, 11, 69-82.
- Cash, T. (1985). Physical appearance and mental health. In J.A. Graham & A.M. Kligman (Eds.), The psychology of cosmetic treatments (pp. 196-216). New York: Prager.
- Cash, T. (1991). The body exposure in sexual activities questionnaire (BESAQ). Paper presentation at the annual conference of the Association for Advancement of Behavior Therapy. New York, NY.

- Cash, T. and Brown, T. (1987). Body image in anorexia nervosa and bulimia nervosa: A review of the literature. Behavior Modification, 11, 487-521.
- Cash, T.F., Winstead, B., & Janda, L. (1986). The great American shape-up: Body image survey report. Psychology Today, 20, 30-37.
- Dackman, L. (1990). Up front. Sex and the postmastectomy woman. New York: Viking.
- Datan, N., Rodeheaver, P., & Hughes, F. (1987). Adult development and aging. Annual Review of Psychology, 38, 153-180.
- de Haes, J., van Ostrom, M., Welvaart, K. (1986). The effect of radical and conserving surgery on the quality of life of early breast cancer patients. European Journal of Surgery and Oncology, 12, 337-342.
- Derogatis, L.R. (1980). The unique impact of breast and gynecologic cancers on body image and sexual identity in women: A reassessment. In J.M. Vaeth (Ed.), Body image, Self-esteem, and Sexuality in Cancer Patients (pp. 1-14). Basel, Switzerland: Karger.
- Ervin, C. (1973). Psychologic adjustment to mastectomy. Medical Aspects of Human Sexuality, 7, 42-65.
- Faith, M.S. & Schare, M.L. (1993). The role of body image in sexually avoidant behavior. Archives of Sexual Behavior, 22, 345-356.
- Fallon, A. (1990). Culture in the mirror: Sociocultural determinants of body image. In T.Cash and T. Pruzinsky (Eds.), Body images. Development, deviance, and change. (pp. 80-109). New York: The Guilford Press.
- Fallowfield, L. J. (1990). Psychological outcomes of different treatment policies in women with early breast cancer outside a clinical trial. British Medical Journal, 301, 575-580.
- Fallowfield, L.J., Baum, M., & Maguire, G. (1987). Addressing the needs of the conservatively treated breast cancer patient: Discussion paper. Journal of the Royal Society of Medicine, 80, 696-700.
- Fallowfield, L.J. & Hall, A. (1991). Psychosocial and sexual impact of diagnosis and treatment of breast cancer. British Medical Bulletin, 47, 388-399.

- Fisher, S. (1990). The evolution of psychological concepts about the body. In T. Cash and T. Pruzinsky (Eds.), Body image. Development, deviance, and change. (pp. 3-20). New York: The Guilford Press.
- Fisher, B., Redmond, C., & Poisson, R. (1989). Eight year results of a randomized clinical trial comparing total mastectomy and lumpectomy with and without irradiation in the treatment of breast cancer. New England Journal of Medicine, 320, 822-828.
- Fisher, B., Bauer, M., Margolese, R., Poisson, R., Pilch, Y., Redmond, C., Fisher, E., Wolmark, N., Deutsch, M., Montague, E., Safter, E., Wickerham, L., Lerner, H., Glass, A., Shibata, H., Deckers, P., Ketcham, A., Orshi, R., & Russel, I. (1985). Five-year results of a randomized clinical trial comparing total mastectomy and segmental mastectomy with or without radiation in the treatment of breast cancer. New England Journal of Medicine, 312, 665-673.
- Frank, D., Dornbush, R.L., Webster, S.K., & Kolodny, R.C. (1978). Mastectomy and sexual behavior: A pilot study. Sexuality and Disability, 1, 16-26.
- Freedman, R. (1987). Bodylove. Learning to like our looks-- and ourselves. A practical guide for women. New York: Harper & Row.
- Garner, D.M. & Garfinkel, P.E. (1981). Body image in anorexia nervosa: Measurement, theory, and clinical implications. International Journal of Psychiatry in Medicine, 11, 263-284.
- Gaskin, T., LoBuglio, A., Kelly, P., Doss, M., & Pizitz, N. (1989). STRETCH: A rehabilitative program for patients with breast cancer. Southern Medical Journal, 82, 467-469.
- Gates, CC. (1980). Husbands of mastectomy patients. Patient Counseling and Health Education 1, 38-41.
- Geeslin, C.R. (1984). A woman is more. The women, the disease, and the technology of breast cancer. Unpublished doctoral dissertation, The Union for Experimenting Colleges and Universities, Cincinnati, Ohio.
- Gerard, D. (1982). Sexual functioning after mastectomy: Life vs. lab. Journal of Sex and Marital Therapy, 8, 305-315.

- Giltner, M. (1994). The relationship of age and social supports to sexual adjustment in postmastectomy women. (Doctoral dissertation, California State University, Long Beach, 1993). Dissertation Abstracts International, 32/02, 581.
- Glanz, K. & Lerman, C. (1992). Psychosocial impact of breast cancer: A review. Annals of Behavioral Medicine, 14, 204-212.
- Goffman, I. (1963). Stigma. Englewood Cliffs, NJ: Prentice-Hall.
- Goin, M.K. (1982). Psychological reactions to surgery of the breast. Clinics in Plastic Surgery, 9, 347-354.
- Goin, M.K., & Goin, J.K. (1981). Midlife reactions to mastectomy and subsequent breast reconstruction. Archives of General Psychiatry, 38, 225-227.
- Golden, M. (1983). Female sexuality and the crisis of mastectomy. Danish Medical Bulletin, 30, 13-16.
- Grandstaff, N. (1976). The impact of breast cancer on the family. Frontiers of Radiation Therapy and Oncology, 11, 145-146.
- Grossarth-Marticek, R. & Eysenck, H. (1989). Length of survival and lymphocyte percentage in women with mammary cancer as a function of psychotherapy. Psychological Reports, 65, 315-321.
- Gross, A. & Ito, D. (1990). Women talk about breast surgery. From diagnosis to recovery. New York: Crown.
- Haber, S. Acuff, C., Ayers, L., Freeman, E., Goodheart, C., Kieffer, C., Lubin, L., Mikesell, S., Siegel, M., Wainrib, B. (1993). Breast cancer: A psychological treatment manual. Phoenix, AZ: Division of Independent Practice.
- Hall, A. & Fallowfield, L. (1989). Psychological outcome of treatment for early breast cancer: A review. Stress Medicine, 5, 167-15.
- Hallstrom, T. (1977). Sexuality in the climacteric. Clinics in Obstetrics and Gynecology, 4, 227-239.
- Harrell, H.C. (1972). To lose a breast. American Journal of Nursing, 72, 676-677.
- Hendrick, S.S. (1982). Women's health issues: Breast cancer. The Counseling Psychologist, 10, 115-116.

- Holmberg, L., Omne Penten, M., Burns, T., Adami, H., & Bergstrom, R. (1989). Psychological adjustment after mastectomy and breast conservation treatment. Cancer, 64, 969-974.
- Hoon, E.F., Hoon, P.W., & Wincze, J.P. (1976). An inventory for the measurement of female sexual arousability: The SAI. Archives of Sexual Behavior, 5, 291-300.
- Hopwood, P. & Maguire, G.P. (1988). Body image problems in cancer patients. British Journal of Psychiatry, 153, 47- 50.
- Jacobson, P. & Holland, J.C. (1990). Psychological reactions to cancer surgery. In J.C. Holland & J.H. Holland (Eds.), Handbook of Psychooncology. (pp. 117-133). New York: Oxford University Press.
- Jamison, K.R., Wellisch, D., & Pasnau, R.O. (1978). Psychosocial aspects of mastectomy: I. The woman's perspective. American Journal of Psychiatry, 135, 432-436.
- Kahane, P. (1990). No less a woman. Ten women shatter the myths about breast cancer. New York: Prentice-Hall.
- Kaplan, H. S. (1983). The evaluation of sexual disorders: Psychological and medical aspects. New York: Brunner/Mazel.
- Kaplan, H.S. (1992). A neglected issue: The sexual side effects of current treatment for breast cancer. Journal of Sex and Marital Therapy, 18, 3-18.
- Karvas, C. (1994). Women's perceptions of mastectomy events and chemotherapy-induced alopecia (Doctoral dissertation, Texas Tech University, 1993). Dissertation Abstracts International, 32/04, 1168.
- Kaye, R. (1991). Spinning straw into gold. New York: Simon & Schuster.
- Kemeny, M, Wellisch, D., & Schain, W. (1988). Psychosocial outcome in a randomized surgical trial for treatment of primary breast cancer. Cancer, 62, 1231-1237.
- Kent, S. (1975). Coping with sexual identity crises after mastectomy. Geriatrics, 10, 145-146.

- Kriss, R.T., & Kraemer, H.C. (1986). Efficacy of group therapy for problems with postmastectomy self-perception, body image, and sexuality. The Journal of Sex Research, 22, 438-451.
- Krueger, D. (1990). Developmental and psychodynamic perspectives on body-image change. In T. Cash & T. Pruzinsky (Eds.), Body image. Development, deviance, and change. (pp. 255-272). New York: Guilford Press.
- Krukofsky, B. (1988). Sexuality counseling of people with chronic illness. In E. Weinstein and E. Rosen (Eds.), Sexuality Counseling: Issues and implications (pp. 259-273). Pacific Grove, CA: Brooks Cole Publishers.
- Lamb, M. & Woods, N. (1981, April). Sexuality and the cancer patient. Cancer Nursing, 137-144.
- Lasry, C., Margolese, R., Poisson, R., Shibata, H., Fleishcer, D., Legault, S., & Taillefer, S. (1987). Depression and body image following mastectomy and lumpectomy. Journal of Chronic Diseases, 40, 529-534.
- Leiber, L., Plumb, M., Gerstenzang, M., & Holland, J. (1976). The communication of affection between cancer patients and their spouses. Psychosomatic Medicine, 38, 379-389.
- Lerman, E. (1983). Perceived changes in physical self-concept and marital and sexual relations in patients who have had mastectomy and breast reconstruction surgery (Doctoral dissertation, Virginia Consortium for Professional Psychology, 1982). Dissertation Abstracts International, 45/04B, 1291.
- Levy, S., Herberman, R., Lee, J., Lippman, M., & d'Angelo, T. (1989). Breast conservation versus mastectomy: Distress sequelae as a function of choice. Journal of Clinical Oncology, 7, 367-375.
- Levy, S. & Schain, W. (1988). Psychologic response to breast cancer: Direct and indirect contributors to treatment outcome. In M. Lippman, A. Lichter, & D. Danforth (Eds.), Diagnosis and Management of Breast Cancer. (pp. 439-456). Philadelphia: W.B. Saunders Company.
- Levy, S., Haynes, M., Lathrop, T., Herberman, R., & Lea, J. (1992). Mastectomy versus breast conservation surgery: Mental health effects at long-term follow-up. Health Psychology, 11, 349-354.

- Lichtman, R. & Taylor, S. (1986). Close relationships and the female cancer patient. In B.L. Andersen (Ed.), Women with Cancer: Psychological Perspectives (pp. 257-288). New York: Springer-Verlag.
- Lindemann, E. (1941). Observations on psychiatric sequelae to surgical operations in women. American Journal of Psychiatry, 98, 132-139.
- LoPiccolo, J. (1987). In O'Leary, K.D. (Ed.), Assessment of marital discord. An integration for research and clinical practice. (Appendix VI.). Hillsdale, NJ: Lawrence Erlbaum.
- Lorde, A. (1980). The Cancer Journals. San Francisco: Aunt Lute/Spinster Press.
- Love, S. (1991). Dr. Susan Love's Breast Book. Reading, MA: Addison-Wesley.
- Maguire, G.P. (1989). Breast conservation versus mastectomy: Psychological considerations. Seminars in Surgical Oncology, 5, 137-144.
- Maguire, G.P. (1976). The psychological and social sequelae of mastectomy. In S.G. Horrells (Ed.), Modern Perspectives in the Psychiatric Aspects of Surgery. (pp. 390-421). New York: Brunner/Maisels Incorporated.
- Maguire, G.P., Brooke, M., & Tact, A. (1983). The effect of counseling on physical disability and social recovery after mastectomy. Clinical Oncology, 9, 319-324.
- Maguire, G.P., Lee, E.G., Bevington, D.J., Kuchemann, C.S., Crabtree, RJ, & Cornell, CE. (1978). Psychiatric problems in the first year after mastectomy. British Medical Journal, 1, 963-965.
- Margolis, G., Goodman, R., & Rubin, A. (1990). Psychological effects of breast-conserving cancer treatment and mastectomy. Psychosomatics, 31, 33-39.
- Margolis, G., Goodman, R., Rubin, A., & Pajac, T.F. (1989). Psychological factors in the choice of treatment for breast cancer. Psychosomatics, 30, 192-197.
- Masters, W. & Johnson, V. (1966). Human sexual response. New York: Bantam.

- Mead, M. (1949). Male and female. A study of the sexes in a changing world. New York: William Morrow.
- Metze, E. (1978). Couples and mastectomy. In P.C. Brand and P.A. Van Keep (Eds.), Psychosocial aspects of early detection treatment (pp. 25-31). Baltimore, MD: University Park Press.
- Metzger, D. (1988). The Woman who Slept with Men to Take the War out of Them and Tree. Berkeley, CA: Wingbow Press.
- Meyer, L. & Aspegren, K. (1988). Long-term psychological sequelae of mastectomy and breast conserving treatment for breast cancer. Acta Oncologica, 28, 13-18.
- Meyerowitz, B.E. (1980). Psychosocial correlates of breast cancer and its treatments. Psychological Bulletin, 87, 108-131.
- Meyerowitz, B.E. (1981). The impact of mastectomy on the lives of women. Professional Psychology, 12, 118-127.
- Meyerowitz, B.E. (1983). Postmastectomy coping strategies and quality of life. Health Psychology, 2, 117-132.
- Meyerowitz, B.E., Chaiken, S., & Clark, L. (1988). Sex roles and culture: Social and personal reactions to breast cancer. In M. Fine and A. Asch (Eds.), Women with disabilities: Essays in psychology, culture, and politics. (pp. 72-89). Philadelphia: Temple University Press.
- Meyerowitz, B.E., Sparks, F., & Spears, F. (1979). Adjuvant chemotherapy for breast carcinoma: Psychological implications. Cancer, 43, 1613-1618.
- Mock, V. (1993). Body image in women treated for breast cancer. Nursing Research, 42, 153-157.
- Morganstern, H., Geilert, G., Walter, S., Ostfeld, A., & Siegel, B. (1984). The impact of a psychosocial support program on survival with breast cancer: Importance of selection bias in program evaluation. Journal of Chronic Diseases, 37, 273-282.
- Morokoff, P. (1988). Sexuality in perimenopausal and post menopausal women. Psychology of Women Quarterly, 12, 489-511.

- Morokoff, P. (1993). Female sexual arousal disorder. In W. O'Donohue and J. Geer (Eds.), Handbook of the assessment and treatment of sexual dysfunctions. Des Moines, IA: Allyn & Bacon.
- Morokoff, P., & LoPiccolo, J. (1986). A comparative evaluation of minimal therapist contact and 15-session treatment for female orgasmic dysfunction. Journal of Consulting and Clinical Psychology, 54, 294-300.
- Morris, T. (1979). Psychological adjustment to mastectomy. Cancer Treatment Review, 6, 41-61.
- Morris, T., Greer S., & White, P. (1977). Psychological and social adjustment to mastectomy: A two year follow-up. Cancer, 40, 2381-2387.
- National Cancer Institute (1993). What you need to know about breast cancer. NIH Publication No. 94-1556.
- Noles, S.W., Cash, T.F., & Winstead, B.A. (1985). Body image, physical attractiveness, and depression. Journal of Consulting and Clinical Psychology, 53, 88-94.
- Northouse, L.L. (1989). A longitudinal study of the adjustment of patients and husbands to breast cancer. Oncology Nursing Forum, 16, 511-516.
- Northouse, L.L. (1988). Social support in patients' and husbands' adjustment to breast cancer. Nursing Research, 37, 91-95.
- O'Leary K.D. (1987). Assessment of marital discord. An integration for research and clinical practice. Hillsdale, NJ: Lawrence Erlbaum.
- Omne-Ponten, M. (1994). Psychosocial adjustment after breast cancer in stages I/II: A longitudinal study including assessments of women and husbands (Doctoral dissertation, Uppsala University, 1993). Dissertation Abstracts International, 55-03, 836.
- Pfeiffer, E., Verwoerd, A., & Davis, G. (1972). Sexual behavior in middle life. American Journal of Psychiatry, 128, 1262-1267.
- Pliner, P., Chaiken, S. & Flett, G. (1990). Gender differences in concern with body weight and physical appearance over the lifespan. Personality and Social Psychology Bulletin, 16, 263-273.

- Polivy, J. (1977). Psychological effects of mastectomy on a woman's feminine self-concept. The Journal of Nervous and Mental Disease, 164, 77-87.
- Pruzinsky, T. (1990). Psychopathology of body experience: Expanded perspectives. In T. Cash and T. Pruzinsky (Eds.), Body image. Development, deviance, and change (pp. 170-189). New York: Guilford.
- Psychological Aspects of Breast Cancer Study Group: Psychological response to mastectomy: A prospective comparison study. (1987). Cancer, 59, 189-196.
- Ray, C. (1977). Psychological implications of mastectomy. British Journal of Social and Clinical Psychology, 16, 373-377.
- Ray, C. (1978). Adjustment to mastectomy. In P.C. Brand and P.A. Van Keep (Eds.), Breast cancer: Psychosocial aspects of early detection and treatment (pp. 33-43). Baltimore, MD: University Park Press.
- Renneker, R. & Cutler, M. (1952). Psychological problems of adjustment to cancer of the breast. Journal of the American Medical Association, 148, 833-838.
- Roach, A., Frazier, L., & Bowden, S. (1981). The Marital Satisfaction Scale: Development of a measure for intervention research. Journal of Marriage and the Family, 43, 537-545.
- Rodin, J., Silberstein, L., & Stiegel-Moore, R. (1985). women and weight: A normative discontent. In Theo B. Sondregger (Ed.), Nebraska symposium on motivation: Psychology and gender (pp. 267-307). Lincoln: University of Nebraska Press.
- Rosen, J., Saltzberg, E., & Srebnik, D. (1989). Cognitive behavior therapy for negative body image. Behavior Therapy, 20, 393-404.
- Rosen, J., Srebnik, D., Saltzberg, E., & Wendt, W. (1991). Development of a body image avoidance questionnaire. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 3, 32-37.
- Rosser, J. (1981). The interpretation of women's experience. A critical appraisal of the literature on breast cancer. Social Science and Medicine, 15E, 257-265.

- Rowland, J.H., & Holland, J.C. (1990). Breast Cancer. In J.H. Rowland & J.C. Holland (Eds.), Handbook of Psychooncology. (pp. 188-207). New York: Oxford University Press.
- Rutherford, D. (1988). Assessing psychosexual needs for women experiencing lumpectomy. A challenge for research. Cancer Nursing, 11, 244-249.
- Salokari, M., Achte, K., Lindfors, O., Lehvonen, R., Vauhkonen, M., & Holsti, L. (1986). Self-concept and body image in breast cancer. Psychiatria Fennica, Supplement, 171-178.
- Saltzberg, E. & Chrisler, J. (1995). Beauty is the beast: Psychological effects of the pursuit of the perfect female body. In J. Freeman (Ed.), Women: A Feminist Perspective (pp. 306-315). Mountain View, CA: Mayfield.
- Sanger, C. & Reznikoff, M. (1981). A comparison of the psychological effects of breast saving procedures with the modified mastectomy. Cancer, 48, 2431-2436.
- Sarason, I., Johnson, J., & Siegel, J. (1978). Assessing the impact of life changes: Development of the Life Experiences Survey. Journal of Consulting and Clinical Psychology, 46, 932-946.
- Schain, W.S. (1985). Breast cancer surgeries and psychosexual sequelae: Implications for remediation. Seminars in Oncology Nursing, 1, 200-205.
- Schain, W.S. (1987). Sexual and reproductive issues in breast cancer. In Proceedings of the Workshop on Psychosexual and Reproductive Issues Affecting Patients with Cancer (pp. 58-64). San Antonio, TX: American Cancer Society.
- Schain, W.S. (1988). The sexual and intimate consequences of breast cancer treatment. Cancer Journal for Clinicians, 38, 155-161.
- Schain, W.S. (1990). Self-esteem, sexuality, and cancer management. In J.G. Goldberg (Ed.), Psychotherapeutic Treatment of Cancer Patients. (pp. 316-336). New York: The Free Press.
- Schain, W. (1991). Psychosocial factors in mastectomy and reconstruction. In R.B. Noone (Ed.), Plastic and Reconstructive Surgery of the Breast. (pp 327-343). Philadelphia: Mosby Yearbook.

- Schain, W.S. (1994, April). Sex and the cancer survivor. Coping, 3, 28.
- Schain, W. & Fetting, J. (1992). Modified radical mastectomy versus breast conservation: Psychosocial considerations. Seminars in Oncology, 19, 239-243.
- Schain, W., Findley, P., D'Angelo, T. et al (1985). A prospective psychosocial assessment of breast cancer patients receiving mastectomy or radiation therapy in a randomized clinical trial. Proceedings. American Society of Clinical Oncology, 4 (No. C-968): 248.
- Schain, W., Edwards, B., Gorrell, C., de Moss, E., Lippman, M., Gerber, L., & Lichter, A. (1983). Psychosocial and physical outcomes of primary breast cancer therapy: mastectomy vs excisional biopsy and irradiation. Breast Cancer Research and Treatment, 3, 377-382.
- Schilder, P. (1950). The image and appearance of the human body. New York: International Universities Press.
- Schover, L. Schain, W., & Montague, D. (1989). Sexual problems of patients with cancer. In V. DeVita, S. Hellman, & S. Rosenberg, (Eds.), Cancer Principles and Practices of Oncology, Volume 2. (pp. 2191-2204). Philadelphia, PA: Lippincott.
- Secord, P.P. & Jourard, S.M. (1953). The appraisal of body-cathexis: Body cathexis and the self. Journal of Consulting Psychology, 17, 343-347.
- Silberfarb, P.M., Maurer, L.H., Crouthame, C.S. (1980). Psychosocial aspects of neoplastic disease: I. Functional status of breast cancer patients during different treatment regimens. American Journal of Psychiatry, 137, 450-455.
- Snell, W.E., Fisher, T.D., & Miller, R.S. (1991). Development of the sexual awareness questionnaire: Components, reliability, and validity. Annals of Sex Research, 4, 65-92.
- Snyderman, A. & Snyderman, R. (1987). The psychological aspects of women with breast cancer. In I. M. Ariel and J.B. Cleary (Eds.), Breast Cancer: Diagnosis and Treatment. (pp. 531-536). New York: McGraw Hill.

- Sorensen, M. (1994). Psychosocial factors in quality of life for long-term survivors of breast cancer and their spouses (Doctoral dissertation, California School of Professional Psychology, Berkeley, 1994). Dissertation Abstracts International, 55/02, 607.
- Spiegel, D. Bloom, J., Kraemer, H., Gottheil, E. (1989). Effects of psychosocial treatment on survival of patients with metastatic breast cancer. The Lancet, 8668, 888-891.
- Steinberg, M., Juliano, M., & Wise, L. (1985). Psychological outcome of lumpectomy versus mastectomy in the treatment of breast cancer. American Journal of Psychiatry, 142, 34-39.
- Taylor, S., Lichtman, R., Wood, J., et al. (1987). Illness related and treatment related factors in psychological adjustment to breast cancer. Cancer, 55, 2506-2513.
- Thomas, J. (1987). Problems in a study of the sexual response of women with cancer: Comment on Andersen and Jochimsen. Journal of Consulting and Clinical Psychology, 55, 120-121.
- Thomas, C. & Freeman, R. (1990). The body esteem scale: Construct validity of the female subscales. Journal of Personality Assessment, 54, 204- 221.
- Thompson, J.K. (1990). Body image disturbance. Assessment and treatment. New York: Pergamon.
- van Heeringen, C., van Moffaert, M., & de Cuyper, G. (1989). Depression after surgery for breast cancer. Psychotherapy and Psychosomatics, 51, 175-179.
- Wabrek, A.J. (1987). Rehabilitative intervention: Interventions with couples. In Proceedings of the Workshop on Psychosexual and Reproductive Issues Affecting Patients with Cancer (pp. 129-136). San Antonio, TX: American Cancer Society.
- Wabrek, A.J. & Wabrek, C.J. (1976). Mastectomy. Sexual implications. Primary Care, 3, 803-810.
- Wear, D. (1993). "Your breasts sliced off": Literary images of breast cancer. Women and Health, 20, 81-100.
- Webb, M.S. (1987). Disfigurement: Personal, psychosocial, and ethical aspects. The Journal of Medical Humanities and Bioethics, 8, 110-119.

- Wellisch, D. (1985). The psychologic impact of breast cancer on relationships. Seminars in Oncology Nursing, 1, 195-199.
- Wellisch, D., DiMatteo, R., Silverstein, M., & Landsverk, J., Hoffman, R., Waisman, J., Handel, N., Waisman-Smith, B., & Schain, W. (1989). Psychosocial outcomes of breast cancer therapies: Lumpectomy versus mastectomy. Psychosomatics, 30, 365-373.
- Wellisch, D., Jamison, K., & Pasnau, R. (1978). Psychosocial aspects of mastectomy: II. The man's perspective. American Journal of Psychiatry, 135, 543-546.
- Westgate, B. (1980). Sexual and personal relationships of the mastectomees. Sexuality and Disability, 3, 162-164.
- Wise, T. N. (1983). Sexual dysfunction in the medically ill. Psychosomatics, 24, 787-805.
- Witkin, M.H. (1978). Psychosexual counseling of the mastectomy patient. Journal of Sex and Marital Therapy, 4, 20-28.
- Witkin, M.H. (1979). Psychological concerns in sexual rehabilitation and mastectomy. Sexuality and Disability, 2, 54-59.
- Wolberg, W., Tanner, M., Romsaas, E., Trump, D., & Malec, J. (1987). Factors influencing options in primary breast cancer treatment. Journal of Clinical Oncology, 5, 68-74.
- Woods, N.F. (1975). Influences on sexual adaptation to mastectomy. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 4, 33-37.
- Zalon, J. (1978). I am whole again. New York: Random House.