

University of Windsor

Scholarship at UWindor

Electronic Theses and Dissertations

Theses, Dissertations, and Major Papers

1995

Psychological adjustment to breast cancer: Congruence of locus of control and information and decision-making participation.

Betty Jane. Kirkland
University of Windsor

Follow this and additional works at: <https://scholar.uwindsor.ca/etd>

Recommended Citation

Kirkland, Betty Jane., "Psychological adjustment to breast cancer: Congruence of locus of control and information and decision-making participation." (1995). *Electronic Theses and Dissertations*. 3218. <https://scholar.uwindsor.ca/etd/3218>

This online database contains the full-text of PhD dissertations and Masters' theses of University of Windsor students from 1954 forward. These documents are made available for personal study and research purposes only, in accordance with the Canadian Copyright Act and the Creative Commons license—CC BY-NC-ND (Attribution, Non-Commercial, No Derivative Works). Under this license, works must always be attributed to the copyright holder (original author), cannot be used for any commercial purposes, and may not be altered. Any other use would require the permission of the copyright holder. Students may inquire about withdrawing their dissertation and/or thesis from this database. For additional inquiries, please contact the repository administrator via email (scholarship@uwindsor.ca) or by telephone at 519-253-3000ext. 3208.



National Library
of Canada

Bibliothèque nationale
du Canada

Acquisitions and
Bibliographic Services Branch

Direction des acquisitions et
des services bibliographiques

395 Wellington Street
Ottawa, Ontario
K1A 0N4

395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file Votre référence

Our file Notre référence

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

Canada

Psychological Adjustment to Breast Cancer: Congruence
of Locus of Control and Information
and Decision Making Participation

by

Betty Jane Kirkland

A Dissertation
Submitted to the Faculty of Graduate Studies and Research
through the Department of Psychology
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy at the
University of Windsor

Windsor, Ontario, Canada

1995

© 1995 Betty Jane Kirkland



National Library
of Canada

Acquisitions and
Bibliographic Services Branch

395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale
du Canada

Direction des acquisitions et
des services bibliographiques

395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file *Votre référence*

Our file *Notre référence*

THE AUTHOR HAS GRANTED AN IRREVOCABLE NON-EXCLUSIVE LICENCE ALLOWING THE NATIONAL LIBRARY OF CANADA TO REPRODUCE, LOAN, DISTRIBUTE OR SELL COPIES OF HIS/HER THESIS BY ANY MEANS AND IN ANY FORM OR FORMAT, MAKING THIS THESIS AVAILABLE TO INTERESTED PERSONS.

L'AUTEUR A ACCORDE UNE LICENCE IRREVOCABLE ET NON EXCLUSIVE PERMETTANT A LA BIBLIOTHEQUE NATIONALE DU CANADA DE REPRODUIRE, PRETER, DISTRIBUER OU VENDRE DES COPIES DE SA THESE DE QUELQUE MANIERE ET SOUS QUELQUE FORME QUE CE SOIT POUR METTRE DES EXEMPLAIRES DE CETTE THESE A LA DISPOSITION DES PERSONNE INTERESSEES.

THE AUTHOR RETAINS OWNERSHIP OF THE COPYRIGHT IN HIS/HER THESIS. NEITHER THE THESIS NOR SUBSTANTIAL EXTRACTS FROM IT MAY BE PRINTED OR OTHERWISE REPRODUCED WITHOUT HIS/HER PERMISSION.

L'AUTEUR CONSERVE LA PROPRIETE DU DROIT D'AUTEUR QUI PROTEGE SA THESE. NI LA THESE NI DES EXTRAITS SUBSTANTIELS DE CELLE-CI NE DOIVENT ETRE IMPRIMES OU AUTREMENT REPRODUITS SANS SON AUTORISATION.

ISBN 0-612-01459-2

Canada

ABSTRACT

Forty-two breast cancer patients were interviewed to examine the relationship between psychological adjustment to breast cancer, current locus of control orientation, and treatment approach (i.e., amount of medical information received and degree of treatment participation). Specifically, the present study tested Reid's (1984) "congruence hypothesis" which suggests that a treatment approach congruent with locus of control orientation is associated with better psychological adjustment than a mismatched approach. Psychological adjustment was assessed with the Profile of Mood States (McNair, Lorr, & Droppleman, 1971, 1992) and three subscales--emotional adjustment, sexual adjustment, and appearance satisfaction--of the Mastectomy Attitude Scale (Heyl, 1977). Locus of control, measured with the Cancer Health Locus of Control Scale (Dickson, Dodd, Carrieri, & Levenson, 1985), tapped internal, powerful other, and chance control expectancies. Treatment approach was evaluated by a series of questionnaire items. In addition, quantity, helpfulness, and reciprocity of social support networks were assessed with the Social Relationships Scale (McFarlane, Neale, Norman, Roy, & Streiner, 1981) to test for an interaction of locus of control and social support on adjustment. The congruence hypothesis was not supported. Strong chance beliefs were related to poorer adjustment, regardless of treatment approach. However, powerful other beliefs and treatment approach interacted, with increased information and participation associated with enhanced adjustment for women with stronger powerful other control beliefs. Powerful other beliefs also interacted with helpfulness of social support; increased helpfulness was associated with less mood disturbance for those with weaker powerful other beliefs. The implications of these findings for cancer patients and physicians were discussed.

ACKNOWLEDGEMENTS

I would like to express my gratitude to my dissertation advisor, Dr. Shelagh Towson, for her guidance and calm reassurance throughout this research. Her admirable editing skills resulted in a more polished document. For their encouragement and insightful suggestions, deep appreciation is extended to my committee members: Dr. Kathy Lafreniere, Dr. Charlene Senn, and Dr. Laurie Carty. I am indebted to my entire committee for their abiding confidence, which was openly and warmly expressed, in my ability to successfully complete this research. I would also like to thank Dr. Michael Kral, whose support and willingness to offer guidance were critical during the early development of this dissertation.

I specifically acknowledge the contributions of Drs. Marilyn Dodd, Ruth McCorkle, and Allan McFarlane in granting me permission to use their self-report instruments: the Cancer Health Locus of Control Scale, the Symptom Distress Scale, and a modified version of the Social Relationships Scale, respectively.

Special thanks also go to my family who unfailingly propped me up when my spirits ebbed. Specifically, I would like to acknowledge the assistance of my brother, Michael, who helped me gain control of a computer that seemed at times to have a will of its own.

Last, but certainly not least, I would like to express my deepest appreciation to all of the participants whose candidness and generosity of spirit made this research not only possible but truly enjoyable. Their desire to give of themselves in this way in an effort to help other breast cancer patients is truly inspirational.

TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
CHAPTER	
I. Overview.....	1
Adjustment to Cancer.....	3
Crisis Stage of Diagnosis.....	3
Breast Cancer--The Female Patient Role.....	5
Adjustment to Breast Cancer.....	8
Mediators of Adjustment to Breast Cancer.....	11
Locus of Control.....	13
Locus of Control, Treatment Approach, and Adjustment... ..	15
Congruence Hypothesis.....	30
Some Methodological Flaws in the Research.....	35
Rationale for Current Study.....	38
Hypotheses.....	40
Control Variables.....	40
Demographic characteristics.....	40
Disease-related characteristics.....	41
Social support.....	42
Predictor Variables.....	42

CHAPTER	Page
II. Method	45
Participants	45
Measures	45
Control Variables	45
Demographic characteristics	45
Disease-related data	48
Perceived severity	48
Illness distress	48
Social support	49
Predictor Variables	50
Locus of control	50
Treatment approach	51
Criterion Variable	52
Psychological adjustment	52
Procedure	54
III. Results	56
Descriptive Statistic	56
Control Variables	56
Predictor Variables	58
Criterion Variables	62
Preliminary Analyses	67
Control Variables	67
Regression Analyses	68
Total Mood Disturbance	72
Emotional Adjustment	76
Sexual Adjustment	79
Locus of Control, Social Support, and Adjustment	81
Supplemental Analyses	82
Additional Issues	86

CHAPTER	Page
IV. Discussion .....	.89
REFERENCES	103
APPENDICES	121
VITA AUCTORIS	157

LIST OF TABLES

Table	Page
1. Demographic characteristics. . . . .	.46
2. Disease characteristics . . . . .	.47
3. Disease seriousness, physical distress, and social support . . . . .	.57
4. Summary statistics for predictor variables . . . . .	.59
5. Amount of information provided to participants according to responses on open-ended questions. . . . .	.61
6. Extent of participation in medical decision making. . . . .	.63
7. Intercorrelations between predictor variables . . . . .	.64
8. Summary statistics for criterion variables. . . . .	.65
9. Correlations among control, predictor, and criterion variables. . . . .	.70
10. Hierarchical regression analysis predicting total mood disturbance. . . . .	.73
11. Hierarchical regression analysis predicting scores on the emotional adjustment scale . . . . .	.77
12. Stepwise multiple regression predicting sexual adjustment. . . . .	.80

LIST OF FIGURES

Figure		Page
1.	Interaction of powerful other orientation and extent of participation on total mood disturbance	75
2.	Interaction of powerful other orientation and amount of information on emotional adjustment	78
3.	Interaction of powerful other orientation and helpfulness of social support on total mood disturbance	83

CHAPTER I

Overview

According to recent data, approximately one in nine women will develop breast cancer at some point during her lifetime (American Cancer Society, 1992). An estimated 17,000 new cases will occur in Canada in 1994 alone, accounting for 29.6% of the new diagnoses of all cancer sites in Canadian women during 1994 (National Cancer Institute of Canada, 1994). Advances in treatment have extended survival time for many patients; in Ontario, approximately 92% of breast cancer patients whose disease is localized and 71% whose cancer has spread regionally are still alive five years after diagnosis (National Cancer Institute of Canada, 1991). However, physical survival does not guarantee psychological well-being, and it is important to investigate psychological variables that may enhance the emotional status of patients during this time.

In recent years, psychologists have developed various psychosocial intervention approaches to ease the adjustment process of cancer patients. Unfortunately, these approaches have not met with consistent success. One plausible reason for the mixed findings may be the failure of researchers to consider individual difference variables. The focus of the proposed research is the possible interaction of one such variable, locus of control, with various approaches to intervention.

As noted by several researchers (e.g., DeVellis, DeVellis, & Spilsbury, 1988; Strickland, 1989), locus of control has emerged over the last 15 years as a crucial concept for explaining health and health-related behaviour. Locus of control refers to the extent to which people believe that they control relevant events as opposed to believing these events are determined by external factors such as luck, chance, or powerful others (Levenson,

1973; Wallston & Wallston, 1981). Research suggests that acceptance of a diagnosis of cancer is extremely difficult, involving perceived loss of control over one's life (Gray, Doan, & Church, 1990; Rodin, 1985). Therefore, the regaining of a perception of control over one's health care and eventual health status would seem to be a central issue for this population. While a diagnosis of cancer and the accompanying reliance on medical experts is likely to involve a perceived loss of control for all individuals (Thompson, Sobolew-Shubin, Galbraith, Schwankovsky, & Cruzen, 1999), this loss may be mediated by the person's locus of control beliefs. In fact, Rotter (1954) claimed that control beliefs are of great importance in ambiguous or novel situations since the lack of behavioural cues or experience in these situations causes individuals to behave in their characteristic fashion. Thus, an understanding of individuals' locus of control orientation would be useful in understanding some of the differences in emotional adjustment at this time and during subsequent physical and psychological treatment programs.

Reid's (1984) "congruence hypothesis" suggests that a psychological intervention tailored to or congruent with an individual's control beliefs results in less psychological distress than an incongruent treatment. This idea, however, has not as yet been adequately tested. Therefore, the intention of the present study was to examine the relationship in breast cancer patients between locus of control orientation and psychological treatment approaches involving varying degrees of control, as assessed by the amount of information provided to the patients and the extent to which they participated in decision making.

The hypothesized capacity of control beliefs to prolong the life of the cancer patient is beyond the scope of this investigation. While a great deal

of indirect evidence suggests that the mind exerts a powerful impact on the progression of the disease, the enhancement of the quality of survival was the primary focus of the present study. Even without an increase in the length of survival, the understanding and improvement of psychological well-being during survival represent important medical goals (Tannock, 1987).

Adjustment to Cancer

Crisis Stage of Diagnosis

It has been suggested that the time of diagnosis represents the most disruptive point of emotional adjustment for those with cancer (Cella, Orofiamma, Holland, Silberfarb, Tross, Feldstein, Perry, Maurer, Comis, & Orav, 1987; McCorkle & Quint-Benoliel, 1983). The seriousness of this diagnosis is highlighted in a survey of over 2,000 individuals by Paterson and Aitken-Swan (1954) who found that cancer was considered the most alarming diagnosis a person could receive. For many, it is tantamount to a death sentence (McIntosh, 1974). Lewis, Gottesman, and Gutstein (1979) referred to this time as one of crisis experienced as a severe, acute threat that appears with little advance warning and throws the person into an unfamiliar, often isolating world of medical technology. Recently-diagnosed patients face such harrowing threats as disabling illness, mutilation, loss of an important body part, loss of physiological function, and death (Krause, 1991; Mastrovito, 1972).

Furthermore, as noted by Simonton, Mathews-Simonton, and Creighton (1978), once a person is diagnosed with cancer, his or her full identity is replaced with a "cancer identity." "The individual may play numerous other roles--parent, boss, lover--and have numerous valuable

personal characteristics--intelligence, charm, a sense of humor--but from that moment on he or she is a cancer patient" (Simonton et al., 1978, p. 9). Feist and Brannon (1988) similarly noted that upon diagnosis the person loses the status of a human being and everything but the illness becomes invisible.

Recently-diagnosed cancer patients typically find themselves thrown into a situation in which their sense of personal control is considerably disrupted. According to Rodin (1985), the mere act of seeking help is equivalent to an admission that the person lacks the competence to heal himself or herself. Brody (1980) suggested that the most common scenario involves the patient assuming a passive, dependent role while the doctor, who possesses the information, skills, and expertise the patient lacks, assumes the controlling position. The procedures required to treat the disease also greatly threaten the individual's perception of control. As indicated by Gray et al. (1990), time spent in the hospital represents an important treatment-related component of loss of control. According to Taylor (1979), the hospital is a total institution in which individuals must relinquish control over almost every activity they customarily perform. Outpatient procedures also contribute to a feeling of diminished control. Time spent waiting for assessment appointments, screening tests and follow-up appointments, the scheduling of appointments with little or no consideration for the patient's personal agenda, and numerous visits to a variety of specialists often at a number of different facilities, can disempower patients (Gray et al., 1990).

Breast Cancer--The Female Patient Role

While a diagnosis of cancer undoubtedly produces a sense of reduced personal control in all patients, this loss of control may be even more pronounced in the case of women with cancer. While empirical research regarding the effect of gender on health care issues is scant, several investigators have speculated that when treating female patients male doctors are at risk of imposing their existing gender role expectations and biases on the physician-patient relationship. According to Lewis (1981), most health care workers subscribe to traditional gender role stereotypes; women are expected to display dependent, childlike, and submissive behaviour while men are expected to be powerful, strong, and assertive. Meyerowitz (1981) claimed that the male-dominated medical establishment has traditionally adopted a paternalistic attitude which embodies the belief that women should rely on their physicians to determine for them what is in their best interest. She added that female patients are expected to show gratitude for this type of care and that questions and independent decision making are interpreted as signs of either impertinence and ingratitude or of poor mental health. An acceptance of traditional feminine gender role stereotypes may therefore make it more difficult for a male physician to view his female patient as possessing the instrumental skills necessary for competent medical decision making.

Murphy (1990), an oncologist, recounted an experience during his early medical training which vividly exemplifies this point. He recalled a breast cancer patient who was on her third marriage and clearly adored her husband. As a result, she was more afraid of losing her sexuality and dignity with a radical mastectomy than losing her life. The surgeon informed her, however, that a modified radical mastectomy was the only

treatment. She knew of another surgeon who did lumpectomies, followed by radiation to the breast, and requested that treatment. The surgeon told her she was behaving like a child. Then the resident appeared and called her a fool. Murphy did not explain what happened to this patient, but observed that her preference is now considered a desirable method of treatment. The demeaning perception and treatment of female patients is further evident in the following explanation advanced by Baruch (1978), a surgeon, to justify his reluctance to provide detailed information to his breast cancer patients: "If I have to explain the whole range of possibilities, from the best to the worst, I might unnecessarily frighten the patients I am sure that a number of patients, if a mastectomy is indicated, will refuse to be operated on and will turn to those specialists who, on non-scientific grounds, give conservative treatment only" (p. 22).

Baruch (1978) admitted that male doctors, in particular, have a great deal of difficulty understanding the psychological and physical implications of this operation for women. Some of this lack of understanding may stem from the early training provided to future physicians in medical schools. Based on extensive interviews with medical students, physicians, and patients, Lennane and Lennane (1973) argued that problems encountered by many female patients (e.g., painful menstruation, nausea during pregnancy, and painful labour) are often viewed by doctors as having a psychological origin. They noted that despite a lack of evidence to suggest that some psychological or personality disorder underlies these problems, many doctors persist in this belief, labeling women who complain of these symptoms "neurotic" or "unfeminine." Lennane and Lennane claimed that in order to avoid this perception of themselves, female patients may become

unduly dependent and complacent and may even neglect to report severe symptoms or a failure to respond to treatment.

Meyerowitz (1981) has contended that even in terms of emotional adjustment, breast cancer patients have typically been told how they should feel and cope with their illness and surgery. Yet, one might legitimately question whether any male can understand in any meaningful sense the psychological distress associated with the loss of a breast. In a study comparing the attitudes of disease-free males and females, Peters-Golden (1982) found that the males in her sample cited physical factors (e.g., incapacitation) as more important than social or emotional factors in adjusting to cancer. In the case of breast cancer, males anticipated more emotional than physical concerns. Females in her sample, however, balanced the two factors, regardless of the site of cancer. Peters-Golden noted that for many of these men, breast cancer was viewed as a sort of "watered-down" women's version of cancer. In other words, it was regarded as primarily a social and emotional problem.

Thus, it would appear that breast cancer patients often find themselves in a no-win situation. Patients who resist the stereotypical image of themselves and attempt to engage in active problem-solving behaviour by seeking increased information and striving to play a serious role in treatment decision making run a risk of ostracizing the very person needed to help save their lives. Conversely, those who accept the traditional feminine stereotype are unlikely to push for enhanced control even if it might aid in their emotional adaptation to the disease.

Adjustment to Breast Cancer

Some of the early research on patients with breast cancer has suggested that these individuals face a greater risk of experiencing difficulties in adapting to their illness and treatment than do many other cancer patients. Examining the records of 100 consecutive hospitalized patients with a variety of cancer sites, Levine, Silberfarb, and Lipowski (1978) found that only patients with breast cancer were referred for psychiatric consultation at a rate significantly higher than expected. In a study evaluating the risk of suicide among cancer patients, Louhivuori and Hakama (1979) found that breast cancer was associated with an increased risk of suicide. Early studies (e.g., Bard, 1952; Renneker & Cutler, 1952) suggested that mastectomy patients suffer from severe anxiety, hopelessness, and depression. More recent studies have found similar emotional disturbances in breast cancer patients. For example, in a study examining adjustment prior to and at three, twelve, and twenty-four months following mastectomy, Morris, Greer, and Pettingale (1978) found that 46% of the patients were stressed at three months following the operation, 30% were distressed at one year postmastectomy, and 1% reported emotional distress at the two year follow-up. Lee and Maguire (1975) found that at three months after their operation, 34% of the patients in their sample were still reporting a marked degree of anxiety or depression as compared to only 7% in a group of control patients from general surgical clinics. At the end of one year, the levels of anxiety and depression had decreased in the cancer patients; however, at that time they reported an increased frequency of marital and sexual problems. Meyerowitz (1981) found that more than half of the women in her study were experiencing problems in adjustment up to three years following their

mastectomy. In her review of the literature on mood disturbance resulting from mastectomy, Morris (1987) concluded that at twelve to eighteen months following the operation, 15 to 25% of all patients appear to be experiencing significant psychological distress.

In addition to the fear of death associated with any type of cancer, breast cancer may pose a unique threat to emotional adjustment in that the predominant treatment for this type of cancer, a mastectomy, affects the part of the body believed by several researchers (e.g., Meyerowitz, 1981; Polivy, 1975) to play a significant role in defining femininity in our culture. Schain (1976), Polivy (1977), Derogatis (1986), and Meyerowitz, Chaiken, and Clark (1988) have all speculated that the loss of a breast can have a devastating effect on a woman's feminine self-image and self-perception of physical attractiveness, especially in our society which places such an emphasis on physical and sexual attractiveness for its female members. Consequently, any threat to physical attractiveness, such as disfiguring surgery may exert a profound effect on a woman's emotional well-being. In addition, anxiety over the perceived loss of attractiveness may lead to sexual difficulties for some women. Based on his review of the literature, Derogatis (1986) argued that for many women breast cancer carries with it a serious threat to feminine identity and self-concept which can lead to impairment in sexual functioning. Silberfarb, Maurer, and Crouthamel (1980) interviewed 146 breast cancer patients to assess levels of disturbance in the areas of depression and anxiety, suicide, social isolation, impairment in daily routine, alcohol abuse, mate role, and parent role, and found that mate role (in particular, questions reflecting sexual difficulty) was the area in which emotional disturbance was most commonly reported.

Physical problems stemming from the surgery may also pose a threat to successful adjustment to breast cancer. According to Witkin (1975), numbness in the scar area may continue for up to one year following the mastectomy. In addition, temporary loss of arm strength and movement are probable as a result of tightening of the skin and the loss of muscle tissue (Meyerowitz, 1981; Silberfarb et al., 1980). Lymphedema or arm swelling from the removal of lymph nodes is also common (Burdick, 1975). These physical symptoms might be expected to lead to problems for women reentering the workforce. Meyerowitz (1981) noted that these symptoms may also hinder the performance of many of the household and child rearing tasks which women still customarily perform, thereby increasing frustration by disrupting daily activities.

It should be noted that some studies have failed to uncover long-term negative psychological consequences of breast cancer. Comparing breast and gynecologic cancer patients, Krouse and Krouse (1982) found that mastectomy patients were able to resolve their emotional reactions within a period of two months, while gynecologic cancer patients reported increased depression and a worsening body image at the 20 month follow-up. This study, however, consisted of a very small subject pool (nine mastectomy and five gynecologic cancer patients). Similarly, Worden and Weisman (1977) found that while increased emotional distress did occur approximately two to three months following mastectomy, over a period of six months or longer significant differences in reported depression were not evident between women with breast cancer and those with cancer of the colon, Hodgkin's disease, or malignant melanoma. Within each group, Worden and Weisman found that approximately 20% of the women were experiencing depression. In a study examining the psychological well-being of three groups of breast

cancer patients, Silberfarb et al. (1980) found that only 10.0% of patients in first treatment, 15.4% of those in recurrent therapy, and 4.5% of those in terminal therapy were suffering from depression.

Mediators of Adjustment to Breast Cancer

One possible reason for the inconsistent findings regarding the degree of psychological distress resulting from breast cancer has been advanced by Bard (1952), who suggested that while the loss of a breast constitutes a blow to femininity, femininity has different meanings for different women. He argued that profound feelings of self-rejection are more likely to develop in those who perceive their bodies as the basis for their value in their interpersonal relationships and who relate to others through their physical attractiveness. Derogatis (1986) also speculated that breast cancer is most devastating for women whose self-esteem and personal identities depend on their physical beauty. Those whose self-concepts rely heavily on physical appeal will likely have to alter their self-concept in order to adjust successfully. On the other hand, it has been argued that women whose sense of self-esteem and value does not rest as heavily on physical appearance and sexual identity will find the threat of breast loss less traumatic (Meyerowitz et al., 1988; Schain, 1976).

Characteristics such as relationship status and age when first stricken with cancer have also been argued to play a mediating role in emotional adjustment to breast malignancy. Debate continues regarding the effects of these variables on adjustment; as Derogatis (1986) pointed out, it is difficult to state with certainty that it is age and not the accomplishment of important life experiences (e.g., marriage, childbearing) which accounts for any observed effects. He maintained that the older

patient is more likely to have attained many of the goals she initially set for herself. Polivy (1975) and Holland and Mastrovito (1980) shared the view that the older woman, who is more likely to have a husband and children as proof of her femininity, may be less distressed by a perceived loss of physical attractiveness. It is also conceivable that older women may have commitments to other things in life, such as a fulfilling career, that may exert stress-buffering effects, and therefore reduce the effect of threats to stereotypical physical attractiveness. Other researchers, however, have contended that the older woman is at more risk for emotional disturbance than her younger counterpart. Kent (1975) and Meyerowitz et al. (1988), for example, suggested that adjustment poses more of a problem for the older woman who may already be engaged in a struggle to accept her declining physical beauty in a society which glorifies youthful attractiveness. In a study investigating choice of treatment of 71 early stage breast cancer patients, Hughes (1993) found that older women were not more likely to choose a mastectomy over a lumpectomy than were their younger counterparts. Hughes suggested that this finding challenges the common belief that older women are less concerned about physical appearance than younger women.

Adjustment to breast cancer may also be mediated by certain disease-related variables. Factors related to severity, such as the length of time since the diagnosis, the stage of the illness, and the treatment received, are all likely to play an important role in a patient's emotional adjustment. As noted earlier (e.g., Meyerowitz, 1981; Morris et al., 1978) adjustment to breast cancer appears to be influenced by the length of time since the woman's diagnosis. In terms of the stage at which the cancer is discovered, Bloom (1984) found Stage II breast cancer patients to be suffering from

more emotional distress than those with Stage I disease. Medical treatments and their accompanying side effects are also likely to influence a patient's sense of well-being (Holland & Mastrovito, 1980; Oberst, Hughes, Chang, & McCubbin, 1991). Furthermore, Marks, Richardson, Graham, and Levine (1986) found a positive relationship between the patient's subjective perception of the severity of the diagnosis and emotional adjustment.

Social support is also likely to represent an important mediating variable with regard to adjustment to cancer (Rose, 1990). For some individuals, social support, or at least some kinds of social support, may actually have negative effects. Common misconceptions (e.g., cancer patients must remain optimistic and cheerful) may cause support providers to force an inauthentic, unrelenting, and ultimately distressful, optimism on patients (Peters-Golden, 1982; Wortman, 1984). In other cases, well-intentioned support was reported to induce feelings of incompetence, helplessness or dependence in some patients, robbing them of a sense of personal strength and self-esteem (Peters-Golden, 1982).

Thus, many factors are likely to play a mediating role in adjustment to breast cancer. The variables that were of most interest in the present investigation, however, were locus of control orientation and treatment approach, defined as the amount of information provided to women and the extent of their participation in medical decision making.

Locus of Control

As originally defined, locus of control refers to the understanding individuals formulate with respect to their beliefs regarding themselves as controlling or not controlling relevant events (Rotter, 1966). An internal

locus of control orientation embodies a belief that one's outcomes or reinforcements are determined by one's own actions, whereas an external control orientation involves a perception that outcomes are not the result of one's efforts, but are determined by factors such as luck, chance, or fate.

Over the years, there have been several refinements in the conceptualization of locus of control. Rotter (1975) argued that the locus of control orientation tends to be consistent for a particular kind or class of situation rather than generalized across all situations. Consistent with this argument, various researchers have developed specific locus of control scales focusing on health (e.g., Wallston, Wallston, & DeVellis, 1978; Wallston, Wallston, Kaplan, & Maides, 1976), academic achievement (e.g., Crandall, Katkovsky, & Crandall, 1965), and affiliation (e.g., Lefcourt, Martin, Fick, & Saleh, 1985).

Rotter's (1966) original formulation of locus of control posited a bipolar unidimensional construct. However, several researchers (e.g., Levenson, 1973; 1981; Wallston et al., 1978) have contended that the external orientation comprises two dimensions, a belief that one's outcomes are determined by chance or fate and a belief that one's outcomes are determined by powerful others. Levenson (1973) argued that those who view the world as unordered (controlled by chance) are likely to behave differently from those who view the world as ordered but controlled by powerful others. Given the physician's important role in controlling both the information given to the patient and the treatment, the existence of this dimension of externality would be especially relevant in health-related research. Wallston et al. (1978) developed the Multidimensional Health Locus of Control Scale (MHLC) which measures three orthogonal dimensions of locus of control beliefs specific to health-related issues:

(i) internality, (ii) chance externality, and (iii) powerful others (e.g., the doctor) externality. It is conceivable that a person could score high on two or even all three dimensions (e.g., express internal beliefs, yet still believe powerful others exert a strong controlling force over health). Wallston and Wallston (1982) indicated, however, that a pattern expressing high internality and chance control, while mathematically possible, is probably non-existent. They added that a person scoring low on all three dimensions could be expressing a belief that some untapped force, such as God, controls health.

Locus of Control, Treatment Approach, and Adjustment

Regardless of the measure used, the prevailing view of the relationship between perceived control and psychological well-being holds that individuals who believe that events in their lives are outside their control experience more psychological distress in the face of stressful life events than do those expressing internal beliefs (e.g., Bowers, 1968; Chan, 1977; Glass & Singer, 1972; Krause & Stryker, 1984; Layton, 1985). In fact, it has been suggested that most theories of psychotherapy posit some form of internal control as desirable (Rappaport, 1977). Empirical evidence in a number of domains supports this contention. Studies of the elderly have demonstrated that attempts to increase control can dramatically improve psychological health. Rodin and Langer (1977), for example, found that elderly nursing home residents who were given increased personal control (e.g., allowed to have a voice in room arrangements, in how they would spend their leisure time, and in whether, as well as when, they would like to attend movies) were more alert, more active, and happier at the end

of a three week assessment period than a control group not given enhanced control. These beneficial effects were still present when residents were assessed 18 months after the original manipulation.

Strickland's (1978) review of the literature suggests that internal expectancies are associated with a variety of psychological advantages, including an enhanced ability to cope with stressful life events. As defined by Lazarus and Folkman (1984), stress represents "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 19). Coping is defined as behavioural and cognitive efforts to master, reduce or tolerate the demands created by stressful events. In a study in which no significant differences were found between internals and externals in the number of critical life events experienced during a two year assessment period, externals reported significantly more difficult adjustment to the events than did internals (Kilmann, Laval, & Wanlass, 1978).

Krause (1986) attempted to explain the hypothesized ability of enhanced control to reduce the effects of stress. He suggested that individuals with external control beliefs may feel that attempts to overcome negative life events are unlikely to be successful since events are determined by factors outside of their control. Internals, he argued, are more likely to assume a more active problem-solving approach, which may in turn lead to more effective coping skills, such as health information seeking. Seeman and Evans (1962), for example, found that, when intelligence was controlled through a matching procedure, patients hospitalized with tuberculosis who expressed internal expectancies were more knowledgeable about their disease than those with external beliefs.

This study, however, did not directly assess subjects' perceived level of stress. Trice and Price-Greathouse (1987), employing the chance externality subscale of the MHLC Scale (Wallston et al., 1978), found that those responding in a high chance manner were significantly less likely than those with low chance scores to attend an AIDS informational seminar. Hallal (1982), also using the MHLC Scale, found that regular breast self-examiners were less likely than non breast self-examiners to have a powerful other locus of control orientation.

Related research by Kobasa (1979) identified an internal locus of control as one of the three components of "hardiness," a personality style suggested to play a role in stress resistance. Comparing high stress/low illness and high stress/high illness executives in a large public utility, Kobasa found that individuals reporting low illness scores for the previous three years expressed a stronger sense of control over their lives, a higher level of commitment to the activities of their lives, and a greater ability to interpret life changes as challenges to further development than did high illness executives. In a prospective extension of this study, Kobasa, Maddi, and Kahn (1982) collected stress, personality, and illness data for the following two year period from a random sample of the initial respondent pool. The researchers found that, even with prior illness controlled, hardiness was associated with a decrease in reported illness.

A prospective study examining the effectiveness of preoperative perceptions of personal control over recovery in predicting the recovery of coronary by-pass patients lends further credence to the view that a perception of internal control results in a better emotional response to a stressful event. In this study, Mahler and Kulik (1990) found that patients who expressed a greater perception of personal control over recovery before

their surgery experienced lower preoperative anxiety, as well as fewer postoperative negative psychological reactions.

The benefits of being encouraged to take an active role in an attempt to exercise some degree of personal control over one's health status were observed in an experiment by Pranulis, Dabbs, and Johnson (1975). In this investigation, the researchers instructed their patients to be either active or passive while awaiting surgery. Patients assigned to the active role were encouraged to inform the staff whenever they were experiencing discomfort and to seek information regarding the medical procedures. Patients in the passive role were advised to let the competent staff take care of their needs. The researchers found that the passive patients were more likely to experience increases in pulse rate immediately following the administration of anesthesia; the pulse rate of active patients tended to decrease. Pranulis et al. posted that, for the active patients, the manipulation may have minimized the excitement stage typically associated with the onset of anesthesia because they could reassure themselves that the environment was indeed responsive to their needs.

Several studies have provided support for the notion that internal beliefs and enhanced treatment or situational control have a positive influence on psychological adjustment to cancer. Using the Cancer Locus of Control Scale (Pruyn, van den Borne, de Reuver, de Boer, Losman, ter Pelkwijk, & de Jong, 1988), Watson, Pruyn, Greer, and van den Borne (1990) found that a perception of high internal control over the course of cancer was associated with a tendency to adopt an attitude described as "fighting spirit." As explained by Greer and Watson (1987), this type of response is associated with an acceptance of the diagnosis of cancer, an optimistic attitude, and cancer information seeking, as well as a

determination to fight the disease. In a study by Greer, Morris, and Pettingale (1979), breast cancer patients who demonstrated a "fighting spirit" had a higher survival rate than those who responded with either stoic acceptance or helplessness. Levenson and Bemis (1991) criticized this study for failing to control for the stage (seriousness) of the disease. However, this criticism may be unwarranted since, when these patients were examined five years later, Pettingale, Morris, Greer, and Haybittle (1985) still found that those who responded to their diagnosis with a "fighting spirit" were more likely to survive the malignancy than those with a stoic or helpless attitude.

Marks et al. (1986) examined a sample of patients within one week of diagnosis who were at various stages of hematologic cancer and found a beneficial effect for an internal orientation toward the disease. These investigators speculated that locus of control beliefs might represent a variable capable of exerting a moderating effect on the relationship between disease severity and depression in cancer patients. Using the MHLC (Wallston et al., 1978), the researchers hypothesized that a weaker relationship would exist between perceived severity of illness and depression for those who believe that they can personally control their health than for those who believe they have little control. In other words, they predicted that for patients with high scores on the internal scale, increases in disease severity would not lead to corresponding increases in depression since these individuals would tend to believe that they can be instrumental in controlling their health, even when the situation appears particularly grave. They further hypothesized that powerful other (doctor) control beliefs, although considered an external dimension, would also have a moderating effect on depression. Chance control beliefs were predicted to

lead to a stronger association between disease severity and depression since those who believe that their lives are controlled by the whims of fate are likely to experience more distress as perception of disease severity increases. Results supported the prediction for individuals who believed that they could personally control their health. Predictions regarding chance and doctor control beliefs were not as clear. A nonsignificant trend consistent with the prediction for chance control and disease severity was found. However, the researchers failed to find the expected moderating effect for beliefs about doctor control. Subjects were studied within one week of diagnosis and, consequently, may not have had sufficient time to establish the favourable experiences with the physician which the researchers suggest are likely to be necessary before doctor control beliefs can have a measurable impact on adjustment.

Support for the beneficial effect of a treatment approach designed to enhance control was found by Fawzy, Cousins, Fawzy, Kemeny, Elashoff, and Morton (1990), who examined the immediate and long-term effects of a six week therapeutic group intervention on the coping of postsurgical patients with malignant melanoma. All patients in this study were at an early stage of the disease with good prognoses. The intervention emphasized the importance of understanding the disease and encouraged patients to become more actively involved in their medical care. At six weeks, patients who had been randomly assigned to the intervention group were significantly more vigorous than patients assigned to the control group. Nonsignificant trends suggesting reduced levels of anxiety, depression, and total mood disturbance were also found in this group. At six months, these differences were statistically significant. However, the psychological intervention also included training in stress management

techniques (e.g., relaxation) and the provision of social support from staff and other group members, making it impossible to identify the benefits derived solely from enhanced control (i.e., from the provision of medical information and encouraged participation).

Morris and Royle (1988) found that patients benefited from a feeling of control brought about by active involvement in medical decision making. In this investigation, the psychological well-being of breast cancer patients who were allowed to choose their type of surgery (mastectomy or wide excision plus radiotherapy) was compared to that of patients who were not given a choice of surgery. The researchers found that patients given a choice were significantly less anxious and depressed than those not given a choice when evaluated both on the day prior to surgery and at three months following the surgery. No significant differences in adjustment were found between those who chose a mastectomy and those who selected excision plus radiotherapy. When re-evaluated at six months and again at ten to twelve months, a similar but nonsignificant trend existed with those allowed to select their type of surgery reporting less anxiety and depression.

Although the literature reviewed thus far gives the impression that it is always advantageous to possess internal control beliefs and to be given enhanced personal control, other research has suggested that the relationship between health control beliefs and psychological status may be more complex than was originally hypothesized. For example, positive effects have sometimes been associated with external, rather than internal, control beliefs. Lowery and DuCette (1976) found that while internal diabetics were more knowledgeable about their disease, externals reported fewer problems coping with the disease. Externals engaged in more

adaptive coping responses, such as keeping appointments with the doctor and following regimens.

Attempts to enhance treatment control in patients have sometimes produced negative effects. Two treatment components generally associated with enhanced control are information and participation. However, Mills and Krantz (1979) reported that blood donors who were given both procedural information and the choice of which arm to be used for the donation were more distressed than those not provided with information and choice. Langer, Janis, and Wolfer (1975) found that patients about to undergo various types of elective surgery experienced heightened distress when they were supplied with information regarding their upcoming surgery. The provision of details regarding such aspects as skin preparation, the administration of anesthesia, and the sensations likely to be felt following the operation resulted in deleterious effects as assessed by nurses' blind ratings, behavioural measures (e.g., number of pain relievers and length of hospital stay), as well as physiological measures such as blood pressure and pulse readings.

According to Reid (1984), for the individual living with a chronic disease and the accompanying dependency on health care professionals, becoming more external may actually be an adjustive strategy. A study carried out by Burish, Carey, Wallston, Stein, Jamison, and Lyles (1984) provided some support for this contention. These researchers argued that chronically ill but high internal individuals will experience frustration and helplessness when they realize that they are unable to change their health status appreciably, while those high in externality will report a more positive emotional state since they will be less likely to engage in behavioural attempts to control their environment which could lead to

frustration. In this study, 62 chemotherapy patients with different types and at different (unspecified) stages were provided with several training sessions in relaxation and/or biofeedback in an attempt to reduce the side effects of their treatment. Following training, the researchers found that subjects with a high score on the external scales (i.e., either chance or powerful others) exhibited lower levels of physiological arousal than those who scored low on these scales. High external subjects also reported reduced levels of anxiety and depression. Patients with a high score on the internal scale tended to report higher levels of anxiety than those low on this scale. The researchers suggested that in situations in which little personal control is possible, an external control orientation may be advantageous.

In a study comparing cancer patients (with a variety of diagnoses and at unspecified stages) who exhibited a tendency to seek out information to cancer patients who preferred a more avoidant coping response, Steptoe, Sutcliffe, Allen, and Coombes (1991) found that information-avoiders reported more satisfaction with the medical information provided and less anxiety than did information-seekers. Although information-seekers possessed higher measured levels of factual cancer knowledge, they reported increased emotional distress and less satisfaction with communication provided regarding tests, symptoms, and treatment.

While investigations carried out to evaluate effects of control orientation and treatment approach have produced contradictory findings, it is of interest to note that some researchers have uncovered a beneficial effect for the combination of high internal or personal control beliefs and high powerful other control expectancies. In their examination of the emotional well-being of women suffering from breast cancer varying in both

length of time since diagnosis and severity or stage of the disease, Taylor, Lichtman, and Wood (1984) found that the perceptions that one can control one's cancer and that powerful others can control it were significantly related to an overall measure of positive adjustment which included measures of mood states, self-esteem, and subjective sense of well-being.

Although locus of control beliefs were not measured, Cousins (1979), suffering from a rare "incurable" disease of the connective tissue, treated his illness by means of a partnership with his doctor in which humour, a positive outlook, and massive doses of intravenous vitamin C were substituted for the aspirin and other medications typically prescribed for his type of illness. His symptoms soon decreased in severity, leading Cousins to conclude that his belief in his own restorative powers and his positive emotional outlook had aided his recovery.

One possible explanation for the mixed findings may be that not everyone experiences distress as a result of a lack of control. In other words, the simplistic notion of "the more control the better" may have to be adjusted to incorporate important personality differences. Recently, several investigators have conducted research in support of Strickland's (1978) contention that the negative effect of stressful life events can be reduced considerably by designing individualized health care programs, that is, either tailoring programs to individuals' generalized control beliefs or matching individuals to existing programs. In view of internals' greater information-seeking behaviour and greater active coping behaviour, as well as their stronger preference for control (Averill, 1973; Wortman, 1976), it seems reasonable to hypothesize that internals would benefit more than externals from treatment programs developed to enhance personal control, through the provision of information and self-reliance skills. Conversely,

externals would presumably benefit from approaches which do not emphasize a need for increased medical knowledge or participation on the part of patients in health care decisions. Unfortunately, until recently the majority of the studies have been designed to demonstrate the superiority of treatments promoting internal over external control beliefs and have, therefore, used testing conditions that would be unlikely to reveal any advantages of a more tailored approach to treatment. A few studies, however, have provided support for this contention. DeGood (1975) and Averill, O'Brien, and DeWitt (1977), in shock-avoidance experiments, found that stress was highest when locus of control and situational control were incongruent, that is, for internals who could not control the initiation of shocks and for individuals high in chance externality who were provided with this type of control.

A study that further serves to suggest that control can be stress-inducing when it is inconsistent with a person's existing control system was carried out by Cromwell, Butterfield, Brayfield, and Curry (1977). This study investigated the effect of different levels of participation in treatment on the recovery rates of heart attack patients. Prior to the manipulation, 131 cardiac patients were randomly assigned to either a high or a low treatment participation condition. In the high participation condition, subjects were instructed to take an active role in their medical treatment. They were encouraged, for example, to exercise moderately and to make use of a cardiac monitor switch when experiencing any symptoms. In the low participation condition, subjects were given the standard treatment of the time which consisted of complete bed rest. They were advised to lie quietly and to allow their needs to be taken care of by the medical staff. The researchers found that, of the patients who were involved in a congruent

combination of locus of control and participation (i.e., internal locus of control and high participation or chance external locus of control and low participation), none either returned to the hospital or died within 12 weeks of their initial admission to the hospital. All of the patients who either returned to the hospital ($n = 12$) or who died within the assessment period ($n = 6$) were involved in incongruent conditions (i.e., internal locus of control and low participation or external locus and high participation). Cromwell et al. speculated that the findings may have failed to reach statistical significance due to the low total number of deaths in the sample (patients in the coronary unit who were either over 60 years of age or who were judged to be too seriously ill to take part in the research were excluded from the study).

In a study examining elderly patients about to be discharged from a hospital who would require long-term posthospital care, Coulton, Dunkle, Haug, Chow, and Vielhaber (1989) found that perceived lack of control over discharge decisions was associated with posthospital psychological distress only for patients with a high level of internal locus of control. The researchers concluded that distress results from finding oneself in a situation in which one's generalized expectancies cannot be realized.

In an interesting extension of the original work on the locus of control construct, Auerbach, Kendall, Cuttler, and Levitt (1976) exposed dental patients to either a specific or general information videotape prior to surgery. The specific tape was designed to provide at least the illusion of enhanced control and predictability; the general tape was designed to reinforce both the ambiguity of the situation and the patient's lack of control over it. Internal patients adjusted poorly when given general information about the impending surgery, but showed good adjustment

when given specific procedural information. This pattern was reversed for patients high in chance externality.

Extrapolating the locus of control research to the psychotherapy setting, a few studies have suggested the utility of designing a therapeutic intervention reflecting personality-based expectancies. Based on his review of the locus of control literature, Reid (1984) posited that methods promoting self-treatment, that is, those in which the therapist refrains from adopting a directive, powerful role, should produce better results for internals, whereas methods in which the therapist provides considerable structure, control, and guidance should produce more treatment gains for those with external beliefs. While Reid neglected to specify whether he was referring to chance or powerful other externals, all of the research he presented to support this contention made use of Rotter's (1966) bipolar I-E Scale.

Examining the relationship between locus of control, assessed with Rotter's I-E Scale, and the structure of therapy, Abramowitz, Abramowitz, Robach, and Jacobson (1974) reported that overall outcome (tapping 10 dimensions of psychological well-being, including such aspects as independence, guilt, anxiety, and self-esteem) was more favourable among internals assigned to a nondirective and among externals assigned to a directive or structured condition than among those in mismatched conditions. Also using Rotter's dichotomous conception of locus of control orientation, Kilmann, Albert, and Sotile (1975) found that internals benefited more from a therapist model of minimum control and structure, while external clients achieved maximum therapeutic gain from a more structured therapist role.

Friedman and Dies (1974) reported similar results in a study evaluating the reactions of internal and external test-anxious students assigned to one of three treatment conditions varying in degree of control and participation. The three conditions, from most to least student control, consisted of counselling, systematic desensitization, and automated desensitization. The researchers speculated that those who scored on the internal side of Rotter's I-E Scale would respond more favourably to the counselling technique and the externals would react better to the other two more structured approaches in which the therapist assumed control of the therapy sessions. At the conclusion of five weeks of treatment, internal subjects were most satisfied with the counselling treatment while externals in this condition believed they had retained too much control over the therapeutic process.

Although no studies have tested the hypothesis directly that a treatment approach congruent with a cancer patient's current control expectancies will be more adaptive than an incongruent treatment, research presented earlier has suggested that treatments designed to enhance control may be beneficial for some, but not all, patients. While both the provision of increased medical information and patient participation in the decision making process offer a number of theoretical benefits, several researchers (e.g., Averill, 1973; Brody, 1980) have argued that, pending further investigation, these advantages should be regarded as nothing more than reasonable hypotheses.

According to Telch and Telch (1985), past researchers simply assumed that enhanced medical involvement and access to information would automatically lessen a patient's fear, anxiety, and general distress. With respect to the role of information, Thompson (1981) reported that it

has not been found to have a consistently beneficial effect on coping with a stressful event. Pennebaker (1982) has suggested that for such aversive procedures as chemotherapy, preparatory information may direct the attention of some patients toward, and consequently intensify, side effects. In their examination of 70 oncology outpatients with varying diagnoses and at different stages of the illness, Gard, Edwards, Harris, and McCormack (1988) found that information-seekers experienced more nausea and vomiting in response to chemotherapy than did information-avoiders.

While McIntosh (1974) advocated the provision of information to cancer patients, he acknowledged that some may not want detailed information about their disease since uncertainty may allow them to hope that the illness is not serious. Mishel, Hostetter, King, and Graham (1984) contend that some patients may not ask questions, choosing to maintain uncertainty as a way of dealing with the fear of a poor prognosis. In a study of newly-diagnosed gynecologic cancer patients at different stages of the disease, Mishel et al. (1984) did not find a statistically significant relationship between a lack of information concerning diagnosis (one of their uncertainty scale factors) and their measure of psychological distress. They concluded that uncertainty did not account for enough of the variance in their general measure of adjustment to advocate the blanket promotion of certainty over uncertainty. Miller and Mangan (1983) studied gynecologic patients at risk for cervical cancer and about to undergo a diagnostic evaluation for abnormal cells and found that a high information condition exacerbated the patients' distress.

With regard to treatment participation, Wagener and Taylor (1986) contend that even patients who do not desire a role in their treatment have often been thrust into participative decision making. At present, a

controversy exists regarding the extent to which patients prefer to become active participants in their medical treatment. Blanchard, Labrecque, Rudkdeschel, and Blanchard (1988) found that 69% of the cancer patients in their study preferred to play an active role in decision making. Ward, Heidrich, and Wolberg (1989) examined preference for participation in decision making in 22 patients with Stage I or II breast cancer. They found that 50% of the patients wanted to share the medical decision with someone else (the doctor, spouse, or other family member) and 50% wanted the decision to be fully their own. None of the patients wanted the decision to be made without her participation.

Degner and Russell (1988), however, maintain that many individuals prefer little or no involvement in treatment decisions. Degner and Sloan (1992) conducted a six month study of 436 newly-diagnosed patients with different types of cancer and unspecified prognoses. To their astonishment, they found that only 12% of the patients wanted to make treatment decisions on their own; 29% wanted to collaborate with their doctor and the remaining 59% of the patients wanted their physicians to have sole responsibility for making decisions regarding treatment options. The researchers hypothesized that the recency of the diagnosis ($M = 75$ days postdiagnosis) may have played a role in influencing patients to prefer a passive role, at least until allowed time to gain more information on their cancer and its treatment.

Congruence Hypothesis

There are several reasons to expect that a treatment approach that is not congruent with a person's present locus of control orientation might result in psychological distress for those afflicted with a life-threatening

malignancy. Based on her investigation of hospital patient behaviour, Taylor (1979) argued that patients who expect to participate in their own care (i.e., those who score high on the internal scale) are likely to react initially to the loss of freedom with psychological reactance. As defined by Brehm (1966) and Wortman and Brehm (1975), reactance is a state of motivational arousal that stems from a belief that a freedom has been threatened or eliminated. It produces anxiety and leads the individual to engage in behaviours aimed at restoring the perceived lost freedom. For example, it may lead a patient to exhibit noncompliance or to engage in other forms of behaviour rooted in anger or frustration (Feist & Brannon, 1988; Wallston, Wallston, Smith, & Dobbins, 1987). On the other hand, patients who are accustomed to the loss of freedom or personal control (i.e., externals) are likely to react to an experience such as hospitalization with passivity and compliance (Taylor, 1979).

A contrasting view is presented by Burger and Cooper (1979) who suggested that individuals with a high desire to control events in their lives may be more susceptible to learned helplessness than those who are low in this type of motivation. As explained by Seligman (1975), learned helplessness includes deficits in three areas: a motivational deficit accompanied by apathy, passivity, and a retarded initiation of responses that might influence events; a cognitive deficit involving difficulty in learning that events can, to some extent, be controlled by appropriate behaviour; and an emotional deficit characterized by depression. Burger and Cooper contended that individuals who desire little control are less likely to react to a situation in which control appears unlikely.

One explanation for the apparent contradiction with regard to the consequences of reduced control for internals is suggested by Taylor (1979).

She hypothesized that a temporal pattern of reactions to a stressor perceived as uncontrollable may occur whereby the initial experience of reactance gives way to helplessness with long-term loss of control. She explained that the patient who initially shows reactance may eventually become helpless if repeated efforts to gain control over the environment are unsuccessful.

While reactance and learned helplessness represent two possible theoretical explanations for an increased level of distress among internals deprived of control, a plausible rationale for the potential diminished psychological well-being of externals compelled to assume more control than they desire comes from the suggestion that involvement in one's own medical care may deny the individual the use of denial or avoidance of information. Support for this notion comes from a study by Nehemkis, Charter, Stampf, and Gerber (1982) in which it was found, contrary to expectation, that cancer patients expressing an external control orientation perceived their pain as less severe than internals. The researchers hypothesized that these individuals might be utilizing denial as a means of minimizing the severity of their perceived pain or discomfort. Lazarus (1983) noted that until recently it was believed that an accurate perception of reality represents the hallmark of mental health; however, several researchers (e.g., Bates & Stevens, 1989; Matt, Sementilli, & Burish, 1988) have suggested that denial should no longer be viewed only as a maladaptive defense; for some individuals it appears to have functional value as a buffer, at least for a time, from life crises.

Another explanation which might account for the negative impact of increased personal control on those with an external orientation has been advanced by Rodin, Rennert, and Solomon (1980). They suggested that

having control over a situation is likely to increase a person's perception of responsibility for the outcome. If the degree of perceived responsibility is too high, having control may be viewed as undesirable. It may indeed be the case, as argued by Mills and Krantz (1979), that when a person prefers not to have control, increased choice or participation in health care may heighten rather than reduce the level of stress.

The necessity of examining whether health professionals should engage in attempts to enhance personal control in cancer patients appears more significant in light of the suggestion by several researchers that such approaches are not without risk. Angell (1985) suggested that if the cancer continues to progress despite the efforts of the person to control it, the patient is likely to experience a sense of personal failure or blame. As suggested by a social worker at Sloan-Kettering to a recently diagnosed breast cancer patient, ideas such as Bernie Siegel's emphasis on maintaining a positive attitude to control stress, are "like carrying a rabbit's foot: it may make you feel better, because you think you have a solution; but at the same time, you may be setting yourself a goal that is impossible and will only add to your stress" (Wadler, 1992, p. 123).

In addition to blaming oneself for the failure to halt this disease, an emphasis on personal control over health may lead others to "blame the victim." As explained by Strickland and Janoff-Bulman (1980), this phenomenon represents a special case of the fundamental attribution error in which the victim's misfortune is attributed to his or her personal characteristics rather than to external factors. As remarked by Angell (1985), credit attached to patients for being able to control their disease inevitably implies blame for their inability to halt the disease. Spiegel (1990) concurred, stating that the person who gets cancer not only pays

with his or her life for the illness but is made to feel guilty for having both brought on the disease and allowing it to spread. He recounted the experience of several patients who reported being asked "Why did you want your cancer to spread?" The following example provided by Gray and Doan (1990) further dramatizes this risk:

A young woman who was diagnosed with extensive metastatic cancer and who was told she had little time to live was referred to us for family problems. In a joint interview with her and her husband, the husband stated that he knew that cancer was caused by psychological problems. He then directed his anger at his wife, saying, "Why don't you get inside your head and figure out what your problem is? Think of the children!" This man had read a book that maintained that cancer had a psychospiritual cause. His capacity to empathize with his wife's experience was hindered by the belief that her dying was her own doing, and that she was in control of her own health.

(p. 37)

Gray and Doan cautioned that the self-healing approach has not been found to be helpful for all individuals and that for some it has resulted in increased guilt, anxiety, a sense of failure, impaired coping, as well as alienation from others. Thus, researchers interested in examining the role of control treatments in mediating adjustment to cancer would be well advised to pay more attention to the admonition of Miller and Mangan (1983) that before blindly providing voluminous information about medical procedures and enthusiastically encouraging patients to become more

involved in their own health care, research should first investigate whether such procedures benefit or adversely affect those in question.

Some Methodological Flaws in the Research

In addition to the theoretically based explanations for the contradictory findings discussed earlier, a failure to control for both demographic and disease-related variables must also be considered. Levenson and Bemis (1991) stated that much of the research to date in the area of psychooncology is methodologically flawed, having failed to attend to important potential confounding variables. A failure to control for demographic variables such as age, relationship status, and social position is common. Possible effects of age and relationship status have been discussed earlier. With regard to social position, some evidence has accumulated to suggest that social status influences the amount of information patients receive. Waitzkin (1985) contends that physicians may provide less information to less educated and lower income patients because they assume these individuals are not overly interested in learning about health. While not focusing on a cancer population, Pendleton and Bochner (1980) and Street (1991) found that the more educated patients in their studies received more medical information than their less educated counterparts. Similarly, differences in disease-related characteristics such as length of time since diagnosis, stage of illness, perceived severity, current treatment status, type of surgery, and previous participation in support, educational, or therapy programs for cancer patients have often remained unexamined in the psychooncological research.

Neglecting to control for the effects of social support may also have led to inconsistent findings. Many investigators (e.g., Bloom, 1982; Carey,

1974; Jamison, Wellisch, & Pasnau, 1978) believe that social support facilitates the coping process of cancer patients. Some researchers (e.g., Revenson, Wollman, & Felton, 1983), however, have failed to find a link between support and positive adjustment to this stressful event. Examining the effects of social support and communication on the self-esteem of chemotherapy patients, Ward, Leventhal, Easterling, Luchterhand, and Love (1991) found that although self-esteem was positively related to the amount of perceived social support, communication with significant others about a variety of disease and treatment concerns was associated with reduced self-esteem, even when the others were perceived as extremely supportive.

Perhaps, as suggested by Dunkel-Schetter (1984), studies seeking to investigate the impact of social support on adjustment to stress would benefit from an examination of possible interactions of this factor with coping or personality styles. A few studies, for example, have provided support for the contention that locus of control orientation and social support may interact to determine the outcome of a stressful event. In a study examining the degree of depression and anxiety associated with negative life events, Sandler and Lakey (1982) found that while external college students received more support than internals, the moderating effect of support was evident only with internals, leading the researchers to argue that internals may be better able to make effective use of the social support they receive. In a replication of this study, Lefcourt, Martin, and Saleh (1984) corroborated the finding that students with an internal orientation benefited more from social support than did those with a more external belief system. The failure of most locus of control cancer research to investigate the effects of both social support and the interaction of social

support and locus of control renders the interpretation of the results more problematic.

Another difficulty that has complicated attempts to examine the relationship between locus of control and adjustment to cancer is the lack of a consistent operational definition of "enhanced control." According to Krantz, Baum, and Wideman (1980), the two principal ways in which patients may attempt to enhance control in their health care are through seeking information regarding their illness, and through active involvement in medical decisions. Studies vary in whether the treatment under investigation provides information or increased participation or a combination of both elements.

A study by Blanchard et al. (1988) suggests that the two dimensions may not in fact be interchangeable. Examining preferences for both information and involvement, these researchers found that patients may differ in their desire for the two components of perceived control. In their study of 439 interactions between oncologists and hospitalized cancer patients with a variety of diagnoses and at various stages of the disease, they found that the majority (92%) preferred that all information (good and bad) be given to them. However, as noted earlier, only 69% indicated a preference to participate in medical decision making. Of the subjects preferring to receive all the information, 24.9% still wanted the physician to make treatment decisions. The researchers concluded that a desire for information regarding cancer does not necessarily mean that the patient then wishes to play an active role in therapeutic decisions. Thus, this research suggests that it may be important for locus of control research to differentiate between the two components with regard to their impact on the coping process.

Rationale for Current Study

The current study sought to explore the relationship between: (a) the psychological adjustment of women who had been diagnosed with breast cancer, (b) their current locus of control orientation, and (c) the treatment approach they had experienced. Adjustment to breast cancer is probably mediated by factors other than patients' locus of control and the treatment approach they have received. The factors identified as potentially important mediators in past research and therefore included in the present study as control variables were: age, relationship status, sexual orientation, social position (determined by combining level of education and type of occupation), length of time since diagnosis, stage of illness, current treatment status, whether the woman had undergone reconstructive surgery, participation in support/educational/therapy programs for cancer patients, perceived severity of illness, and physical distress (a control for current treatment effects).

Social support was viewed as an important mediating variable. Therefore, it was examined first as a control variable and subsequently to determine whether it interacted with locus of control to buffer the effects of breast cancer. Due to the lack of a social support scale designed specifically to assess support in cancer patients, the present study employed a modified version of the Social Relationships Scale (SRS; McFarlane, Neale, Norman, Roy, & Streiner, 1981). The SRS assesses the three dimensions of social support deemed important in Wortman's (1984) review of the support literature—quantity, quality (helpfulness), and reciprocity of support relationships. It includes a method of measuring social interactions which

produce detrimental effects which, as noted earlier, may be especially critical in the case of cancer patients.

Locus of control orientation was conceptualized in terms of three dimensions--internal, powerful other, and chance control beliefs--and was measured with the Cancer Health Locus of Control Scale (CHLC; Dickson, Dodd, Carrieri, & Levenson, 1985). While the Multidimensional Health Locus of Control Scale (MHLC; Wallston et al., 1978) is, to date, the most widely used measure of health control beliefs, several researchers (e.g., Dickson et al., 1985; Watson et al., 1990) have questioned its usefulness for those who already have a disease. The CHLC, developed as a parallel form of the MHLC (Form A), consists of the same items reworded to be cancer-specific.

Treatment approach was defined in terms of two dimensions--amount of information received and degree of treatment decision making participation. Amount of information was tapped with a series of open-ended and forced-choice items designed to reveal the amount of information women felt they had received regarding their type of cancer, treatment, and possible side effects of treatment. To assess degree of involvement in decisions related to treatment, participants were asked to select one of five alternatives which they felt best described their extent of participation.

In an attempt to obtain a more valid indication of psychological adjustment to cancer, the present study followed the recommendation of Timko and Janoff-Bulman (1985) to make use of multiple measures of well-being. In the current investigation, the first measure of adjustment was the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971). This scale has been widely used to assess the psychological status of cancer patients (e.g., Cassileth, Lusk, Brown, & Cross, 1985; Cella, Tross, Orav,

Holland, Silberfarb, & Rafla, 1989; McCorkle & Quint-Benoliel, 1983). It examines adjustment in terms of six mood states--tension, anger, depression, vigor, fatigue, and confusion--which are summed to produce an overall mood disturbance score. Additional conceptually relevant adjustment-related factors which were assessed include emotional concerns, satisfaction with appearance, and sexuality, factors identified in the Mastectomy Attitude Scale (MAS; Heyl, 1977). Thus, in all, four measures were employed to assess psychological adjustment of participants in the current investigation.

While not representing a key criterion or predictor, degree of satisfaction with the amount of information received, as well as with the amount of involvement in medical decision making, was also examined in the search for clues to predicting good adjustment to breast cancer.

Hypotheses

Control Variables

Demographic characteristics. Several demographic variables were hypothesized to influence the psychological adjustment of respondents. Predictions regarding the impact of these variables on adjustment were identical for each of the four instruments selected to measure emotional well-being in the current study.

1a. Older women were expected to have more positive scores on all adjustment measures than their younger counterparts.

1b. Women currently involved in a relationship were hypothesized to show better adjustment on all measures than those not currently in an intimate relationship.

1c. Higher socioeconomic status women were expected to be less distressed than lower socioeconomic status women.

Disease-related characteristics

2a. Regarding the length of time since diagnosis, it was believed that those who had had more time to come to terms with their diagnosis would report better adjustment on the four measures of emotional well-being than those more recently diagnosed.

2b. Stage of the disease at the time of diagnosis was also predicted to influence adjustment, with those diagnosed in Stage I (no metastasis) hypothesized to be better adjusted than those diagnosed in Stage II, which is characterized by the spread of cancer to the local nodes.

2c. Type of surgery was hypothesized to predict adjustment, with more radical surgery being associated with poorer adjustment scores.

2d. Women currently receiving treatment and therefore likely to be experiencing treatment side effects were predicted to be less well adjusted than those not receiving current treatment.

2e. Participation in support/educational/therapy programs for cancer patients was predicted to enhance psychological adjustment.

2f. Perceived seriousness of one's illness was hypothesized to influence women's sense of well-being, with those who view their situation as more serious experiencing more distress than those who do not consider their cancer to be as serious.

2g. Finally, a high physical or symptom distress score was predicted to have a negative impact on adaptation to breast cancer.

Social support

3a. Social support was hypothesized to improve the women's adjustment to their illness. As it was unclear which of the three dimensions (quantity, helpfulness, or reciprocity) would play a more important role in this relationship, it was predicted that positive correlations would exist between all three measures of support and the four measures of adjustment.

3b. It was further hypothesized that social support and locus of control would interact to mediate adjustment to breast cancer. Specifically, it was predicted that for those with high scores on the internal scale, increases in any of the social support variables would be associated with improvements in psychological adjustment. Powerful other and chance beliefs were not hypothesized to show moderating effects on psychological adjustment as a result of increased social support.

Predictor Variables

With regard to the relationship between adjustment, locus of control, and treatment approach, it was predicted that women with the best adjustment to their cancer diagnosis would be those whose locus of control orientation and treatment approach were congruent. Specifically, the following predictions were tested:

4a. On the internal dimension, women with the best adjustment scores were hypothesized to be high internal/high information, high internal/high participation, low internal/low information, and low internal/low participation. Conversely, those whose control orientation and treatment approach were not congruent--high internal/low information, high

internal/low participation, low internal/high information, and low internal/high participation--were predicted to be less well adjusted.

4b. Regarding chance belief orientation, women who were high chance/low information and high chance/low participation were hypothesized to have had a more successful adaptation to their illness than those who were high chance/high information and high chance/high participation.

4c. With respect to the powerful other orientation, it was hypothesized that women who were high powerful other/low information and high powerful other/low participation would be better adjusted than those who were high powerful other/high information or high powerful other/high participation.

While it has been argued by several researchers (e.g., Levenson, 1973; Wallston et al., 1978) that the powerful other dimension is likely to be of relevance in health-related research, it is not yet routinely included in locus of control investigations, making predictions regarding its influence on adjustment difficult. Although an external dimension, powerful other beliefs have been postulated by some (e.g., Burish et al., 1984; Marks et al., 1986) to be associated with beneficial psychological effects in those with cancer. It will be recalled that Burish et al. (1984) found that patients with high powerful other beliefs reported lower levels of anxiety and depression following training sessions in relaxation and/or biofeedback than those with lower powerful other expectancies. However, Marks et al. (1986) failed to find the predicted moderating effect of high powerful other beliefs on depression in their sample of cancer patients. In keeping with the theoretical conceptualization of powerful other control beliefs as an external

dimension, predictions similar to those advanced for the chance external dimension were tested in the present study.

CHAPTER II

Method

Participants

Subjects consisted of a volunteer sample of 42 women in southwestern Ontario, ranging in age from 30 to 75 years ($M = 51$, $SD = 11.5$), who could read and write English and who had undergone surgery for breast cancer. All of the women were Caucasian and heterosexual, and most were middle class. Participants' demographic characteristics are summarized in Table 1.

Participants varied widely in the length of time since their initial diagnosis (from 3 to 72 months, $M = 28.7$ months, $SD = 22.3$). Approximately half ($n=20$) of the participants had received breast-conserving lumpectomies, with the remainder receiving either a simple or a modified radical mastectomy. The majority (73.8%) of the women in the current investigation were not receiving any form of medical treatment for cancer at the time of the interview. See Table 2 for a more detailed breakdown of the disease-related characteristics of the participants.

Measures

Control Variables

1. Demographic characteristics. Participants' demographic characteristics were assessed by self-report and included the following: age, marital status, sexual orientation, educational background, current employment status, and type of occupation (Appendix A). Based on Hollingshead's (1957; cited in Miller, 1991) Two-Factor Index of Social Position, educational level and type of occupation were combined to place an

Table 1

Demographic Characteristics

Characteristic	n	%
Marital status		
Single	4	9.5
Married/Living together	28	66.7
Widowed	3	7.1
Separated	2	4.8
Divorced	5	11.9
Social position		
Class I	1	2.4
Class II	15	35.7
Class III	17	40.5
Class IV	6	14.3
Class V	3	7.1
Employment status		
Full-time in the home	6	14.3
Full-time outside the home	17	40.5
Part-time	8	19.0
Sick leave	4	9.5
Unemployed	1	2.4
Retired	6	14.3

Note. Social position is derived from a combination of educational level and type of occupation. Class I represents the highest and Class V the lowest socioeconomic status.

Table 2

Disease Characteristics

Characteristic	<u>n</u>	%
Initial stage		
I (no metastasis)	17	40.5
II (local node metastasis)	20	47.6
Unknown	5	11.9
Type of surgery		
Lumpectomy	20	47.6
Mastectomy		
Simple	4	9.5
Modified radical	12	28.6
Lumpectomy followed later by mastectomy	6	14.3
Current treatment		
Chemotherapy	5	11.9
Radiation	2	4.8
Hormone	4	9.5
None	31	73.8
Reconstructive surgery or planning reconstructive surgery	8	(36.4% of those with mastectomies)

individual in one of five socioeconomic classes with Class I representing the highest and Class V the lowest socioeconomic position.

2. Disease-related data. Illness information was obtained from the participant and included length of time (in months) since initial diagnosis, initial stage of the disease, type of surgery, type of medical treatment being currently administered, whether reconstructive surgery had been undergone or was planned in the future, and whether the respondent had participated in support or educational programs or had received any type of therapy related to her having cancer (Appendix A).

3. Perceived severity. Perception of severity of illness was assessed, as in the Oberst et al. (1991) study, by a single item which read: "Please indicate your judgment of the seriousness of your illness." Responses were measured on a 5-point scale in which 1 = not serious and 5 = extremely serious.

4. Illness distress. Current illness or physical distress was assessed with the Symptom Distress Scale (SDS; McCorkle & Young, 1978). This scale measures the degree of perceived discomfort associated with the following ten symptoms commonly reported by cancer patients during treatment: nausea, mood, appetite, insomnia, pain, mobility, fatigue, bowel pattern, concentration, and appearance. Each symptom is rated on a scale from one to five with one representing the least amount of distress and five the highest level of distress. McCorkle and Young (1978) reported an alpha coefficient of .82 for this scale.

In the present study, two items (mood and fatigue) were eliminated from the analysis because of conceptual overlap with the outcome measure of psychological adjustment. Since this scale examines symptom distress associated with cancer in general, three items were added to reflect

physical symptoms specific to breast cancer (i.e., arm swelling, arm weakness, and tight chest wall). Thus, the version of the scale used in the present study consisted of eleven symptoms (Appendix B). Symptom scores were summed to produce a total distress score ranging from 11 to 55 with higher scores reflecting greater physical distress.

5. Social support. Social support was assessed with a modified version of the Social Relationships Scale (SRS; McFarlane et al., 1981). The SRS assesses the quality, helpfulness, and reciprocity of the respondent's support relationships with regard to several content areas. According to A. McFarlane (personal communication, March 3, 1993), this scale is scored in the following way: quantity is based on the number of unique individuals listed as support providers across all content areas, quality of support is derived from an average of the helpfulness rating on a seven-point scale for each content area, and reciprocity of support is determined by counting the number of unique individuals listed who would come to respondents for similar kinds of support.

Content validity of this scale was established by an expert panel of four senior clinicians who concluded that the scale adequately assesses the extent, type, and quality of social support systems (McFarlane et al., 1981). McFarlane et al. demonstrated criterion validity with a successful attempt to discriminate on the basis of this scale between two criterion groups-- married couples trained to act as parent therapists to troubled adolescents and couples receiving treatment resulting from family difficulties. In this study, the group composed of parent therapists rated spouses as more helpful in all categories, suggesting that the scale has the capacity to differentiate between groups in terms of social support. Test-retest reliability coefficients based on two administrations of the scale over a one

week interval to 73 college students ranged from .62 to .99 within the various content areas of support.

In order to make this scale more relevant to the population of interest, the present study modified the content areas of support to reflect those viewed by several researchers (e.g., Rose, 1990; Wortman, 1984) as central to cancer patients. They included:

- (a) the expression of love, caring, esteem from others,
 - (b) the acceptance of the appropriateness of one's beliefs and feelings,
 - (c) help with role responsibilities and everyday personal care, and
 - (d) help in the form of advice or information
- (Appendix C).

Predictor Variables

1. Locus of control. Locus of control orientation was measured with the Cancer Health Locus of Control Scale (CHLC; Dickson et al., 1985). According to the developers of this scale, content validity was established by a panel of experts in the field of cancer and attitude measurement. In a sample of 30 chemotherapy patients, Dickson et al. (1985) reported reliability coefficients of .63 for the internal scale, .62 for the powerful other subscale, and .48 for the chance subscale.

In the most recent version (S.L. Dibble, personal communication, September 8, 1992), two items ("When I get sick I am to blame" and "My family has a lot to do with my becoming sick or staying healthy") which failed to improve the internal consistency subscale scores were eliminated.

The item involving family control over illness was found in another study (Marshall, Collins, & Crooks, 1990) to possess only a negligible factor loading on its corresponding subscale. In the current investigation, the most recent version of the CHLC was employed (Appendix D). It consists of 16 items (5 to assess the dimension of internality, 5 to measure powerful other orientation, and 6 to tap chance control beliefs). Possible subscale scores range from 5 to 30 for both the internal and powerful other subscales and from 6 to 36 for the dimension reflecting chance control beliefs.

Using this version of the scale to study the control beliefs of 100 oncology patients, S.L. Dibble (personal communication, September 8, 1999) reported an internal consistency estimate of .82 for the internal and .78 for the external subscale (based on combined powerful other and chance external scores). Separate reliability estimates for the two external scales were not provided. It will be noted that this version produced a higher reliability coefficient for the internal subscale than that found in the earlier version (.82 versus .63).

2. Treatment approach. A semi-structured interview, with the wording of some questions based on those developed by Strull, Lo, and Charles (1984), W.M. Strull (personal communication, May 26, 1993), Dakof and Taylor (1990), and Degner and Sloan (1992), was conducted to assess patients' perception of the amount of medical information they had received and their degree of participation in medical decision making (Appendix E).

The amount of information provided to patients in terms of their type of cancer, treatment, and side effects was examined. Questions were also asked regarding their degree of comfort questioning doctors about their illness or treatment and their perception of doctors' willingness to answer such questions in sufficient detail. Participation in treatment decision

making was assessed with one question listing five alternatives. In addition, the interview collected data on perceived helpfulness of the treatment approach and respondents' satisfaction with the amount of control they felt they had been given. Behavioural responses made in an attempt to change one's situation (e.g., changing doctors, seeking information on own) were also recorded. Participants were also given the opportunity to share their affective response to the very personal experience of having cancer by addressing any additional cancer-related problems or concerns that might have been overlooked in the study.

Criterion Variable

Psychological adjustment. Four self-report measures of emotional adjustment were administered. The Profile of Mood States (POMS; McNair et al., 1971, 1992) is a 65-adjective checklist designed to examine adjustment in terms of six mood states: tension, anger, depression, vigor, fatigue, and confusion. The results of the individual scales are summed to produce a total mood disturbance score ranging from -32 to +200 with a higher score reflecting a greater mood disturbance. The patient is asked to indicate the degree, on a 5-point scale, to which that adjective describes her mood as experienced during the last week. McNair et al. (1992) argued that the one-week rating period represents a period of time sufficiently long to capture a patient's typical and persistent mood reactions to her current situation, yet short enough to tap acute treatment effects. The POMS represents a reliable measure of psychological distress which has been validated with cancer patients (Cella et al., 1989; Fawzy & Fawzy, 1982; McNair et al., 1992; Spiegel, Bloom, & Yalom, 1981). Fawzy et al. (1990) recommended its use over scales with a focus narrowed to include only

depression and anxiety since such scales are at risk of missing other important psychological responses to cancer.

Additional indicators of adjustment consisted of three conceptually relevant factors--emotional adjustment, sexuality, and appearance satisfaction--which emerged from Feather and Wainstock's (1989) factor analysis of Heyl's (1977) Mastectomy Attitude Scale. A preference for Feather and Wainstock's factor structure was based on several considerations. First, their version eliminated three items which Heyl concluded were either too vague or too objectionable to be included in future administrations. Heyl's original scale was developed to assess attitudes toward mastectomy of women with and without breast cancer. Feather and Wainstock's population, similar to that of the current study in that all women had undergone surgery for breast cancer, consisted of the same items reworded to be specific to breast cancer patients. Some of the participants in the current investigation, however, had received lumpectomies, necessitating the replacement of the word "mastectomy" with the words "breast surgery." Finally, Heyl's survey was based on the reports of 152 women of whom only 47 had received mastectomies (105 were cancer-free). Feather and Wainstock's analysis, on the other hand, was based on a much larger sample of 524 women postmastectomy.

According to Heyl (1977), content validity of the original scale was established by the interjudge agreement of three separate panels of judges (the first composed of judges knowledgeable in the construction of attitude measurement scales and the remaining panels composed of women who had received mastectomies). Feather and Wainstock (1989) reported the following reliability coefficients for their factor structure: .79 for the factor

dealing with emotional concerns, .86 for the sexuality factor, and .66 for the factor tapping satisfaction with physical appearance.

Procedure

Participants were recruited by means of advertisements in several newspapers (Appendix F). The study was presented as an investigation of coping mechanisms in breast cancer patients, and interested women were asked to call the researcher. Women responding to these notices were given an explanation of the general nature of the investigation, and were assured of confidentiality and the right to withdraw at any time. All callers agreed to participate; however, the investigator found it necessary to refuse two women who expressed a desire to participate because the length of time since their diagnosis exceeded 15 years. An attempt was made to restrict the sample to women categorized initially in Stage I (no metastasis) or Stage II (local node metastasis) to control for the effect of initial severity of the illness. It was also felt that women in these stages would be more likely than those in more advanced stages to be given more control in decision making since no significant differences have been reported (e.g., Hughes, 1993; Ward et al., 1989) in the five year survival rates of patients receiving mastectomies or lumpectomies plus radiotherapy when the cancer is discovered at an early stage. With the exception of five callers who were unsure of their initial stage, all indicated that they were in Stage I or II at the time of diagnosis. Due to the likelihood of a small sample size, the decision was made to include these five women. Three of these women had received lumpectomies, suggesting an early stage of cancer; the two remaining women had undergone modified radical mastectomies, making a judgment regarding their initial stage more difficult. All callers were

informed that the interview could last over one hour and, as a result, it might be advisable for them to consider spreading the interview over two sessions. No women took advantage of this option. All interviews took place in private, usually in the respondent's home.

At the beginning of the interview, respondents were asked to complete a consent form (Appendix G). Participants then answered questions regarding several control variables: demographic and disease-related characteristics, the perceived severity of the disease, and social support. The remaining scales, including a measure of symptom distress, predictor variables, and criterion measures of adjustment were administered in random order to reduce the possible operation of systematic response bias. In all cases, the investigator remained with the participant until the scales were completed and offered clarification as needed.

Following the completion of the scales, the investigator answered any remaining questions and thanked respondents for their important contribution to the research. All respondents who expressed an interest (by checking the appropriate section on the consent form) in receiving a summary of the research findings were informed of the estimated completion date and were told that they would receive a summary around that time. All but one of the participants indicated a desire to receive information about the outcome of the research. The two callers who were unable to participate were also told that they would be sent a summary of the study when completed. A copy of the consent form and a letter of information containing the name and phone number of the investigator and her advisor were left with each participant, thereby providing her with an opportunity to obtain answers to any questions that might arise after the departure of the interviewer.

CHAPTER III

Results

Descriptive Statistics

Control Variables

Tables 1 and 2 (pp. 46 and 47) provided summary statistics of several demographic and disease-related characteristics of the participants. Additional control variables included in the present investigation consisted of perceived seriousness of one's illness, physical or symptom distress, and social support. Measures of central tendency and other descriptive statistics for these variables are presented in Table 3.

As indicated in Table 3, patients considered their illness to be quite serious. Scores ranged from 1 (not serious) to 5 (extremely serious), with a modal response of 5 ($n = 13$). Physical distress was assessed with a modified version of the Symptom Distress Scale (McCorkle & Young, 1978). Total distress was determined by summing the amount of discomfort associated with eleven symptoms commonly reported by cancer patients. This scale demonstrated acceptable internal consistency (.78). This estimate of reliability is only slightly lower than the value (.82) reported by McCorkle and Young (1978). Participants in the current study reported low physical distress. Scores ranged from 11 to 41, with a mean of 18.6 (higher scores are indicative of greater distress). In terms of individual symptoms, insomnia and pain were the most distressing for this sample with means of 2.2 for both (possible range from 0 to 5), followed by arm weakness ($M = 1.9$) and tight chest wall ($M = 1.8$). Nausea and loss of appetite were the least distressing of the eleven symptoms.

Table 3

Disease Seriousness, Physical Distress, and Social Support

Variable	Mean	Median	<u>SD</u>	Possible score range
Perceived seriousness	3.4	3.5	1.4	1 - 5
Physical distress	18.6	17.0	6.4	11 - 55
Social support				
Size of network	10.0	9.0	4.3	-----
Helpfulness	2.3	2.5	0.7	-3 - +3
Reciprocity (%)	78.1	83.3	19.1	0 - 100

Note. For perceived seriousness, a higher score indicates greater perceived seriousness of one's cancer. For physical distress, a higher score is indicative of greater physical distress. Reciprocity refers to the percentage of listed relationships that were viewed as reciprocal.

With regard to social support, all the relationships listed by respondents were examined in terms of quantity, helpfulness, and reciprocity. The average size of participants' social network was ten individuals and networks were characterized as being quite supportive.

Predictor Variables

Summary statistics for the predictor variables are found in Table 4. Current locus of control orientation was assessed with the Cancer Health Locus of Control Scale (CHLC; Dickson et al., 1985). Similar internal and chance mean locus of control scores were reported by Dickson et al. (1985) in their study of 30 patients with a variety of cancer diagnoses. In that reported study, means of 24.0 and 18.8 were obtained on the internal and chance subscales respectively. The mean powerful other score was much higher in the Dickson et al. investigation (25.0 vs. 17.7). The majority of the patients (93.3%) in that reported study, however, were currently receiving treatment which may have directed their attention toward the physician's role in controlling the outcome of their illness. In the present investigation, only 26.2% of the participants were currently receiving any form of cancer treatment.

Internal consistency of the CHLC was tested with Cronbach's coefficient alpha. Acceptable reliability coefficients were obtained: .84 for the internal measure, .61 for the powerful other dimension, and .65 for the chance subscale. It will be recalled that reliability estimates for this scale provided by S.L. Dibble (personal communication, September 8, 1992) were .82 for the internal and .78 for the combined external scales.

Two techniques were employed in an attempt to assess treatment approach with regard to the amount of information provided to

Table 4

Summary Statistics for Predictor Variables

Variable	Mean	Median	<u>SD</u>	Possible score range
Internal score	23.0	24.0	6.0	5 - 30
Powerful other score	17.7	18.0	5.7	5 - 30
Chance score	16.8	15.0	6.2	6 - 36
Information (sum)	5.9	5.0	2.3	3 - 15
On type of cancer	1.9	2.0	0.9	1 - 5
On treatment	2.0	2.0	0.9	1 - 5
On side effects	2.0	2.0	0.9	1 - 5
Participation	3.1	3.0	1.3	1 - 5

Note. Information = sum of fixed-response items regarding amount of information provided to participants. For the information measures: 1 = wanted much more information, 2 = wanted a little more information, 3 = got just the right amount of information, 4 = wanted a little less information, and 5 = wanted much less information. Participation is ranked such that 1 refers to the lowest and 5 refers to the highest degree of participation in treatment decision making.

participants. Respondents were asked to select the alternative which best described the amount of information they were provided regarding their type of cancer, treatment, and side effects from the following fixed responses: 1 = wanted much more information, 2 = wanted a little more information, 3 = got just the right amount, 4 = wanted a little less information, and 5 = wanted much less information. Statistics derived from these measures are also presented in Table 4. No respondents indicated that they wanted less information on any of the three questions. Due to the high intercorrelations of answers to the questions assessing the three types of information, a composite information score was created by summing mean ratings for the three questions.

A second, less objective, technique was used to assess the amount of information participants received. Participants were asked to answer open-ended questions concerning the amount of information they received on their type of cancer, treatment, and possible side effects. Coding the responses to each question involved the following procedure. First, response categories were developed by reducing answers for each question to key words or phrases. Response categories judged to be conceptually similar (e.g., "enough," "sufficient," or "adequate" information) were then collapsed to form a single category. Finally, response categories were ranked such that a lower value was indicative of a lower amount of information. See Table 5 for a summary of the results for the three open-ended questions.

Assessment of the treatment approach also involved inquiring about extent of participation in medical decision making. Participants were asked to select one of five alternatives which best described the individual who usually made (or makes) the final decision regarding the treatment to be administered. Response categories, along with the percentage of individuals

Table 5

Amount of Information Provided to Participants According to Responses
on Open-ended Questions

Rank	Response Categories	<u>n</u>	%
Information on type of cancer^a			
1	none	1	2.4
2	minimal, very little	14	33.3
3	general, basic	5	11.9
4	adequate, sufficient	6	14.3
5	a lot	7	16.7
6	unlimited, total	6	14.3
Information on treatment^b			
1	only after asking direct questions	4	9.5
2	minimal, very little	10	23.8
3	general, basic	6	14.3
4	adequate, sufficient	8	19.1
5	a lot	5	11.9
6	unlimited, total	8	19.1
Information on side effects^c			
1	none	2	4.8
2	only after asking direct questions	2	4.8
3	minimal, very little	12	28.6
4	general, basic	3	7.1
5	adequate, sufficient	12	28.6
6	a lot	6	14.3
7	unlimited, total	4	9.5

Note. $a_n=39$. $b_n=41$. $c_n=41$.

endorsing each alternative, are presented in Table 6. As evident in this table, 76.2% of the participants in this sample indicated that they played a major role in decision making (i.e., either by sharing the decision with the doctor, or by basing their decision on the doctor's opinion or on their own personal medical knowledge).

Correlation coefficients were then examined to investigate the relationship among all of the predictor variables (Table 7). With regard to locus of control orientation, the correlation between scores on the internal and powerful other subscales was moderate. Those with strong beliefs in their ability to control their health status also recognized the importance of powerful others in promoting their well-being. Chance control beliefs were not significantly related to the other two dimensions.

An examination of the relationship between locus of control and treatment approach indicated that women with strong internal beliefs received more information and played a more active role in their treatment than those with weaker personal control beliefs. No relationship was observed between holding powerful other or chance beliefs and the amount of information received or the extent of involvement in medical decisions. In addition, the relationship between amount of information received and extent of involvement in medical care was not statistically significant.

Criterion Variables

Measures of central tendency for the indicators of psychological adjustment are displayed in Table 8. Higher total mood disturbance scores on the Profile of Mood States are indicative of poorer adjustment with respect to the following dimensions: tension, depression, anger, fatigue, vigour, and confusion. While analyses centred on total mood disturbance

Table 6

Extent of Participation in Medical Decision Making

Alternative	<u>n</u>	%
1. The doctor makes the decision.	9	21.4
2. The doctor makes the decision, but strongly considers my opinion.	1	2.4
3. The doctor and I make the decision together.	15	35.7
4. I make the decision, but consider the doctor's opinion.	11	26.2
5. I make the decision based on my knowledge.	6	14.3

Table 7

Intercorrelations Between Predictor Variables

Variable	1	2	3	4	5
1. Internal score		.48**	-.14	.38*	.39*
2. Powerful other score			.20	.28	.21
3. Chance score				-.09	-.16
4. Information					.15
5. Participation					

Note. Information refers to the summed information score derived from the three forced-response items.

* $p < .05$. ** $p < .01$.

Table 8

Summary Statistics for Criterion Variables

Variable	Mean	Median	<u>SD</u>	Possible score range
POMS scores				
TMD	20.9	20.0	31.0	-32 - +200
Tension	8.4	7.0	7.5	0 - 36
Depression	7.5	5.5	8.3	0 - 60
Anger	6.9	5.0	6.6	0 - 48
Vigor	-18.9	- 21.0	6.3	-32 - 0
Fatigue	7.5	6.0	7.0	0 - 28
Confusion	6.3	5.0	5.6	0 - 28
Emotional adjustment	32.7	34.5	8.3	8 - 48
Sexual adjustment	44.6	44.0	6.8	10 - 60
Appearance satisfaction	28.6	29.0	4.5	6 - 36

Note. POMS = Profile of Mood States; TMD = Total mood disturbance score. TMD is obtained by adding the five subscale scores of Tension, Depression, Anger, Fatigue, and Confusion, with Vigor weighted negatively. A higher TMD score is indicative of poorer adjustment. For emotional adjustment, sexual adjustment, and appearance satisfaction, a higher score indicates better adjustment.

scores, mean scores for the individual subscales are also reported in Table 8.

The other indicators of psychological adjustment included in the current investigation were three subscales of the Mastectomy Attitude Scale (Feather & Wainstock, 1989; Heyl, 1977) : (1) emotional adjustment, (2) sexual adjustment, and (3) appearance satisfaction. In each scale, higher scores denote better adaptation to the illness. As evident in Table 8, respondents did not appear to be experiencing intense emotional concerns, sexual difficulties, or distress with regard to their physical appearance.

Reliability estimates for these three indicators of adjustment were not overly impressive. The emotional adjustment measure exhibited an acceptable overall internal consistency alpha (.67). This value, however, is much lower than the estimate of .79 found by Feather and Wainstock (1989). The mean inter-item correlation was .20 and item-total correlations ranged from .10 to .64. Omitting any item (even the one with the item-total correlation of .10), however, would not have improved internal consistency appreciably (.69 versus .67).

The internal consistency of the sexual adjustment scale (.61) was slightly lower than that of the emotional adjustment scale. It will be recalled that Feather and Wainstock (1989) reported a much higher reliability coefficient (.86) for the sexuality factor. Again, the mean inter-item correlation was low (.15), with item-total correlations ranging from .13 to .44. An examination of the alpha coefficient resulting from the deletion of an item revealed that the omission of any item would have had little effect on the reliability estimate.

The appearance satisfaction subscale was the least reliable index. It had an alpha reliability of .37, with a mean inter-item correlation of only

.08. The alpha coefficient for appearance satisfaction (.66) found by Feather and Wainstock (1989) was also lower than that reported for the other subscales; however, it was considerably higher than the value observed in the present study. Item-total correlations ranged from .02 to .27. Again, the omission of any of the items would not have increased the internal consistency measure substantially. Due to the unacceptably low reliability of this scale, it was not entered into subsequent analyses.

To assess the relationship among the three criterion measures, correlation coefficients were computed. A moderate, statistically significant negative correlation was observed between total mood disturbance (TMD) and emotional adjustment ($r = -.46, p < .01$), indicating that, as total mood disturbance increased, emotional adjustment decreased. Sexual adjustment showed little relationship to the other measures of well-being.

Preliminary Analyses

Control Variables

In the present study, support was found for only one of the three demographic hypotheses. Contrary to predictions, neither relationship status nor social position correlated significantly with any of the measures of psychological adjustment. However, as predicted, age of respondents was related to adjustment, with older women in the sample reporting improved scores on the emotional adjustment scale ($r = .33, p < .05$).

With regard to disease-related hypotheses, evidence was found to support three of the seven predictions. Stage of illness at the time of diagnosis correlated significantly with total mood disturbance ($r = .31, p < .05$). Participants diagnosed in Stage II exhibited more mood impairment than those diagnosed in Stage I. Whether a woman was currently receiving

treatment was also significantly related to total mood disturbance ($r = .35$, $p < .05$), with those receiving treatment expressing greater mood disturbance than those not receiving any form of medical treatment. Finally, physical or symptom distress was related to women's mood disturbance. Women who reported increased physical distress expressed higher mood dysfunction ($r = .58$, $p < .001$). Contrary to expectation, length of time since diagnosis, type of surgery, participation in support/educational/therapy programs, and perceived disease severity did not correlate significantly with any of the psychological adjustment measures.

It will be recalled that all three measures of social support--quantity, helpfulness, and reciprocity--were hypothesized to enhance adjustment. However, analyses indicated that only helpfulness of social support was related to any of the indicators of adjustment. Respondents who rated their social networks as more helpful expressed lower total mood disturbance scores than those who viewed their support network as less helpful ($r = -.51$, $p < .01$).

Regression Analyses

The influence of the predictor variables (locus of control and treatment approach) on the three measures of psychological adjustment to breast cancer was examined using hierarchical multiple regression analysis. Each of the three measures of adjustment--total mood disturbance (TMD), emotional adjustment, and sexual adjustment--was examined separately. Analyses were performed separately for each dimension of control beliefs (internal, powerful other, and chance) and for both dimensions of treatment approach (amount of information and degree of treatment participation). Therefore a total of six regression equations were tested for each criterion.

The first step of the analysis involved an examination of the correlations among control, predictor, and criterion variables. Significant relationships among control and criterion variables were discussed earlier. Since highly correlated predictor variables can provide overlapping or redundant information, making it difficult to determine the unique contribution of each variable, it is also necessary to examine relationships among control and predictor variables. Table 9 contains only those control variables that were significantly related to any of the predictor or criterion variables. Excluded from this table are: marital status, social position, type of surgery, perceived disease seriousness, participation in support/educational/therapy programs, and quantity and reciprocity of social support networks.

As can be seen in Table 9, several disease-related characteristics were significantly related to predictor variables. Time since initial diagnosis was associated with internal beliefs, with participants further from their time of diagnosis reporting a weaker sense of internal control than those more recently diagnosed. Whether a respondent had undergone reconstructive surgery was significantly related to her beliefs in internal control. Interestingly, those who had undergone reconstructive surgery had lower perceptions of personal control over health status than those who had not undergone reconstructive surgery. Physical distress was related to scores on the internal and powerful other scales. Women reporting greater physical distress expressed weaker beliefs in their own ability and that of powerful others to control their health status than women experiencing lower symptom distress. Finally, helpfulness of social support was associated with both internal and powerful other locus of control beliefs. Respondents who rated their social networks as more helpful perceived

Table 9

Correlations Among Control, Predictor, and Criterion Variables

Variable	Control variables						
	Age	Time since diagnosis	Stage of illness	Current treatment	Recon-structive surgery	Physical distress	Social support
	Predictor variables						
Internal score	.17	-.35*	-.28	.08	-.43**	-.37*	.58***
Powerful other score	.08	-.18	-.06	.06	-.17	-.46**	.53***
Chance score	-.01	-.12	.12	.05	.04	-.17	-.15
Information	-.14	-.14	.07	-.01	-.09	-.30	.0
Participation	-.27	-.07	.04	-.13	.29	.19	-.26
	Criterion variables						
Total mood disturbance	-.13	.02	.31*	.35*	.20	.58***	-.51**
Emotional adjustment	.33*	.01	-.09	-.25	-.28	-.25	.22
Sexual adjustment	-.17	.18	-.24	.19	.02	.15	-.19

Note. Social support refers only to the helpfulness measure of the social network.

* $p < .05$. ** $p < .01$. *** $p < .001$.

themselves and powerful others as having more control over their health outcomes than those who viewed their support network as less helpful.

Although many variables are identified in Table 9 as potential control variables for the subsequent regression analyses, a stringent criterion for statistical significance ($p < .01$) was viewed as necessary at this stage to reduce the number of control variables required for each analysis. While including a large number of variables increases R^2 , it also increases the standard errors of all estimates without improving prediction (SPSS, 1992). An examination of Table 9 data indicates that the following three variables met the specified criterion of statistical significance in their relationship with predictor or criterion variables: whether one had undergone reconstructive surgery, physical distress, and helpfulness of social support. Thus, in all sets of regression analyses, these three variables were treated as the control variables and were entered as a block into the regression equation in the first step.

One of the locus of control orientations was entered into the regression equation after the control variables since it was felt that control orientation may have influenced both the amount of information the woman received and her degree of participation in medical decisions.

One of the treatment approach variables was entered into the equation in the next step. Separate regression analyses were performed for both measures of information (i.e., open-ended and forced-response items). Little difference was observed regardless of the measure used to represent the amount of information participants received. In each case, values of multiple R , R^2 , and F were almost identical. For this reason, only the results derived from the forced-response items (since this measure involved

less interpretation on the part of the investigator) are presented for each criterion.

The final step tested the anticipated interaction between control beliefs and information or participation on adjustment. Cross products of (i) each locus of control dimension and amount of information, and (ii) each locus of control dimension and extent of participation were computed. Prior to creating each multiplicative term, scores were centred by subtracting the mean from scores of the individual variables. Therefore, the interaction reflects the product of deviation rather than raw scores.

Total Mood Disturbance (TMD)

Results of the regression analyses are presented in Table 10. The three control variables accounted for a statistically significant portion of the variance in total mood disturbance. It will be recalled that women with the best adjustment on each criterion were hypothesized to have locus of control orientations which were congruent with the treatment approach they had received. The present study failed to find support for this hypothesis. With respect to the internal dimension, women whose internal expectancies and treatment approach were congruent (i.e., high internal/high information, high internal/high participation or low internal/low information, low internal/low participation) did not report less mood dysfunction than those with an incongruent combination of locus of control and treatment approach (i.e., high internal/low information, high internal/low participation or low internal/high information, low internal/high participation).

Although the hypothesis that women who were high chance/low information or high chance/low participation would be better adjusted than those who were high chance/high information or high chance/high

Table 10
 Hierarchical Regression Analysis Predicting Total Mood Disturbance (TMD)

Variables	Multiple		R^2		Beta	F
	R	R^2	Change			
Controls	.64	.40	.40**			8.56**
Helpfulness of support					-.30	
Reconstructive surgery					-.02	
Physical distress					.44	
Internal score (A)	.64	.41	.0		.05	6.30*
Information (B)	.65	.42	.02		-.17	5.31*
AXB	.66	.44	.01		.12	4.51*
Internal score (A)	.64	.41	.0		.05	6.30*
Participation (B)	.66	.43	.03		-.19	5.53*
AXB	.68	.47	.03		-.23	5.14*
Chance score (A)	.71	.50	.10*		.33	9.23**
Information (B)	.71	.50	.0		-.04	7.23**
AXB	.71	.50	.0		-.06	5.89*
Chance score (A)	.71	.50	.10*		.33	9.23**
Participation (B)	.74	.55	.05		-.25	8.90**
AXB	.74	.55	.0		-.05	7.27**
Powerful other score (A)	.64	.41	.0		.04	6.28*
Information (B)	.65	.42	.01		-.13	5.19*
AXB	.65	.42	.01		-.11	4.29*
Powerful other score (A)	.64	.41	.0		.04	6.28*
Participation (B)	.66	.43	.03		-.01	5.54*
AXB	.73	.54	.10*		-.35	6.81**

Note. For each regression analysis in this table, helpfulness of support, reconstructive surgery, and physical distress were entered in the first step as control variables. Since the effects were identical in each analysis, the results for these variables are presented only for the first regression displayed in the table.

* $p < .01$. ** $p < .001$.

participation was not substantiated, a main effect of chance orientation was observed. Women who perceived their health to be controlled by such factors as luck or fate exhibited poorer adjustment than those with lower scores on this dimension. Fifty percent of the variability in total mood disturbance was explained by the combined effects of the three control variables and chance control beliefs.

Contrary to expectation, the present study found a significant interaction between powerful other expectancies and degree of participation. High powerful other/high participation respondents exhibited better adjustment (lower TMD scores) than high powerful other/low participation individuals. Thus, for those with strong beliefs in the healing capacity of powerful others, poorer adjustment was observed at lower levels of participation. For women with weaker powerful other beliefs, however, a slight increase in mood disturbance was observed at higher levels of participation.

In an attempt to help conceptualize the interaction effect, a median split was used to create a high versus a low powerful other group. Since there were too few respondents to utilize the five levels of participation that were assessed in the study, levels were collapsed to form three conceptually distinct participation categories: (1) low participation--the doctor (either alone or by considering the woman's opinion) makes the decision, (2) moderate participation--the decision is shared between the patient and her doctor, and (3) high participation--the woman (either by considering her doctor's opinion or by relying on her own knowledge base) makes the final decision. See Figure 1 for a visual presentation of this interaction. An analysis of variance was performed to test the significance of the interaction between the two variables based on this new classification. The

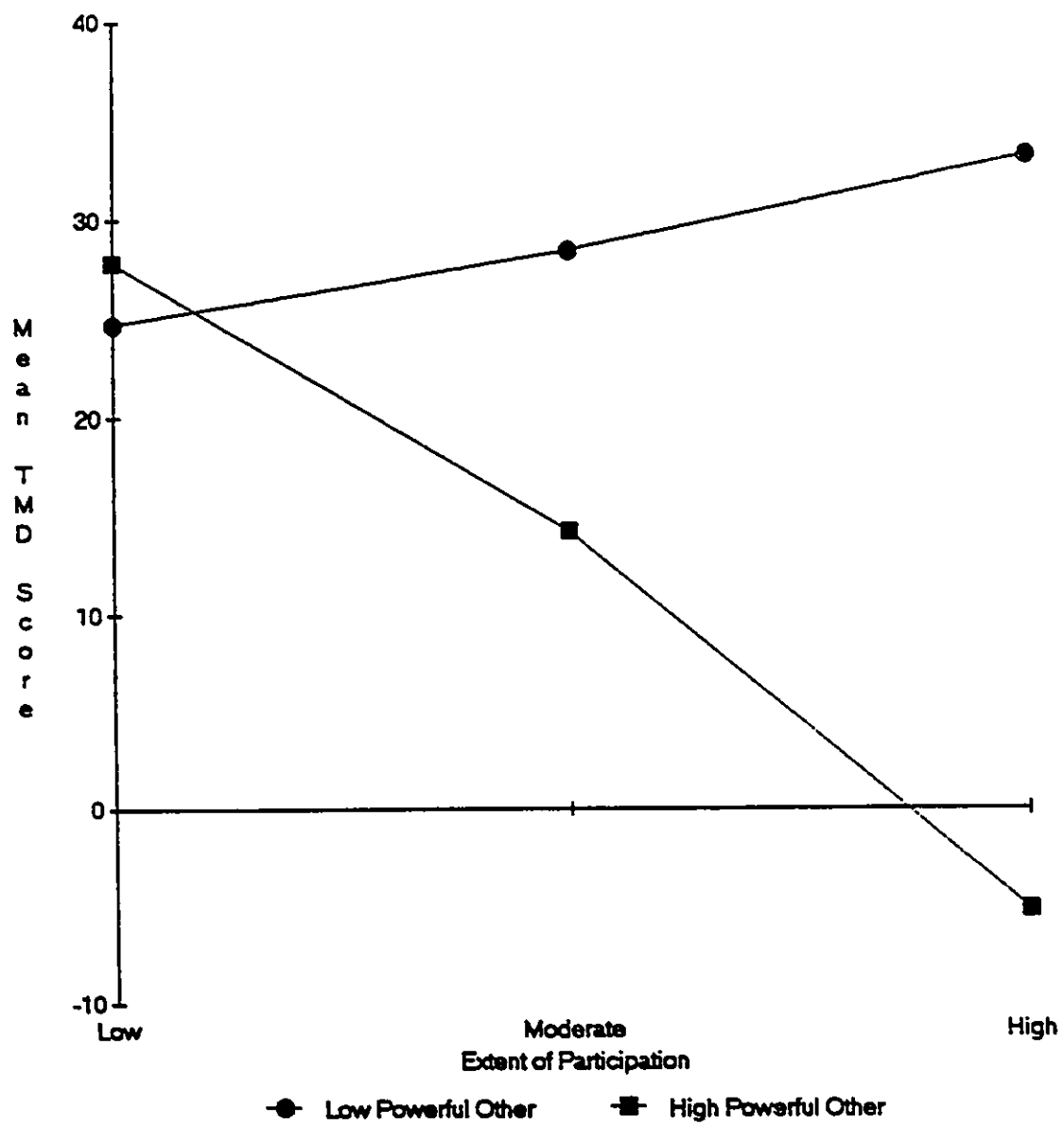


Figure 1. Interaction of powerful other control beliefs and extent of participation on total mood disturbance (TMD).

interaction failed to reach statistical significance, $F(2,36) = 1.47, p=.24$. However, t tests performed at each level of participation revealed a significant positive effect on adjustment of a high powerful other orientation at the highest level of participation, $t(15) = 2.34, p<.05$.

Emotional Adjustment

Table 11 presents the results of the regression analyses with the emotional adjustment scale as the criterion. The three control variables accounted for 12% of the variability in emotional adjustment. As was the case with total mood disturbance, findings based on the emotional adjustment scale failed to yield support for the congruence hypothesis. While locus of control and treatment approach did not interact to predict positive adjustment with respect to either the internal or chance orientations, the interaction of powerful other control expectancies and amount of information significantly predicted emotional adjustment. Contrary to expectation, women with high scores on the powerful other dimension experienced improved emotional adjustment when they were given more information. For those lower on this dimension, adjustment was similar regardless of the amount of information supplied.

Again, high and low powerful other locus of control groups were formed on the basis of a median split to help visualize the interaction effect. Since no respondents indicated that they wanted less information than they had received, two information categories were formed: (1) low information--wanted much more information or wanted a little more information, and (2) sufficient information--got just the right amount of information. Figure 2 illustrates this interaction. An analysis of variance performed to test the interaction effect based on this classification of variables failed to reveal a

Table 11
Hierarchical Regression Analysis Predicting Emotional Adjustment Scores

Variables	Multiple R	R ²	R ² Change	Beta	F
Controls	.34	.12	.12		1.70
Helpfulness of support				.05	
Reconstructive surgery				-.22	
Physical distress				-.18	
Internal score (A)	.34	.12	.0	-.03	1.25
Information (B)	.43	.19	.07	.32	1.67
AXB	.45	.20	.01	-.19	1.49
Internal score (A)	.34	.12	.0	-.03	1.25
Participation (B)	.35	.12	.0	.02	.97
AXB	.35	.12	.01	-.08	.82
Chance score (A)	.35	.12	.01	-.08	1.30
Information (B)	.41	.17	.05	.24	1.48
AXB	.41	.17	.0	.05	1.21
Chance score (A)	.35	.12	.01	-.08	1.30
Participation (B)	.35	.12	.0	.04	1.03
AXB	.37	.13	.01	.10	.90
Powerful other score (A)	.35	.12	.0	-.05	1.26
Information (B)	.43	.18	.06	.28	1.59
AXB	.55	.30	.12*	.36	2.54*
Powerful other score (A)	.35	.12	.0	-.05	1.26
Participation (B)	.35	.12	.0	.02	.98
AXB	.36	.13	.01	.09	.85

Note. For each regression analysis in this table, helpfulness of support, reconstructive surgery, and physical distress were entered in the first step as control variables. Since the effects were identical in each analysis, the results for these variables are presented only for the first regression displayed in the table.

* $p < .05$.

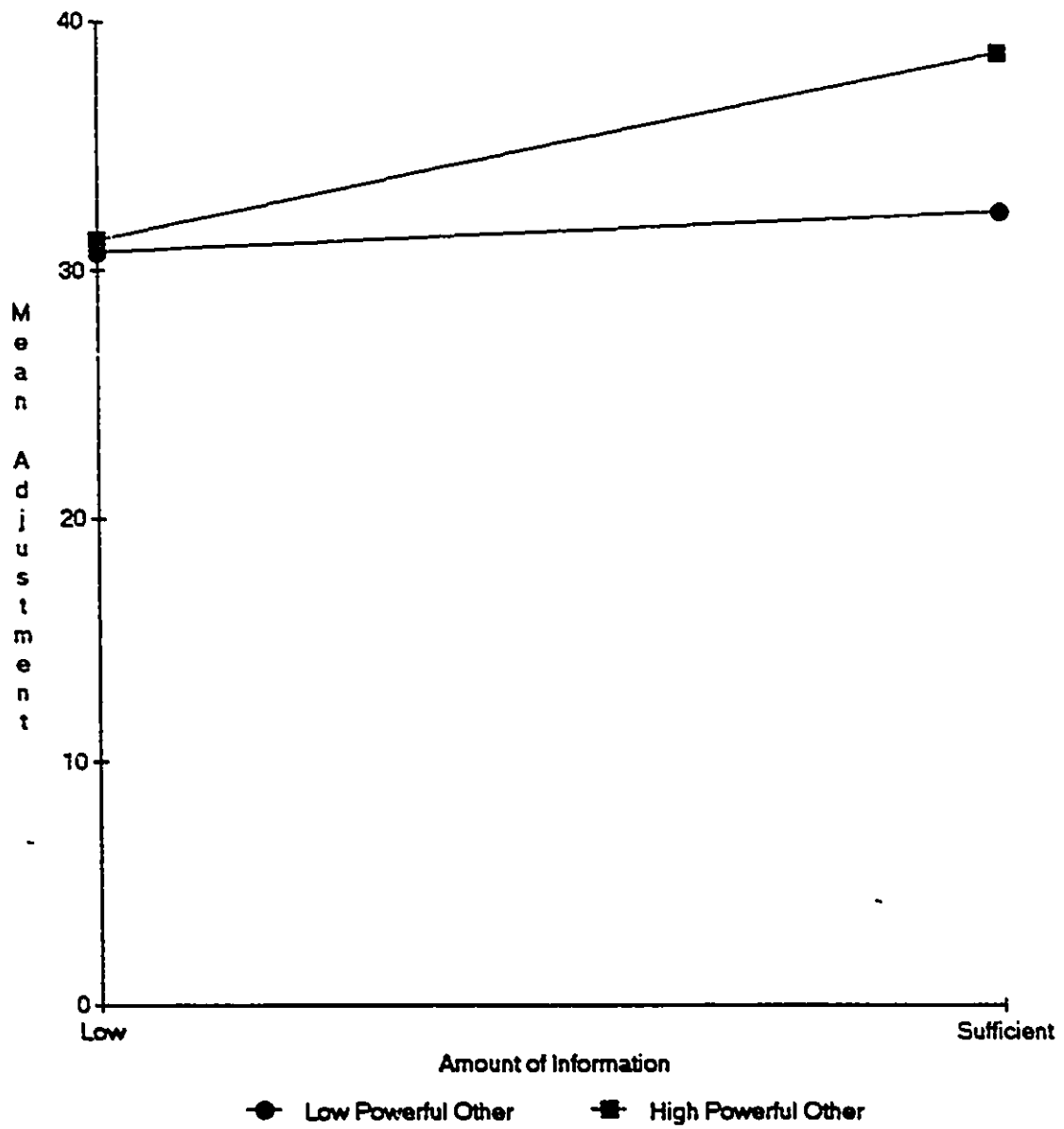


Figure 2. Interaction of powerful other control beliefs and amount of information on the emotional adjustment scale.

significant effect, $F(1,38) = 1.08, p=.30$. Separate t tests at each information level failed to reach significance.

Sexual Adjustment

As with the other regression analyses, physical distress, helpfulness of social support, and whether or not reconstructive surgery was undergone were entered as control variables in the first step of the analysis. These variables accounted for only 4% of the variability in sexual adjustment (multiple $R = .21$). Locus of control orientation, treatment approach, and the hypothesized interactions of these predictors failed to account for a significant portion of the variability in this measure of adjustment.

In an effort to determine whether any of the study variables predicted sexual adjustment, a stepwise regression was performed in which all of the variables (including subject and disease-related characteristics) were entered as predictors. The results of this analysis are presented in Table 12. Satisfaction with one's degree of participation in medical decisions, possessing the highest correlation with sexual adjustment, was the first variable to enter the equation. Women who reported more satisfaction with their extent of participation reported higher levels of sexual adjustment. The variable with the highest partial correlation (i.e., satisfaction with the amount of information provided) also passed entry criteria and entered in the second step of the equation building process. The final variable to enter the equation was initial stage of illness, with those diagnosed in Stage II reporting more sexual impairment than those in Stage I. Considered together, these variables accounted for 46% of the variation in sexual adjustment.

Table 12

Stepwise Multiple Regression Predicting Sexual Adjustment

Variables	Multiple <u>R</u>	<u>R</u> ²	<u>R</u> ² change	Beta	<u>F</u>
. Satisfaction with extent of participation	0.44	0.20	0.20	-.71	9.73*
Satisfaction with amount of information	0.62	0.38	0.18	-.35	7.71*
Initial stage of cancer	0.68	0.46	0.08	-.29	7.83**

*p<.01**p<.001

Locus of Control, Social Support, and Adjustment

An additional aim of the present investigation was to test the hypothesis that social support and locus of control would interact, with those high in internal beliefs experiencing enhanced psychological adjustment with increases in social support. Differences in social support were not predicted to influence adjustment with respect to the powerful other and chance locus of control dimensions. The three hypotheses were tested using hierarchical multiple regression analysis. For each criterion, separate analyses were performed for each locus of control dimension and for each of the three social support variables--size (quantity), helpfulness, and reciprocity. Therefore, nine regression equations were tested for each criterion. The present study failed to find the predicted interaction between social support variables and internal control expectancies. However, the prediction regarding the effects of chance control and social support on adjustment was supported; the relationship between chance expectancies and psychological adjustment was not found to be mediated by differences in any of the social support variables. While the relationship between social support and adjustment was not predicted to be influenced by differences in powerful other beliefs, a significant interaction was observed between this dimension and the helpfulness measure of social support. For women with low powerful other beliefs, those who viewed their support networks as more helpful experienced lower mood disturbance than those who viewed their networks as less helpful. For women with high powerful other beliefs, increases in perceived helpfulness of support were associated with a small increase in mood disturbance. To help visualize this interaction, median splits were utilized to create groups which were high and low in both powerful other beliefs and in perceived helpfulness of social support. This

interaction is shown in Figure 3. In an analysis of variance, this interaction failed to reach statistical significance. However, a positive effect on adjustment, approaching statistical significance, was observed in which stronger powerful other beliefs were associated with less mood disturbance for those with less helpful social networks, $t(21) = 1.84, p=.08$.

Supplemental Analyses

A search for significant relationships among study variables not addressed in any of the earlier analyses was also conducted. A significant relationship was observed between perceived seriousness of one's illness and the length of time since initial diagnosis ($r = .39, p<.05$). As length of time increased, women viewed their situation as more grave. Not surprisingly, perceived severity was also related to type of surgery, with those having undergone more radical surgery rating their illness as more serious.

With respect to social support, the size of one's network was related to the length of time since initial diagnosis ($r = -.35, p<.05$) and initial stage of illness ($r = -.31, p<.05$). Women who were further from their time of diagnosis listed fewer support providers than those more recently diagnosed. Women diagnosed in Stage II reported a smaller number of individuals in their network than those diagnosed in Stage I.

An intriguing finding of the current investigation was the significant positive correlation between internal and powerful other locus of control beliefs. As noted earlier, positive correlations have generally been observed between powerful other and chance external orientations, and these belief systems have typically shown little relationship to the internal orientation. The fact that most participants were diagnosed at an early stage of their illness, that most had successfully completed the treatment phase, and that

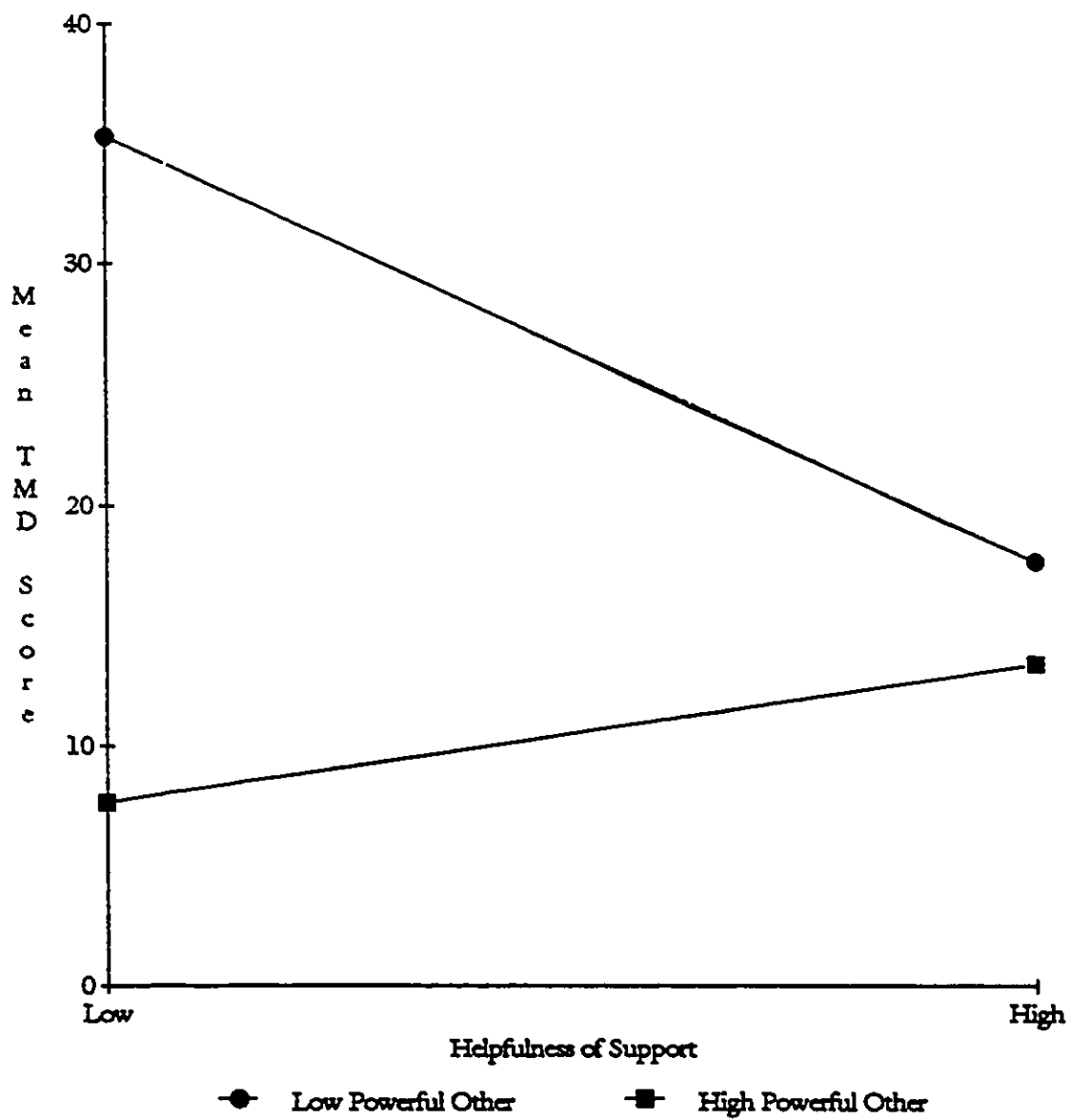


Figure 3. Interaction of powerful other control beliefs and perceived helpfulness of social support on total mood disturbance (TMD).

for many a good deal of time had elapsed since their diagnosis (40% were past the two year mark) may have led to this unusual pattern of control beliefs. On closer examination of these results, it was observed that those with the lowest mood disturbance were women with high internal/high powerful other beliefs, while low internal/low powerful other women displayed the greatest mood impairment. A t test to examine the significance of the difference in adjustment between these two groups approached statistical significance, $t(24) = 1.86, p=.07$.

Answers to the interview questions also revealed a number of interesting findings. When participants were asked to indicate how comfortable they generally felt asking doctors questions about their illness or treatment, 52.4% stated that they felt very comfortable, 35.7% felt quite comfortable, and 9.5% experienced discomfort. Respondents rated the quality of doctors' answers in the following way: (1) answers were specific and detailed (61.9%), and (2) answers were not specific and detailed (38.1%). No participants reported that answers to their questions were too detailed or specific. It was of interest to note that older women rated doctors' answers to their questions as less specific and detailed ($r = .34, p < .05$) than did younger cancer patients.

Women were also asked to indicate the individual(s) within the medical system who had been most helpful to them during their course with cancer. The following answers were provided: (i) cancer clinic (38.1%), (ii) family doctor (30.9%), (iii) nurses (23.8%), (iv) Cancer Society (7.1%), (v) Hospice (7.1%), and (vi) psychologist (2.4%). Percentages do not sum to 100 since respondents were not limited to one answer. Two participants believed that no one was of much help during this difficult time.

Satisfaction with treatment approach was also examined. Subjects were first asked to indicate how satisfied they were with the amount of information they had received. Sixty-nine percent reported that they were satisfied (21.4% were extremely satisfied, 28.6% were quite satisfied, and 19.0% were somewhat satisfied). On the other hand, 31.0% expressed some level of dissatisfaction with the amount of information provided to them. Specifically, 9.5% felt somewhat dissatisfied, 4.8% were quite dissatisfied, and 16.7% expressed extreme dissatisfaction.

Respondents were subsequently asked about their degree of satisfaction with their role in decision making. With regard to their involvement, 92.8% reported that they were satisfied with the way decisions were made (42.8% expressed extreme satisfaction, 38.1% were quite satisfied, and 11.9% were somewhat satisfied), while only 7.2% indicated that they were dissatisfied with their amount of involvement (4.8% were somewhat dissatisfied and 2.4% were extremely dissatisfied).

The interview also inquired about the steps taken if the woman was unhappy with the amount of information she had received. A variety of responses were supplied. Many (36%), for example, stated that they found it necessary to educate themselves by researching the topic at libraries, by contacting other cancer clinics, or by joining support groups. Five respondents reported that they either insisted on more information or asked a lot of direct questions to try to fill this information void. Eight women requested to see another doctor, with five of them eventually travelling to another regional cancer centre.

Finally, respondents were asked what steps they took if they were dissatisfied with the way decisions were made. This question was of limited use since, as noted earlier, 92.8% of the women in this sample were

satisfied with their degree of involvement in medical decision making. A few answers, however, were provided. Three women indicated that they enlisted the aid of cancer clinic nurses to help them avoid contact with specific doctors with whom they had had previous negative experiences. Five women reported that they continued to insist on a more dominant role in their treatment. Finally, three respondents sought the assistance of their family physician who attempted to use his influence to help them increase their role in their medical care.

Additional Issues

To avoid overlooking issues of importance to participants, all women were given an opportunity to express any concerns that might have been missed in the interview. While comments were too many and varied to be covered in their entirety, a sampling of the more commonly reported concerns is presented. Not surprisingly, fear of recurrence was one of the more common themes in the interviews, with 40% expressing this anxiety.

A few women (12%) voiced concerns regarding the development of other illnesses (e.g., diabetes, asthma, arthritis, thyroid problems) or complications such as chronic pain which they believe stemmed from their treatment. They particularly resented what they interpreted as the easy dismissal of these concerns by physicians with comments such as "I've never heard of that before." One woman expressed anger with her surgeon who suggested that her persistent pain (which began after her surgery and had continued for over a year) had a psychological origin. This participant reported experiencing tremendous relief when another physician took her claim of physical distress seriously and scheduled an appointment for her with a specialist in Toronto.

Prosthesis fitting, availability, and the cost of garments (e.g., bathing suits) posed problems for several (18%) of those with mastectomies. While they were appreciative of the financial assistance provided by the government for a portion of the cost of prostheses, many still viewed the price as unreasonably inflated. A desire for financial assistance for pumps and related equipment to control lymphedema was also expressed.

As has been found in other cancer research, several women reported a type of personality transformation, characterized as an enhanced ability to "put things in their proper perspective." Changes such as an increased capacity to experience, as well as to display, compassion toward others and an inability to tolerate injustices around them were reported by 24% of the participants. As described by one woman, she felt a "new rebelliousness in fighting wrongs."

Several participants (18%) mentioned the importance of receiving adequate support during this difficult time. A few of these women felt that their daughters, who could be genetically susceptible to breast cancer, would benefit from a support group designed to help them learn to live with the fear of cancer in their future. In addition, the need for support for husbands was suggested. Others (7%) noted the lack of support groups with an emphasis on self-help techniques such as progressive relaxation, meditation, and mental imagery to help cancer patients better manage their emotions.

It was most troubling to find gender-related issues at the base of many of the concerns advanced by this sample of women. For example, 14% were angered by the general lack of interest and research funding for breast cancer. They suggested that their type of cancer, since it primarily affects

women, is regarded by many as less serious or important than most other types.

The need for more female specialists to treat women's cancers was also a concern expressed by a few women (12%). These participants believed that female practitioners would be better able to empathize with them and to provide treatment within a warm, caring, nurturant framework. For this reason, it was very disconcerting to encounter several complaints directed against two female specialists. While an anticipated and unfulfilled stereotype regarding the type of treatment women are expected to provide might have led to an unduly harsh assessment of these specific medical professionals, a careful analysis of the specific complaints suggests that a genuine lack of interpersonal and communication skills, rather than unfulfilled expectations on the part of patients, led to these complaints.

CHAPTER IV

Discussion

The current study sought to test Reid's (1984) "congruence hypothesis" which suggests that a treatment approach to illness congruent with locus of control orientation is associated with less psychological distress than an incongruent combination of control beliefs and treatment approach. This hypothesis was tested in the context of women's psychological adjustment to breast cancer, with locus of control defined in terms of internal, powerful other, and chance control beliefs, and treatment approach defined as the amount of medical information provided to participants and their degree of involvement in treatment decision making. The current study failed to provide support for the congruence hypothesis. However, in accord with Wallston et al.'s (1978) theoretical speculation regarding the importance of the powerful other locus of control orientation in health-related research, powerful other beliefs were found to have particular relevance, interacting with treatment approach variables to influence both mood impairment and emotional adjustment. Furthermore, powerful other expectancies interacted with the helpfulness measure of social support to influence mood disturbance.

The existence of a significant effect of powerful other orientation on three separate scales permits more confidence to be placed in the assertion that this orientation is a significant factor in health-related issues. In retrospect, the importance of powerful other beliefs to cancer patients is not surprising; although a minority of cancer patients may experience spontaneous remission or succeed in curing themselves, the evidence indicates that most people cannot recover from cancer without the assistance of a physician. The same observation could be made of many

conditions, from appendicitis to tuberculosis. However, the extreme prognosis uncertainty associated with cancer may render cancer patients relatively more dependent upon the knowledge and expertise of the physician for survival.

Results of the present investigation suggest that adjustment to breast cancer is enhanced by a combination of high powerful other beliefs, the provision of extensive medical information, and a high degree of participation in treatment decisions. In other words, those with strong beliefs in the ability of powerful others to conquer their illness were most likely to display beneficial effects as a result of enhanced situational control. This finding seems reasonable in that those with weaker powerful other beliefs may be unable to place a great deal of confidence in the information provided by their physician and may consequently be less able to engage in informed decision making. It seems imperative, therefore, for cancer patients to be treated by physicians who are capable of sustaining patients' confidence in their ability to control cancer. One possible option for reaching this goal is giving patients a more active role in choosing their physician. However, issues of practicality and current fiscal restraint make such a selection process untenable. Waiting lists and treatment delays, unfortunate but common occurrences at many cancer clinics, serve to reinforce the urgency of the situation and dissuade patients from engaging in a time-consuming selection process.

Another option is to increase doctors' awareness of the important role they play in influencing the emotional adjustment of patients to this life-threatening illness. Perhaps training to improve physicians' interpersonal and communication skills would better enable them to recognize potential gender biases, to communicate more effectively with patients, and to become

more willing to acknowledge the right of patients to play a determining role in any decisions related to their treatment. In fact, the unrealistic and condescending belief held by some doctors that they are in a better position than the patient herself to judge her emotional state frustrated several of the women in this sample. One participant recalled her frustration and anger when, while she was in the seemingly unending throes of chemotherapy, her oncologist questioned why she was so depressed. A few respondents (19%) argued that instead of telling them how well they are doing, doctors should routinely inform breast cancer patients of all available support services and let them decide for themselves whether they need help dealing with their illness. This type of assistance from physicians is very important since community resources such as the Canadian Cancer Society are required to secure physicians' consent prior to visiting hospitalized patients. One woman mentioned her surprise on observing that although there were six other women with breast cancer in her room throughout her hospital stay, she was the only one with a Cancer Society visitor. Another expressed gratitude for the nurses treating her who put combined pressure on her doctor to give his permission for a visit from a Cancer Society volunteer.

The current study also suggests that amount of information is one of the variables related to successful adaptation to breast cancer. Unfortunately, a growing body of evidence indicates that cancer patients are unlikely to receive adequate information. Strull et al. (1984), for example, found that clinicians underestimated patients' desire for medical information. Dakof and Taylor (1990) noted that 25% of the cancer patients in their study felt that giving insufficient information was the most unhelpful thing their physician did. Similarly, Fallowfield, Hall, Maguire,

and Baum (1990) reported that 52% of the breast cancer patients in their sample felt that they had received inadequate information. In the present study, the majority (69%) of the women indicated that they wanted more information. While these reported studies did not investigate gender differences with respect to the amount of information patients received, it is possible that this lack of information is more pronounced in the case of female patients. As discussed earlier, traditional feminine stereotypes which portray women as childlike, submissive, and incapable of independent, rational decision making may reduce the likelihood that female patients will receive extensive information. Unfortunately, Schain's (1976) much earlier depiction of the doctor-female patient relationship as one characterized by patronizing comments and a "collusion of silence" is probably still valid today. This point is poignantly demonstrated by an incident reported by a woman during her initial appointment with a surgeon. As explained by this patient, following the removal of fluid from a lump in her breast, her male surgeon patted her on the head and said, "Don't worry your pretty little head. There's nothing wrong" (Nemeth, 1994). Further tests, however, revealed that this woman did indeed have breast cancer.

Most participants (76.2%) reported that they played a major role in decision making (either sharing decisions with the doctor or making decisions on their own); however, evidence from the present investigation also demonstrates that some doctors still regard themselves as the major treatment decision maker. For example, three women noted that although they informed their surgeon that they did not wish to undergo subsequent breast reconstruction, a flap of skin was left for future reconstructive surgery. According to one of these women, after some time had elapsed her

surgeon finally acknowledged the legitimacy of her decision and commented, "We'll have to go in there sometime and clean up that mess." The most serious examples of doctors disregarding decisions made by their patients in the present study involve two women who believe that they made their preference for a mastectomy very clear and instead received a lumpectomy. Since a desire to take a more radical approach to fighting breast cancer was important to these women, a second operation performed by another surgeon was necessary to have the complete breast removed.

The finding in this sample of patients that powerful other scores correlated with their internal rather than chance locus of control scores is intriguing. Typically (e.g., Levenson, 1981; Wallston et al., 1978), the correlations between both powerful other and chance scales with the internal scale have been minimal. It will be recalled that the vast majority of participants in the present study were diagnosed at an early stage of their disease, with good prognoses. Perhaps their resulting positive outcomes fostered the development and maintenance of strong beliefs regarding their own ability and that of powerful others to control their cancer. The finding that high internal/high powerful other women were better adjusted than low internal/low powerful other women is consistent with Wallston and Wallston's (1982) speculation that a locus of control typology consisting of both high internal and high powerful other beliefs might prove to be the most adaptive pattern of beliefs for those with a chronic illness. They hypothesized that this particular combination affords patients a sense of security derived from the belief that health is controllable (by themselves or by others), rather than determined by uncontrollable factors such as luck or fate. They further proposed that this particular pattern of control expectancies might be conducive to the

development of a partnership between the patient and the health care provider. In keeping with this supposition, the present study suggests that the impact of powerful other beliefs on psychological adjustment may be different for those who are high than for those who are low in internality. In other words, those with strong internal beliefs may be capable of viewing themselves as working with their physician to determine their health outcomes and in this way achieving a perception of control through the expertise of the powerful other. Those with weaker internal beliefs, on the other hand, may be unable to see themselves as engaged in a partnership with their physician to control their cancer and may surrender all control to the physician. These results are reminiscent of the findings of Taylor et al. (1984) that perceptions that one can control one's cancer and that powerful others can also control it were significantly related to positive adjustment to breast cancer.

While powerful other beliefs interacted with the two treatment approach variables to predict adjustment to breast cancer in the current investigation, alternate explanations for the results can also be suggested. For example, religious beliefs, which may play an important role for many individuals with a life-threatening illness, represent a type of powerful other expectancy not captured by locus of control scales. Wallston and Wallston (1982) speculated that individuals with low scores on all three subscales could be expressing a belief in a divine power to control health. The relationship between locus of control expectancies and religiosity, however, has yet to be empirically investigated. While it is likely that a perception that cancer can be controlled either by the physician or by a divine power would be associated with enhanced adjustment, the relationship between spiritual beliefs and the effects of increased

information and treatment involvement on adjustment is difficult to predict. Future research on methods of coping with cancer might benefit from the inclusion of this type of powerful other beliefs.

Fear of recurrence represents another variable which might have an important effect on emotional adjustment to breast cancer. While this variable was not directly assessed in the present study, it will be recalled that 40% of those interviewed spontaneously expressed this concern. Clearly, fear of recurrence plays an integral role in the lives of these women and future studies attempting to predict factors related to adjustment should either directly assess this variable or control for its effect on psychological well-being.

Another potential mediator of emotional adjustment to breast cancer in the current study is the degree of physical distress experienced by participants. When all study variables (including controls) were entered as predictors in a stepwise multiple regression on each criterion, physical distress emerged as the best predictor of total mood disturbance, accounting for 34% of the variance. This finding was curious since participants in this study reported low levels of physical distress. Thus, even when physical distress is relatively low, it may still be a significant factor. This finding is consistent with the speculation of McCorkle and Young (1978) that while newly-diagnosed cancer patients are likely to be experiencing extreme anxiety and dealing with problems related to acceptance of the diagnosis, long-term cancer patients are more likely to be struggling with issues related to physical distress and its disruption of daily activities. In addition, in the present investigation, high physical distress scores were found to be associated with both reduced internal and powerful other beliefs. It seems probable that a failure to be free of physical distress limits

one's ability to maintain beliefs regarding the controllability (by oneself or others) of this illness. In particular, in cases in which symptoms persist and are dismissed by physicians as either nonexistent or of no consequence, patients are likely to experience a profound sense of disempowerment. Patients who have their realities invalidated in this way are likely to feel extremely powerless and may even begin to question their own ability to detect the presence of symptoms.

An interesting finding of the present investigation was that almost half the participants had received breast-conserving lumpectomies, suggesting that the more radical mastectomy could be losing its status as the predominant treatment for this illness. This finding is encouraging since it is likely that less radical surgery will pose fewer problems in adjustment. This assumption is reasonable if one considers the tremendous impact of the Halsted operation which, according to Juret (1978), was regarded as the only acceptable treatment during the first half of this century. As explained by Juret, this extensive surgery involved the removal of large areas of skin and the pectoral muscles, as well as the dissection, scraping, and cleaning of the axilla (armpit). For many of the women who underwent this type of surgery many years ago, quality of life remains impaired to this day. As lamented by a member of a support group at a meeting attended by the investigator, due to the extensive muscle loss associated with this type of surgery, she is unable to carry her grandchildren. Others in the support group who had undergone this operation expressed relief that this surgery is no longer the standard treatment for breast cancer.

Surprisingly, only 36.4% of those with mastectomies in the current sample had undergone reconstructive surgery. While comments such as

"It's only a breast" and "My husband loves his little unicorn" were expressed, others admitted to feeling a twinge of pain on observing naked women in art or in movies. It is undoubtedly very difficult to shake society's glorification of breasts and be altogether free of a painful sense of loss. The finding that women who had undergone reconstructive surgery expressed lower personal control beliefs is an intriguing one. Perhaps those with weaker internal beliefs were more likely to submit to an operation encouraged by male physicians functioning under the well-intentioned but misguided perception that no woman can adjust to the loss of a breast. The finding that a few women were left with a flap of skin against their wishes for future reconstructive surgery suggests that some physicians indeed maintain this view.

An examination of the social support networks of participants also revealed interesting findings. As noted earlier, women further from their time of diagnosis reported fewer sources of support than those more recently diagnosed. In addition, those with a more serious diagnosis (i.e., Stage II versus Stage I) listed fewer individuals in their social networks. While a longitudinal design would have provided more definitive evidence, the present study suggests that stigmatization and avoidance behaviour are still common reactions to those with cancer. One woman remarked that she often felt as if she had the plague. Another noticed former friends sometimes cross the street to avoid talking to her. As stated by several women, it is during this time that "you find out who your real friends are." Such findings are consistent with those of Peters-Golden (1982); 72% of the breast cancer patients in her sample reported being treated differently (e.g., avoided, feared, pitied) after others knew they had cancer. In fact, only half of her respondents rated their support as adequate. The inclusion of a

similar question to tap perceived adequacy of support would have been a useful addition to the present study. In any case, it was apparent that those interviewed had a strong inclination to share their cancer-related experiences with others. Interviews ranged from one to four hours and it became clear that for these women, cancer had pervaded every aspect of their existence, and they wanted the chance to discuss their very personal experiences.

In the present study, a positive relationship was found between helpfulness of one's social network and the possession of high internal beliefs. Perhaps strong beliefs in the controllability of cancer allow patients to view their support networks as more helpful. Or perhaps more helpful support systems enable women to develop strong feelings of personal control. In addition, helpfulness of social support and powerful other locus of control beliefs interacted to moderate the effects of cancer. For women with lower powerful other beliefs, better adjustment was observed in those who rated their support providers as more helpful. For those with high powerful other beliefs, higher helpfulness ratings were associated with a very slight increase in mood impairment. While the correlational nature of this investigation permits other interpretations, results suggest that for women lacking strong beliefs in the ability of doctors to control their cancer, having a helpful social network can enhance psychological adjustment.

Further examination of control variables which were linked to positive adjustment in the present research indicated that older women were better adjusted than their younger counterparts. This finding was anticipated since many of the participants voiced the opinion during the interviews that breast cancer would be much more traumatic for a younger woman. In addition, those initially diagnosed in Stage II reported more

mood disturbance than those diagnosed in less serious Stage I. Finally, women currently undergoing some form of medical treatment reported greater mood impairment than those not receiving any treatment. Surprisingly, other disease-related variables such as the length of time since diagnosis, type of surgery, participation in support/educational/therapy programs, and perceived severity of one's illness failed to predict psychological adjustment to breast cancer.

As in any research design, limitations existed in the present study which require that caution be used in interpreting the results. First, results were derived from a rather small, volunteer sample of breast cancer patients and therefore cannot claim to reflect the experiences of all breast cancer patients. Women who volunteered for the present study may have differed in several ways from those who chose not to participate. In terms of demographic variables, it will be recalled that all respondents were Caucasian and most were middle class. Conceivably, minority women or those with a lower socioeconomic background would have reported less favourable experiences with their physician which might have translated into lower internal and powerful other beliefs, higher chance beliefs, as well as poorer psychological adjustment. As noted earlier, a few studies (e.g., Street, 1991; Waitzin, 1985) found that lower socioeconomic patients received less medical information. The provision of less medical information would have rendered these women disadvantaged with regard to their ability to make knowledgeable treatment decisions. It is probable, therefore, that other samples of breast cancer patients may not have played as active a role in treatment decisions as did women in the present study. Research to determine whether similar findings are observed in samples

with more heterogeneous demographic characteristics would be a profitable area of future investigation.

Participants' disease-related characteristics may also have limited the generalizability of the current findings. It is probable, for example, that those who participated were less ill than those who did not respond to the advertisements. As indicated earlier, only 26.2% of those interviewed were receiving any type of medical treatment. It will also be recalled that low levels of physical distress were reported. Conceivably, women's experiences with illness may have modified their locus of control orientations. It is probable that a sample of women who were more ill or who were undergoing chemotherapy or radiation would have reported lower internal beliefs, higher chance beliefs, as well as more impairment in adjustment. Effects on powerful other beliefs are difficult to predict. Severe illness or adverse treatment effects could serve to increase the patient's awareness of the important role of the physician or they could lead to a perception that the health professional is unable to control this illness. Designs which permit an examination of the stability of locus of control beliefs throughout the course of a life-threatening illness such as cancer would be useful.

The use of self-report measures posed another potential shortcoming. Various researchers (e.g., Zimbardo, 1988) have suggested that individuals may not always be aware of their feelings, they may not remember what they have done or felt, or they may even intentionally lie in order to present themselves in a more favourable light. Given the fact that face-to-face interviews were conducted, with many lasting up to four hours, it is unlikely that participants intentionally lied about their cancer experiences. However, the retrospective analysis of the control characteristics of

treatment approach variables may have increased the risk of recall distortion. Since varying amounts of time had elapsed since the completion of treatment for many participants, it is conceivable that these women might have answered treatment approach questions differently at an earlier time. These concerns would have been better addressed with the use of a longitudinal design.

In spite of these limitations, the present study makes several significant contributions to the literature examining emotional adjustment to breast cancer. First, it focused on a population that has generated scant research interest, that is, women of whom the majority (74%) were past the treatment phase. As indicated earlier, the length of time since initial diagnosis ranged from 3 to 72 months, with a mean of 29 months. Most examinations into the emotional adjustment of cancer patients focus on a more recently-diagnosed population, a group perhaps not as likely to have the combination of high internal/high powerful other beliefs observed in the present sample. Furthermore, subjects were recruited from the community rather than as part of a hospital or cancer clinic research protocol as is generally the case in such studies. As a result, participants could feel assured that their desire to participate as well as their specific answers to the interview questions would not adversely affect the care given to them by their physician.

The selection of a social support scale permitting separate assessments of quantity, helpfulness, and reciprocity of support networks, also represents an important advance. It will be recalled that while all three measures of social support were predicted to enhance emotional adjustment, only helpfulness of support was associated with positive adjustment.

It is hoped that this research will help encourage health researchers and providers to relinquish simplistic views regarding effective coping strategies for cancer patients. In the current investigation, the only main effect of locus of control orientation was associated with the chance dimension. Consistent with much of the earlier research, a detrimental effect of high chance beliefs was observed in that women who attributed their health status to fate or chance exhibited poorer adjustment than those with lower chance scores. However, neither the amount of medical information patients received nor their degree of treatment decision making involvement had direct or main effects on any of the indicators of psychological adjustment. The results of the present study suggest that attempts to empower patients with increased information and decision making participation to enhance their psychological adaptation to breast cancer may be unsuccessful in the absence of strong beliefs regarding the ability of powerful others to control the course of cancer. It is hoped, therefore, that the current investigation will increase health professionals' awareness of the important role they play in determining patients' ability to profit from increased medical information and active involvement in treatment decisions.

REFERENCES

- Abramowitz, C., Abramowitz, S., Roback, H., & Jackson, C. (1974). Differential effectiveness of directive and nondirective group therapies as a function of client internal-external control. Journal of Consulting and Clinical Psychology, 42, 849-853.
- American Cancer Society. (1992). Cancer facts and figures, 1992. Atlanta: American Cancer Society.
- Angell, M. (1985). Disease as a reflection of the psyche. The New England Journal of Medicine, 312, 1570-1572.
- Auerbach, S.M., Kendall, P.C., Cuttler, H.F., & Levitt, N.R. (1976). Anxiety, locus of control, type of preparatory information, and adjustment to dental surgery. Journal of Consulting and Clinical Psychology, 44, 809-818.
- Averill, J.R. (1973). Personal control over aversive stimuli and relationship to stress. Psychological Bulletin, 80, 286-303.
- Averill, J.R., O'Brien, L., & DeWitt, G.W. (1977). The influence of response effectiveness on the preference for warning and on psychophysiological stress reactions. Journal of Personality, 45, 395-418.
- Bard, M. (1952). The sequence of emotional reactions in radical mastectomy patients. Public Health Reports, 67, 1144-1148.
- Baruch, J. (1978). Mastectomy: Experiences of women and professional helpers (Discussion). In P.C. Brand & P.A. van Keep (Eds.), Breast cancer: Psycho-social aspects of early detection and treatment. Baltimore: University Park Press.

- Bates, C. & Stevens, D. (1989). Illusion and well-being: Toward a new agenda for mental health. Journal of Counseling and Development, 67, 590-591.
- Blanchard, C.G., Labrecque, M.S., Ruckdeschel, J.C. & Blanchard, E.B. (1988). Information and decision-making preferences of hospitalized adult cancer patients. Social Science and Medicine, 27, 1139-1145.
- Bloom, J.R. (1982). Social support, accommodation to stress and adjustment to breast cancer. Social Science and Medicine, 16, 1329-1338.
- Bloom, J.R. (1987). Psychological response to mastectomy: A protective comparison study. Cancer, 59, 189-196.
- Bowers, K. (1968). Pain, anxiety, and perceived control. Journal of Consulting and Clinical Psychology, 32, 596-602.
- Brehm, J.W. (1966). A theory of psychological reactance. New York: Academic Press.
- Brody, D. (1980). The patient's role in clinical decision-making. Annals of Internal Medicine, 93, 718-722.
- Burdick, D. (1975). Rehabilitation of the breast cancer patient. Cancer, 36, 645-648.
- Burger, J.M. & Cooper, H.M. (1979). The desirability of control. Motivation and Emotion, 3(4), 381-393.
- Burish, T.G., Carey, M.P., Wallston, K.A., Stein, M.J., Jamison, R.N., & Lyles, J.N. (1984). Health locus of control and chronic disease: An external orientation may be advantageous. Journal of Social and Clinical Psychology, 2(4), 326-332.

- Carey, R. (1974). Emotional adjustment in terminal patients: A quantitative approach. Journal of Counseling Psychology, 21, 433-439.
- Carroll, R. (1981). The impact of mastectomy on body image. Oncology Nursing Forum, 8, 29-32.
- Cassileth, B.R., Lusk, E.J., Brown, L.L., & Cross, P.A. (1985). Psychosocial status of cancer patients and next of kin: Normative data from the profile of mood states. Journal of Psychosocial Oncology, 3(3), 99-105.
- Cella, D.F., Oro fiamma, B., Holland, J.C., Silberfarb, P.M., Tross, S., Feldstein, M., Perry, M., Maurer, L.H., Comis, R., & Orav, E.J. (1987). The relationship of psychological distress, extent of disease, and performance status in patients with lung cancer. Cancer, 60, 1661-1667.
- Cella, D.F., Tross, S., Orav, E.J., Holland, J.C., Silberfarb, P.M., & Rafla, S. (1989). Mood states of patients after the diagnosis of cancer. Journal of Psychosocial Oncology, 7(1/2), 45-54.
- Chan, K. (1977). Individual differences in reaction to stress and their personality and situational determinants: Some implications for community mental health. Social Science and Medicine, 11, 89.
- Coulton, C., Dunkle, R., Haug, M., Chow, J., & Vielhaber, D. (1989). Locus of control and decision making for posthospital care. The Gerontologist, 29, 627-632.
- Cousins, N. (1979). The anatomy of an illness as perceived by a patient: Reflections on healing and rejuvenation. New York: Norton.
- Crandall, V., Katkovsky, W., & Crandall, V.J. (1965). Children's beliefs in their own control of reinforcement in intellectual-academic achievement situations. Child Development, 36, 91-109.

- Cromwell, R.L., Butterfield, E.C., Brayfield, F.M., & Curry, J.J. (1977). Acute myocardial infarction: Reaction and recovery. St. Louis, Mo.: The C.V. Mosby Company.
- Dakof, G.A. & Taylor, S.E. (1990). Victims' perceptions of social support: What is helpful from whom? Journal of Personality and Social Psychology, 58(1), 80-89.
- Degner, L.F. & Russell, C.A. (1988). Preferences for treatment control among adults with cancer. Research in Nursing and Health, 11, 367-374.
- Degner, L.F. & Sloan, J. (1992). Decision making during serious illness: What role do patients really want to play? Journal of Clinical Epidemiology, 45, 941-950.
- DeGood, D.E. (1975). Cognitive control factors in vascular stress responses. Psychophysiology, 12, 399-401.
- Derogatis, L.R. (1986). 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 (2nd ed.). Karger: Basel.
- DeVellis, B.M., DeVellis, R.F., & Spilsbury, J.C. (1988). Parental actions when children are sick: The role of belief in divine influence. Basic and Applied Social Psychology, 9(3), 185-196.
- Dickson, A.C., Dodd, M.J., Carrieri, V., & Levenson, H. (1985). Comparison of a cancer-specific locus of control and the multidimensional health locus of control scales in chemotherapy patients. Oncology Nursing Forum, 12(3), 49-54.

- Dunkel-Schetter, C. (1984). Social support and cancer: Findings based on patient interviews and their implications. Journal of Social Issues, 40(4), 77-98.
- Fallowfield, L.J., Hall, A., Maguire, G.P., & Baum, M. (1990). Psychological outcomes of different treatment policies in women with early breast cancer outside a clinical trial. British Medical Journal, 301, 575-580.
- Fawzy, F.I. & Fawzy, N.W. (1982). Psychosocial aspects of cancer. In D.W. Nixon (Ed.), Diagnosis and management of cancer. Reading Mass.: Addison-Wesley Publishing Co.
- Fawzy F.I., Cousins, N., Fawzy, N.W., Kemeny, M.E., Elashoff, R., & patients: I. Changes over time in methods of coping and affective disturbance. Archives of General Psychiatry, 47, 720-725.
- Feather, B.L. & Wainstock, J.M. (1989). Perceptions of postmastectomy patients. Part II. Cancer Nursing, 12(5), 301-309.
- Feist, J. & Brannon, L. (1988). Health psychology: An introduction to behavior and health. Belmont, California: Wadsworth Publishing Company.
- Friedman, M.L. & Dies, R.R. (1974). Reactions of internal and external test-anxious students to counseling and behavior therapies. Journal of Consulting and Clinical Psychology, 42, 921.
- Gard, D., Edwards, P.W., Harris, J., McCormack, G. (1988). Sensitizing effects of pretreatment measures on cancer chemotherapy nausea and vomiting. Journal of Consulting and Clinical Psychology, 56(1), 80-84.
- Glass, D.C. & Singer, J.E. (1972). Urban stress: Experiments on noise and social stressors. New York: Academic Press.

- Gray, R.E. & Doan, B.D. (1990). Heroic self-healing and cancer: Clinical issues for the health professions. Journal of Palliative Care, 6(1), 32-41.
- Gray, R.E., Doan, B.D., & Church, K. (1990). Empowerment and persons with cancer: Politics in cancer medicine. Journal of Palliative Care, 6(2), 33-45.
- Greer, S., Morris, T., & Pettingale, K.W. (1979). Psychological response to breast cancer: Effect on outcome. Lancet, 2, 785-787.
- Greer, S. & Watson, M. (1987). Mental adjustment to cancer: Its measurement and prognostic importance. Cancer Surveys, 6, 439-453.
- Hallal, J. (1982). The relationship of health beliefs, health locus of control, and self-concept to the practice of breast self-examination in adult women. NursingResearch, 31, 137-142.
- Heyl, M.A. (1977). Attitudes toward mastectomy: The development of a measurement scale. Unpublished doctoral dissertation, The University of North Carolina at Greensboro.
- Holland, J.C. & Mastrovito, R. (1980). Psychologic adaptation to breast cancer. Cancer, 46, 1045-1052.
- Hughes, K.K. (1993). Decision making by patients with breast cancer: The role of information in treatment selection. Oncology Nursing Forum, 20(4), 623-628.
- Jamison, K., Wellisch, D., & Pasnau, R. (1978). Psychosocial aspects of mastectomy: I. The woman's perspective. American Journal of Psychiatry, 135, 432-436.
- Juret, P. (1978). Psychological problems related to the conservative treatment of breast cancer. In P.C. Brand & P.A. van Keep (Eds.),

- Breast cancer: Psycho-social aspects of early detection and treatment. Baltimore: University Park Press.
- Kent, S. (1975). Coping with sexual identity crises after mastectomy. Geriatrics, 30(10), 145-146.
- Kilmann, P.R., Albert, B.M., & Sotile, W.M. (1975). Relationship between locus of control, structure of therapy, and outcome. Journal of Consulting and Clinical Psychology, 43, 588.
- Kilmann, P.R., Laval, R., & Wanlass, R.L. (1978). Locus of control and perceived adjustment to life events. Journal of Clinical Psychology, 34, 512-513.
- Kobasa, S.C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37, 1-11.
- Kobasa, S.C., Maddi, S.R., & Kahn, S. (1982). Hardiness and health: A prospective study. Journal of Personality and Social Psychology, 42(1), 168-177.
- Krantz, D.S., Baum, A., & Wideman, M.V. (1980). Assessment of preferences of self-treatment and information in medical care. Journal of Personality and Social Psychology, 39, 977-990.
- Krause, K. (1991). Contracting cancer and coping with it. Cancer Nursing, 14(5), 240-245.
- Krause, N. (1986). Stress and coping: Reconceptualizing the role of locus of control beliefs. Journal of Gerontology, 41, 617-622.
- Krause, N. & Stryker, S. (1984). Stress and well-being: The buffering role of locus of control beliefs. Social Science and Medicine, 18, 783-790.
- Krouse, H.J. & Krouse, J.H. (1982). Cancer as crisis: The critical elements of adjustment. Nursing Research, 31(2), 96-101.

- Langer, E., Janis, I., & Wolfer, J. (1975). Reduction of psychological stress in surgical patients. Journal of Experimental Social Psychology, 11, 155-165.
- Layton, C. (1985). The relationship between externality and general, nonpsychotic psychiatric morbidity in normal males. Perceptual and Motor Skills, 61, 746.
- Lazarus, R.S. (1983). The costs and benefits of denial. In S. Breznitz (Ed.), The denial of stress. New York: International Universities Press, Inc.
- Lazarus, R.S. & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.
- Lee, E.C.G. & Maguire, G.P. (1975). Emotional distress in patients attending a breast clinic. British Journal of Surgery, 62, 162.
- Lefcourt, H.M., Martin, R.A., Fick, C.M., & Saleh, W.E. (1985). Locus of control for affiliation and behavior in social interactions. Journal of Personality and Social Psychology, 48, 755-759.
- Lefcourt, H.M., Martin, R.A., & Saleh, W.E. (1984). Locus of control and social support: Interactive moderators of stress. Journal of Personality and Social Psychology, 47, 378-389.
- Lennane, K.J. & Lennane, R.J. (1973). Alleged psychogenic disorders in women - A possible manifestation of sexual prejudice. The New England Journal of Medicine, 288, 288-292.
- Levenson, H. (1973). Multidimensional locus of control in psychiatric patients. Journal of Consulting and Clinical Psychology, 41, 397-404.
- Levenson, H. (1981). Internality, powerful others, and chance. In H.M. Lefcourt (Ed.), Research with the locus of control construct (Vol.1). New York: Academic Press.

- Levenson, J.L. & Bemis, C. (1991). The role of psychological factors in cancer onset and progression. Psychosomatics, 32(2), 124-132.
- Levine, P.M., Silberfarb, P.M., & Lipowski, Z.J. (1978). Mental disorders in cancer patients. Cancer, 42, 1385-1391.
- Lewis, B.A. (1981). Sexism in treatment. In P. Russianoff (Ed.), Women in crisis. New York: Human Sciences Press.
- Lewis, M.S., Gottesman, D., & Gutstein, S. (1979). The course and duration of crisis. Journal of Consulting and Clinical Psychology, 47(1), 128-134.
- Louhivuori, K.A. & Hakama, M. (1979). Risk of suicide among cancer patients. American Journal of Epidemiology, 109(1), 59-65.
- Lowery, B. & DuCette, J. (1976). Disease-related learning and disease control in diabetes as a function of locus of control. Nursing Research, 25, 358-362.
- Mahler, H. & Kulik, J. (1990). Preferences for health care involvement, perceived control and surgical recovery: A prospective study. Social Science and Medicine, 31, 743-751.
- Marks, G., Richardson, J., Graham, J., & Levine, A. (1986). Role of health locus of control beliefs and expectations of treatment efficacy in adjustment to cancer. Journal of Personality and Social Psychology, 51, 443-450.
- Marshall, G.N., Collins, B.E., & Crooks, V.C. (1990). A comparison of two multidimensional health locus of control instruments. Journal of Personality Assessment, 54(1&2), 181-190.
- Mastrovito, R.C. (1972). Emotional considerations in cancer and stroke. New York State Journal of Medicine, 72, 2874-2877.

- Matt, D.A., Sementilli, M.E., & Burish, T.G. (1988). Denial as a strategy for coping with cancer. Journal of Mental Health Counseling, 10, 136-144.
- McCorkle, R. & Quint-Benoliel, J. (1983). Symptom distress, current concerns and mood disturbance after diagnosis of life-threatening disease. Social Science and Medicine, 17(7), 431-438.
- McCorkle, R. & Young, K. (1978). Development of a symptom distress scale. Cancer Nursing, 5, 373-378.
- McFarlane, A.H., Neale, K.A., Norman, G.R., Roy, R.G., & Streiner, D.J. (1981). Methodological issues in developing a scale to measure social support. Schizophrenia Bulletin, 7(1), 90-100.
- McIntosh, J. (1974). Processes of communication, information seeking and control associated with cancer: A selective review of the literature. Social Science and Medicine, 8, 167-187.
- McNair, D.M., Lorr, M., & Droppleman, L.F. (1971). EdITS manual for the profile of mood states. San Diego: Educational and Industrial Testing Service.
- McNair, D.M., Lorr, M., & Droppleman, L.F. (1992). EdITS manual for the profile of mood states. San Diego: Educational and Industrial Testing Service.
- Meyerowitz, B.E. (1981). The impact of mastectomy on the lives of women. Professional Psychology, 12, 118-127.
- Meyerowitz, B.E., Chaiken, S., & Clark, L.K. (1988). Sex roles and culture: Social and personal reactions to breast cancer. In M. Fine & A. Asch (Eds.), Women with disabilities. Philadelphia: Temple University Press.

- Miller, D.C. (1991). Handbook of research design and social measurement. Newbury Park: Sage Publications.
- Miller, S. & Mangan, C. (1983). Interacting effects of information and coping style in adapting to gynecologic stress: Should the doctor tell all? Journal of Personality and Social Psychology, *45*, 223-236.
- Mills, R.T. & Krantz, D.S. (1979). Information, choice, and reactions to stress: A field experiment in a blood bank with laboratory analogue. Journal of Personality and Social Psychology, *37*, 608-620.
- Mishel, M.H., Hostetter, T., King, B., & Graham, V. (1984). Predictors of psychosocial adjustment in patients newly diagnosed with gynecological cancer. Cancer Nursing, *7*, 291-299.
- Morris, T. (1987). Silent sadness of the "cured" breast cancer patient. In N.K. Aaronson & J. Beckmann (Eds.), The quality of life of cancer patients. New York: Raven Press.
- Morris, J. & Royle, G.T. (1988). Offering patients a choice of surgery for early breast cancer: A reduction in anxiety and depression in patients and their husbands. Social Science and Medicine, *26*, 583-585.
- Morris, T., Greer, H.S., & Pettingale, K.W. (1978). Psychiatric problems after mastectomy. British Medical Journal, *1*, 1211-1212.
- Murphy, K.C. (1990). The cancer patient's information binder. White Rock: Pegasus Educational Technologies Ltd.
- National Cancer Institute of Canada: Canadian Cancer Statistics 1991. Toronto, Canada, 1991.
- National Cancer Institute of Canada: Canadian Cancer Statistics 1994. Toronto, Canada, 1994.

- Nehemkis, A.M., Charter, R.A., Stampp, M.S., & Gerber, K.E. (1982-83).
Reattribution of cancer pain. International Journal of Psychiatry in
Medicine, 12(3), 213-228.
- Nemeth, M. (1994, July). The new war on breast cancer. Maclean's, pp. 42-
44.
- Oberst, M.T., Hughes, S.H., Chang, A.S., & McCubbin, M.A. (1991). Self-
care burden, stress appraisal, and mood among persons receiving
radiotherapy. Cancer Nursing, 14(2), 71-78.
- Paterson, R. & Aitken-Swan, J. (1954). Public opinion on cancer. The
Lancet, 2, 857-861.
- Pendleton, D. & Bochner, S. (1980). The communication of medical
information in general practice consultations as a function of the
patient's social class. Social Science and Medicine, 14, 669-673.
- Pennebaker, J.W. (1982). The psychology of physical symptoms. New York:
Springer-Verlag.
- Peters-Golden, H. (1982). Breast cancer: Varied perceptions of social
support in the illness experience. Social Science and Medicine, 16,
483-491.
- Pettingale, K.W., Morris, T., Greer, S., & Haybittle, J.L. (1985). Mental
attitudes to cancer: An additional prognostic factor. The Lancet, 1,
750.
- Polivy, J. (1975). Psychological effects of radical mastectomy. Public
Health Reviews, 4, 279-295.
- Polivy, J. (1977). Psychological effects of mastectomy on a woman's
feminine self-concept. Journal of Nervous and Mental Disease, 164,
77-87.

- Pranulis, M., Dabbs, J., & Johnson, J. (1975). General anesthesia and the patient's attempts at control. Social Behavior and Personality, 3(1), 49-54.
- Pruyn, J.F.A, van den Borne, H.W., de Reuver, R.S.M., de Boer, M.F. Bosman, L.J., ter Pelkwijk, M.A, & de Jong, P.C. (1988). De locus of control-schaal voor kankerpatienten. [The locus of control scale for cancer patients.] Tijdschrift voor Sociale Gezondheidszorg, 66, 404-408.
- Rappaport, J. (1977). Community psychology: Values, research and action. New York: Holt, Rinehart & Winston.
- Reid, D.W. (1984). Participatory control and the chronic-illness adjustment process. In H.M. Lefcourt (Ed.), Research with the locus of control construct (Vol.3). Orlando, Florida: Academic Press.
- Renneker, R. & Cutler, M. (1952). Psychological problems of adjustment to cancer of the breast. Journal of the American Medical Association, 148, 833-838.
- Revenson, J.S., Wollman, C.A., & Felton, B.J. (1983). Social supports as stress buffers for adult cancer patients. Psychosomatic Medicine, 45, 321-331.
- Rodin, J. (1985). The application of social psychology. In G. Lindzey & E. Aronson (Eds), Handbook of social psychology (3rd ed., Vol.2). New York: Random House.
- Rodin, J. & Langer, E.J. (1977). Long-term effects of a control-relevant intervention with the institutionalized aged. Journal of Personality and Social Psychology, 35, 897-902.

- Rodin, J., Rennert, K., & Solomon, S.K. (1980). Intrinsic motivation for control: Fact or fiction. In A. Baum & J.E. Singer (Eds.), Advances in environmental psychology (Vol.2). Hillsdale, N.J.: Erlbaum.
- Rose, J.H. (1990). Social support and cancer: Adult patients' desire for support from family, friends, and health professionals. American Journal of Community Psychology, 18, 439-464.
- Rotter, J.B. (1954). Social learning and clinical psychology. Englewood Cliffs, N.J.: Prentice Hall.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80 (1, Whole No. 609).
- Rotter, J.B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. Journal of Consulting and Clinical Psychology, 43, 56-67.
- Sandler, I.N. & Lakey, B. (1982). Locus of control as a stress moderator: The role of control perceptions and social support. American Journal of Community Psychology, 10(1), 65-80.
- Schain, W. (1976). Psychological impact of the diagnosis of breast cancer on the patient. Frontiers of Radiation Therapy and Oncology, 11, 68-89.
- Schorr, D. & Rodin, J. (1982). Perceived control in practitioner-patient relationships. In T. Wills (Ed.), Basic processes in helping relationships. New York: Academic Press.
- Seeman, M. & Evans, J.W. (1962). Alienation and learning in a hospital setting. American Sociological Review, 27, 772-783.
- Seligman, M. (1975). Helplessness: On depression, development and death. San Francisco: W.H. Freeman.

- Silberfarb, P.M., Maurer, L.H., & Crouthamel, 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.
- Simonton, O.C., Matthews-Simonton, S., & Creighton, J. (1978). Getting well again: A step-by-step, self-help guide to overcoming cancer for patients and their families. Los Angeles: J.P. Tarcher, Inc.
- Spiegel, D. (1990). Can psychotherapy prolong cancer survival? Psychosomatics, 31(4), 361-366.
- Spiegel, D., Bloom, J.R., & Yalom, I. (1981). Group support for patients with metastatic cancer: A randomized prospective outcome study. Archives of General Psychiatry, 38, 527-533.
- SPSS Inc. (1992). SPSS/PC+ base system user's guide version 5.0. Chicago: SPSS Inc.
- Step toe, A., Sutcliffe, I., Allen, B., & Coombes, C. (1991). Satisfaction with communication, medical knowledge, and coping style in patients with metastatic cancer. Social Science and Medicine, 32, 627-632.
- Street, R.L. (1991). Information-giving in medical consultations: The influence of patients' communicative styles and personal characteristics. Social Science and Medicine, 32, 541-548.
- Strickland, B. (1978). Internal-external expectancies and health-related behaviors. Journal of Consulting and Clinical Psychology, 46, 1192-1211.
- Strickland, B. (1989). Internal-external control expectancies: From contingency to creativity. American Psychologist, 44, 1-12.
- Strickland, B. & Janoff-Bulman, R. (1980). Expectancies and attributions: Implications for community mental health. In M. Gibbs, J.

- Lachenmeyer & J. Sigal (Eds.), Community psychology. New York: Gardner Press.
- Strull, W.M., Lo, B., & Charles, G. (1984). Do patients want to participate in medical decision making? Journal of the American Medical Association, 252, 2990-2994.
- Tannock, I.F. (1987). Treating the patient, not just the cancer. The New England Journal of Medicine, 317, 1534-1535.
- Taylor, S.E. (1979). Hospital patient behavior: Reactance, helplessness, or control? Journal of Social Issues, 35, 156-184.
- Taylor, S.E., Lichtman, R.R., & Wood, J.V. (1984). Attributions, beliefs about control, and adjustment to breast cancer. Journal of Personality and Social Psychology, 46, 489-502.
- Telch, C.F. & Telch, M.J. (1985). Psychological approaches for enhancing coping among cancer patients: A review. Clinical Psychology Review, 5, 325-344.
- Thompson, S.C. (1981). Will it hurt less if I can control it? A complex answer to a simple question. Psychological Bulletin, 90, 89-101.
- Thompson, S.C., Sobolew-Shubin, A., Galbraith, M.E., Schwankovsky, L., & Cruzen, D. (1993). Maintaining perceptions of control: Finding perceived control in low-control circumstances. Journal of Personality and Social Psychology, 64(2), 293-304.
- Timko, C. & Janoff-Bulman, R. (1985). Attributions, vulnerability, and psychological adjustment: The case of breast cancer. Health Psychology, 4(6), 521-544.
- Trice, A.D. & Price-Greathouse, J. (1987). Locus of control and AIDS information-seeking in college women. Psychological Reports, 60, 665-666.

- Wadler, J. (1992). My breast. New York: Simon & Schuster Inc.
- Wagener, J. & Taylor, S. (1986). What else could I have done? Patients' responses to failed treatment decisions. Health Psychology, 5, 481-496.
- Waitzkin, H. (1985). Information giving in medical care. Journal of Health and Social Behavior, 26, 81-101.
- Wallston, B.S., Wallston, K.A., Kaplan, G.D., & Maides, S. (1976). Development and validation of the health locus of control (HLC) scales. Journal of Consulting and Clinical Psychology, 44, 580-585.
- Wallston, K.A. & Wallston, B.S. (1981). Health locus of control scales. In H.M. Lefcourt (Ed.), Research with the locus of control construct (Vol.1). New York: Academic Press.
- Wallston, K.A. & Wallston, B.S. (1982). Who is responsible for your health? The construct of health locus of control. In G. Sanders & J.M. Suls (Eds.), Social psychology of health and illness. Hillsdale, NJ: Erlbaum.
- Wallston, K.A., Wallston, B.S., & DeVellis, R. (1978). Development of the multidimensional health locus of control (MHLC) scales. Health Education Monographs, 6, 161-170.
- Wallston, K.A., Wallston, B.S., Smith, S., & Dobbins, C.J. (1987). Perceived control and health. Current Psychological Research and Reviews, 6(1), 5-25.
- Ward, S., Heidrich, S., & Wolberg, W. (1989). Factors women take into account when deciding upon type of surgery for breast cancer. Cancer Nursing, 12(6), 344-351.
- Ward, S., Leventhal, H., Easterling, D., Luchterhand, C., & Love, R. (1991). Social support, self-esteem, and communication in patients

- receiving chemotherapy. Journal of Psychosocial Oncology, 9(1), 95-116.
- Watson, M., Pruyn, J., Greer, S., & van den Borne, B. (1990). Locus of control and adjustment to cancer. Psychological Reports, 66, 39-48.
- Witkin, M.H. (1975). Sex therapy and mastectomy. Journal of Sex and Marital Therapy, 1, 290-304.
- Worden, J.W. & Weisman, A.D. (1977). The fallacy in postmastectomy depression. The American Journal of the Medical Sciences, 273(2), 169-175.
- Wortman, C.B. (1976). Causal attribution and personal control. In J.H. Harvey, W.J. Ickes, & R.F. Kidd (Eds.), New directions in attribution research. Hillsdale, NJ: Erlbaum.
- Wortman, C.B. (1984). Social support and the cancer patient: Conceptual and methodologic issues. Cancer, 53, 2339-2360.
- Wortman, C.B., & Brehm, J.W. (1975). Responses to uncontrollable outcomes: An integration of reactance theory and the learned helplessness model. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol.8). New York: Academic Press.
- Wortman, C.B. & Dunkel-Schetter, C. (1979). Interpersonal relationships and cancer: A theoretical analysis. Journal of Social Issues, 35(1), 120-155.
- Zimbardo, P.G. (1988). Psychology and life (12th ed.). Glenview, Illinois: Scott, Foresman and Company.

- e) AT LEAST ONE YEAR OF COLLEGE/
UNIVERSITY
- f) COLLEGE/UNIVERSITY GRADUATE
- g) GRADUATE DEGREE

4. JOB STATUS NOW:
- a) FULL-TIME IN THE HOME
 - b) FULL-TIME OUTSIDE THE HOME
 - c) STUDENT
 - d) PART-TIME
 - e) SICK LEAVE
 - f) UNEMPLOYED
 - g) RETIRED
 - h) OTHER (PLEASE SPECIFY): _____

5. IF EMPLOYED, WHAT IS YOUR OCCUPATION? (IF RETIRED,
WHAT WAS YOUR FORMER OCCUPATION?) _____

6. WHEN WERE YOU FIRST DIAGNOSED WITH BREAST CANCER?
MONTH _____ 19 _____

7. WHEN YOU WERE FIRST DIAGNOSED, WHAT WAS THE STAGE OF
YOUR ILLNESS?
- a) I
 - b) II

8. WHAT TYPE OF SURGERY HAVE YOU HAD?

- a) LUMPECTOMY
- b) SIMPLE MASTECTOMY
- c) MODIFIED RADICAL MASTECTOMY
- d) HALSTED RADICAL MASTECTOMY
- e) NOT SURE

9. WHAT IS YOUR CURRENT TREATMENT STATUS?

- a) ON CHEMOTHERAPY
- b) ON RADIATION
- c) ON CHEMOTHERAPY AND RADIATION
- d) ON HORMONE THERAPY
- e) NO TREATMENT

10. HAVE YOU HAD RECONSTRUCTIVE SURGERY?

- a) YES
- b) NO

11. IF YOU ANSWERED "NO" TO THE LAST QUESTION, ARE YOU PLANNING TO HAVE RECONSTRUCTIVE SURGERY?

- a) YES
- b) NO
- c) NOT SURE

APPENDIX B

Symptom Distress ScaleInstructions

Each of the following cards lists 5 different numbered statements. Think about what each statement says, then place a circle around the one statement on each card that most closely indicates how you have been feeling lately. The statements on each card are ranked from 1 to 5, where number 1 indicates no problems and number 5 indicates the maximum number of problems. Numbers 2 through 4 indicate you feel somewhere in between these two extremes. Please circle only one number on each card.

Note. From R. McCorkle, personal communication, March 1, 1993. Reprinted by permission.

NAUSEA

1	2	3	4	5
I seldom feel any nausea at all	I am nauseous once in a while	I am often nauseous	I am usually nauseous	I suffer from nausea almost continually

APPETITE

1	2	3	4	5
I have my normal appetite	My appetite is usually, but not always, pretty good	I don't really enjoy my food like I used to	I have to force myself to eat my food	I cannot stand the thought of food

INSOMNIA

1	2	3	4	5
I sleep as well as I always have	I have occasional spells of sleepless- ness	I frequently have trouble getting to sleep and staying asleep	I have difficulty sleeping almost every night	It is almost impossible for me to get a decent night's sleep

PAIN

1	2	3	4	5
I almost never have pain	I have pain once in a while	I frequently have pain-- several times a week	I am usually in some degree of pain	I am in some degree of pain almost constantly

MOBILITY

1	2	3	4	5
I am able to do everything	I am able to do most things	I often have difficulty doing the things I like to do	I usually have difficulty doing the things I like to do	Not able to get around

FATIGUE

1	2	3	4	5
I am usually not tired at all	I am occasionally rather tired	There are frequently periods when I am quite tired	I am usually very tired	Most of the time, I feel exhausted

BOWFL

1	2	3	4	5
I have my normal bowel pattern	My bowel pattern occasionally causes me some concern and discomfort	I frequently have discomfort from my present bowel pattern	I am usually in discomfort because of my present bowel pattern	My present bowel pattern has changed drastically from what was normal for me

CONCENTRATION

1	2	3	4	5
I have my normal ability to concentrate	I occasionally have trouble concentrating	I often have trouble concentrating	I usually have at least some difficulty concentrating	I just can't seem to concentrate at all

APPEARANCE

1	2	3	4	5
My appearance has basically not changed	My appearance has gotten a little worse	My appearance is definitely worse than it used to be, but I am not greatly concerned about it	My appearance is definitely worse than it used to be, and I am concerned about it	My appearance has changed drastically from what it was

ARM SWELLING

1	2	3	4	5
My arm is seldom swollen	My arm is occasionally swollen	My arm is often swollen	My arm is usually swollen	My arm is swollen most of the time

ARM WEAKNESS

1	2	3	4	5
I seldom experience arm weakness	I occasionally experience arm weakness	I often experience arm weakness	I usually experience arm weakness	I suffer from arm weakness most of the time

TIGHT CHEST WALL

1

My chest
wall seldom
feels tight

2

My chest
wall feels
tight once
in a while

3

My chest
wall often
feels tight

4

My chest
wall usually
feels tight

5

My chest
wall feels
tight most
of the time

APPENDIX C

Social Support Scale

Instructions

Please put the initials of the people with whom you generally have the following interactions and describe the relation each person has to you.

Then check the circle which indicates how helpful your interactions with each person are to you.

Lastly, check off **YES** or **NO** if you feel each person would come to you for this type of interaction.

Don't feel you have to fill up all the spaces. If you need more spaces, please inform the investigator.

Note. From A. McFarlane, personal communication, March 3, 1993. Adapted by permission.

The following people make me feel loved,
 cared for, and esteemed:

Would this person
 come to you
 to feel loved,
 and cared for?

Yes No

Helpfulness of this support
 (Check one circle)

Relation

Initials

_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()

The following people make me feel that my feelings and beliefs are appropriate:

Would this person come to you to be made to feel that his or her feelings and beliefs are appropriate?

Initials _____ Relation _____

Helpfulness of having feelings and beliefs accepted (Check one circle)

_____	_____	_____	_____	_____
makes things a lot worse	makes things a bit worse	helps things a bit	helps things a lot	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	_____	_____	_____	_____
makes things a lot worse	makes things a bit worse	helps things a bit	helps things a lot	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	_____	_____	_____	_____
makes things a lot worse	makes things a bit worse	helps things a bit	helps things a lot	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	_____	_____	_____	_____
makes things a lot worse	makes things a bit worse	helps things a bit	helps things a lot	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	_____	_____	_____	_____
makes things a lot worse	makes things a bit worse	helps things a bit	helps things a lot	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Yes No
 () ()

() ()

() ()

() ()

() ()

I receive help with my role responsibilities
and my everyday personal care and needs from:

Would this person
come to you for
this type of
help?

Yes No

Helpfulness of aid
(Check one circle)

Relation

Initials

_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()

The following people give me help in the form of advice or information:

Would this person come to you to receive advice or information?

Yes No

Helpfulness of advice
(Check one circle)

Relation

Initials

_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()
_____	_____	_____	_____	_____	_____	()	()

APPENDIX D

Cancer Health Locus of Control ScaleInstructions

Each item is a belief statement with which you may agree or disagree. Beside each statement is a scale which ranges from "strongly disagree" (1) to "strongly agree" (6). For each item, we would like you to circle the number that represents the extent to which you disagree or agree with the statement. The more strongly you agree with a statement, then the higher will be the number you circle. The more strongly you disagree with a statement, then the lower will be the number you circle. Please make sure that you answer every item and that you circle only one number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

IN THE FOLLOWING STATEMENTS
THE WORD "ILLNESS" PERTAINS
TO YOUR HAVING CANCER.

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1. It is my own behaviour which determines how soon I get well again.	1	2	3	4	5	6
2. No matter what I do, if I'm going to get worse, I'll get worse.	1	2	3	4	5	6
3. Having regular contact with my physician is the best way for me to avoid this illness getting worse.	1	2	3	4	5	6
4. Most things that affect my health now that I am ill, happen to me by accident.	1	2	3	4	5	6
5. Whenever I don't feel well, I should consult a medically-trained professional.	1	2	3	4	5	6
6. I am in control of cancer.	1	2	3	4	5	6
7. Luck plays a big part in determining how soon I will recover.	1	2	3	4	5	6
8. Health professionals control cancer.	1	2	3	4	5	6
9. Improvement of this illness is a matter of good fortune.	1	2	3	4	5	6
10. The main thing which affects my condition is what I do myself.	1	2	3	4	5	6
11. If I take care of myself, I can avoid progression of my illness.	1	2	3	4	5	6

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
12. When I get better from this illness it's because other people (for example: doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	6
13. No matter what I do, it's likely that my illness will get worse.	1	2	3	4	5	6
14. If it's meant to be, I will regain my health.	1	2	3	4	5	6
15. If I take the right actions, this illness will be controlled.	1	2	3	4	5	6
16. Regarding this illness, I can only do what my doctor tells me to do.	1	2	3	4	5	6

Note. From M. Dodd, personal communication, September 8, 1992.
Reprinted by permission.

APPENDIX E

Questionnaire to Assess Treatment Approach

INTRODUCTION:

I'd like to ask you some questions regarding your methods of coping with your illness and treatment. We realize that every woman responds in her own way to her illness. We know, for example, that some women want to receive as much information as possible about their disease and its treatment. Others, however, feel that receiving too much information might make them more anxious.

In addition, some women want the doctor to make all the decisions about their treatment based on the best medical practice. Other women want the doctor to ask them their opinion about the decision. Finally, some want to make the treatment decision themselves, after getting the doctor's advice or opinion.

We think it is important for health professionals to know what patients think about their experiences. It is only by knowing how women feel about these issues that the situation can improve. For this reason, we would like to know about your personal experiences.

QUESTIONS:

1. How much information have you been given regarding your type of cancer?

a) Which of the following types of information have you received?

___ verbal information:

from whom? _____

___ pamphlets

___ magazine articles

___ books

___ videos to watch

___ other (please specify): _____

b) How would you rate the amount of information you have been given regarding your illness?

___ wanted much MORE information

___ wanted a little MORE information

___ got just the right amount

___ wanted a little LESS information

___ wanted much LESS information

2. How much information have you been given regarding the type of treatment you have received or are receiving?

a) How would you rate the amount of information you have been given regarding your treatment?

___ wanted much MORE information

___ wanted a little MORE information

___ got just the right amount

___ wanted a little LESS information

___ wanted much LESS information

3. How much information have you been given about the side effects of the treatment you have received or are receiving?

a) How would you rate the amount of information you have been given regarding side effects?

___ wanted much MORE information

___ wanted a little MORE information

___ got just the right amount

___ wanted a little LESS information

___ wanted much LESS information

4. How comfortable do you generally feel asking your doctor questions about your illness or your treatment?

a) How would you rate your doctor's answers to your questions?

___ answers are specific and detailed

___ answers are not specific and detailed enough

___ answers are more specific and detailed than I want

b) How helpful are your doctor's answers to your question?

___ extremely helpful

___ very helpful

___ moderately helpful

___ slightly helpful

___ not at all helpful

5. In general, how satisfied are you with the amount of information that you have received regarding your illness and treatment?

- A. Extremely satisfied
- B. Quite satisfied
- C. Somewhat satisfied
- D. Somewhat dissatisfied
- E. Quite dissatisfied
- F. Extremely dissatisfied

6. If you are not satisfied with the amount of information you have received, have you tried to do something about it?

7. Within the medical system, who has been the most helpful to you and why?

8. I'm going to present you with five statements. Please select the one which best describes who usually makes the final decision regarding the treatment you will receive:

- A. The doctor makes the decision regarding which treatment is best, based on all his/her knowledge in this area.
- B. The doctor makes the decision, but strongly considers my opinion.
- C. After the various treatment options are explained, the doctor and I make the decision together.
- D. I make the decision, but strongly consider the doctor's opinion.
- E. I make the final decision regarding treatment using all that I know or have learned about the various treatment options.

9. In general, how satisfied are you with the way decisions are made about your treatment by you and your doctor?

- A. Extremely satisfied
- B. Quite satisfied
- C. Somewhat satisfied
- D. Somewhat dissatisfied
- E. Quite dissatisfied
- F. Extremely dissatisfied

10. If you are not satisfied with the way decisions are made, have you tried to do something about it?

11. Do you have any additional cancer-related problems or concerns that I have overlooked that you would like to address?

APPENDIX F

Advertisement for Recruiting Participants

BREAST CANCER PATIENTS

Researchers in the University of Windsor Psychology Department are conducting a study to increase our understanding of how breast cancer patients cope with their illness.

We are seeking volunteers for an interview dealing with such factors as social support, physical distress, and feelings of control. All answers will remain confidential.

If this is your first cancer diagnosis and you are interested in contributing to psychological research which could help future cancer patients, please contact:

Jane at (phone number).

APPENDIX G
CONSENT FORM

I understand that this study explores emotional adjustment to breast cancer and is being conducted by Jane Kirkland, as her Ph.D. dissertation in the Department of Psychology, University of Windsor, under the direction of Dr. Shelagh Towson.

I will participate in an interview which will last approximately one and one-half hours. This interview will include several questionnaires and some detailed interview questions. All participation in this study is completely voluntary and I may withdraw from the study at any time without explanation or refuse to answer any part of it. No identifying information will be included on the questionnaires, and the questionnaires will not be attached to this consent form. My answers will be anonymous (identified only by a code number on the questionnaire) and will be kept strictly confidential. I will not be identified in any way in connection with the results of this research. No records of names and telephone numbers will be kept, other than the names on the consent form. Only Ms. Kirkland and Dr. Towson will have access to the questionnaires. No patient records will be examined. The results of the study may be submitted for publication and they will also be made available for anyone who is interested.

If I have any questions regarding the research before, during, or after the study, I can direct them to Jane Kirkland at (phone number) or Dr. Shelagh Towson at (phone number). Any complaints may be directed to Dr. Ron Frisch, Chair of the Psychology Department Ethics Committee, at (phone number).

Two copies of this consent form will be completed. One will be left with me and the other will be given to Ms. Kirkland.

I, _____ understand the information presented above and agree to participate in the study.

Date: _____

Signature of participant: _____

I would like a copy of the results of this study: [] yes [] no

VITA AUCTORIS

NAME: Betty Jane Kirkland

PLACE OF BIRTH: Chatham, Ontario

YEAR OF BIRTH: 1952

EDUCATION: University of Western Ontario
London, Ontario
1976-1980 B.A.

Queen's University
Kingston, Ontario
1980-1982 M.A.

University of Windsor
Windsor, Ontario
1987-1995 Ph.D.