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Psychosocial adjustment to breast cancer: The role of marital support and approach coping

Jacqueline K. Schonholtz

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**Psychosocial Adjustment to Breast Cancer:
The Role of Marital Support and Approach Coping**

by

Jacqueline K. Schonholtz

M.A., New York University, 1993

M.A., Boston University, 1989

B.S., Massachusetts Institute of Technology, 1987

**Dissertation Submitted in Partial Fulfillment of
the Requirement for the Degree of
Doctor of Philosophy
Psychology**

**Walden University
May 2000**

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ABSTRACT

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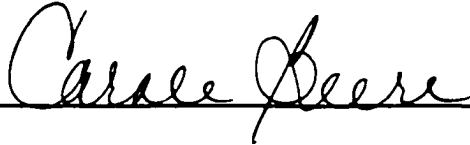
ABSTRACT

This quantitative correlational study examined the role of approach coping and marital support in predicting psychosocial adjustment in 21 married women receiving chemotherapy for breast cancer. Psychosocial adjustment was assessed with the Psychosocial Adjustment to Illness Scale, a measure of overall adjustment to illness. Approach coping was assessed with the Coping Responses Inventory, an inventory that measures coping strategies for dealing with a stressful event. Marital support was assessed with the Family Relationships Index, a measure of relationship functioning that focuses on the amount of togetherness, open communication, and conflict in the marriage. The independent variables of approach coping and marital adjustment were entered in a stepwise regression with psychosocial adjustment as the criterion variable. Results showed that approach coping and marital support explained a large portion of the variance in psychosocial adjustment. Further simple regressions showed that each of these variables explained a significant amount of the variance in psychosocial adjustment, with marital support being the stronger predictor. Taken together, these results indicate that those women who experienced greater marital support, and those who employed a higher percentage of approach coping strategies, had better psychosocial adjustment to their breast cancer. Results from Pearson correlations showed that approach coping and marital support are highly correlated with each other, indicating that those women who experienced greater marital support were more likely to have employed approach coping strategies. Additional simple regressions showed that a linear combination of cohesion, expressivity, and conflict explained a significant portion of the variance in psychosocial adjustment. Furthermore, each of these variables alone were

significant predictors of psychosocial adjustment, with cohesion being the strongest predictor. These results indicate that those women who perceived their spouses as helpful, and had marriages characterized by open, honest communication without angry verbal interaction, had better psychosocial adjustment to their breast cancer. Future researchers should identify factors known to promote adjustment, thus providing an empirical basis for intervention. Psychosocial interventions can then be tailored to focus on these specific variables to more effectively meet the needs of cancer patients.

DOCTOR OF PHILOSOPHY DISSERTATION
OF
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VICE PRESIDENT FOR ACADEMIC AFFAIRS

WALDEN UNIVERSITY
2000

Walden University

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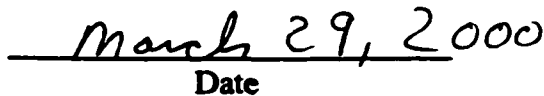
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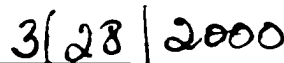
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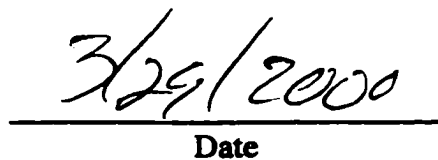
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Health Services Faculty



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Date

DEDICATION

To my husband Frank Ciccone, who lovingly supported me through adversity. I am lucky to have him in my life and will love him always.

To my parents Julius and Sara Schonholtz, who loved me unconditionally, and allowed me to believe in myself. They are my guardian angels and their love is what allows me to succeed in my life.

To all the wonderful women who participated in this study. They gave of themselves to make this research possible, with the hope that they advanced our understanding of the cancer experience, and that this knowledge will promote the quality of life for other women with cancer.

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CHAPTER 1 INTRODUCTION TO THE STUDY

Introduction

In 1998, the American Cancer Society established that 178,700 new cases of invasive breast cancer were diagnosed. The American Cancer Society (1998) estimated that 43,500 cases resulted in death, making breast cancer the second leading cause of cancer death in women. Nearly 2 million women are projected to have a breast cancer diagnosis by the year 2000, and there is currently no known cure (Dow, 1997).

In addition to the physical side effects of treatment (Kneece, 1998), a broad range of psychologically distressing issues may arise. The diagnosis of cancer represents a traumatic event in which the patient and his or her spouse must come to terms with the possibility of the patient's death. Breast cancer tumors generally grow slowly and recurrence may occur long after the initial diagnosis (Watson, 1991). This continuing uncertainty and fear of recurrence may lead to emotional distress long after diagnosis. This is especially true for those with positive lymph node status; the 5-year survival rate for these women is 47%, and fear of death may be an omnipresent worry (Bablon & Weihrein, 1997).

The majority of the research shows that about 30%-40% of cancer patients experience elevated psychiatric distress, including anxiety, depression, anger, and guilt (Harrison & Maguire, 1994; Middleboe, Ovessen, Mortensen, & Bech, 1994; Zabora et al., 1997). Portenoy et al. (1994) found even higher rates of psychological distress. Sixty percent of their sample of 274 cancer patients reported worrying, feeling sad, and feeling nervous. Changes in life patterns may include alterations in physical abilities, social

relationships, employment, and daily activities (Curbow & Somerfield, 1995). The difficulties experienced may change and persist over time depending on the course of the disease and treatment (Anderson, 1993). For example, in Grassi and Rosti's (1996) study of 52 mixed cancer patients, there was a 10% decrease in psychiatric disorders when patients passed the 6-year survival mark. However, in this follow-up group, prevalence of psychiatric disorders was still high (37%), demonstrating the need for continued psychological care.

Definition and Treatment of Breast Cancer

When the breast cancer has spread to local lymph nodes that have become attached to each other or nearby structures, it is classified as locoregionally advanced disease. At this point, treatment consists of a combination of both local treatment (surgery and/or radiation) and systemic treatment (chemotherapy and possibly hormonal treatment) (Dow, 1997; National Comprehensive Cancer Network, 1996).

Surgery usually consists of the modified radical mastectomy and lymph node dissection (removal of the affected breast and lymph nodes) or lumpectomy, lymph node dissection, and radiation. When the original tumor is inoperable, chemotherapy and radiation are given first in order to reduce the size of tumor. This may allow for the tumor to be removed, and surgery is then followed by chemotherapy.

Chemotherapeutic treatment of breast cancer almost always consists of a combination of Cyclophosphamide (Cytoxan), Doxorubicin (Adriamycin), 5-Fluorouracil (5-FU), and Methotrexate (Bablon & Wehrein, 1997). The most common combinations are CMF (Cytoxan, Mehtotrexate, 5-FU) and CAF (Cytoxan, Adriamycin, 5-FU) (Bablon &

Weihrein, 1997). Chemotherapy begins two to six weeks after surgery and does not overlap with radiation (Friedewald & Budzar, 1997). Both of the regimens described above have been shown to increase survival when a 6-month course of chemotherapy is given (Bablon & Weihren, 1997).

Side Effects of Treatment

Both surgery and radiation have some distressing physical side effects. For radiation, these include fractures, nerve pain, pneumonitis (a flu-like illness caused by lung inflammation), and pericarditis (inflammation of the heart lining). However, these side effects occur in less than 5% of women (Friedewald & Budzar, 1997). Surgery may cause lymphedema, which is a swelling of the arm on the side where the lymph nodes were removed. However, the side effects of chemotherapy are usually much more severe and debilitating. In fact, chemotherapeutic treatment is one of the risk factors for increased psychological problems (Watson, 1991). Women who receive chemotherapy are generally those who have positive lymph node status (Bablon & Weihrein, 1997). Chemotherapy is also administered to node-negative women who are at high risk of recurrence due to genetic factors, tumor type, or tumor size (Friedewald & Budzar, 1997).

Physical side effects of the above chemotherapeutic agents include alopecia (hair loss), nausea, vomiting, loss of appetite, skin darkening, diarrhea, flu-like symptoms, fatigue, sore throat and mouth, insomnia, and menopausal symptoms (Kneece, 1998). The menopausal symptoms are due to the sudden reduction of estrogen caused by the chemotherapeutic agents and include reduced libido, decreased vaginal lubrication,

mood changes, and infertility. These side effects can cause many problems in psychological, social, and sexual functioning. Therefore, besides coping with threats to life, emotional equilibrium, and social and occupational functioning, women with breast cancer have to cope with impairments in sexual functioning, and the concomitant threats to self-esteem.

Background of the Problem

In their review of the literature, Harrison and Maguire (1994) found that cancer studies have generally failed to show an association between cancer type and the prevalence of psychological problems (e.g. depression and anxiety). Breast cancer patients seem to show similarly high rates of psychological morbidity when compared to that of the general cancer population; Watson's (1991) review of the literature estimated a 30% average prevalence rate.

Although there is a lack of association between cancer type and psychological problems, there is a strong association between physical symptoms and psychological problems. Since chemotherapy causes so many distressing side effects, it is important to investigate the adjustment of women receiving chemotherapy specifically. Harrison and Maguire (1994) cited two small studies on women receiving chemotherapy for breast cancer that found very high rates of psychological, social, and sexual problems. Chemotherapy treatment has severe adverse physical side effects, is disruptive to daily living, and has no immediate benefit that can be observed despite its long-term effectiveness. In her study of 59 women with breast cancer receiving chemotherapy (30 nonmetastatic and 29 metastatic), Ringler (1984) found that the chemotherapy side

effects were related to emotional upset and disruption of home life. Tiredness, weakness, and nausea were the most problematic side effects and were most consistently associated with emotional distress.

Besides the fear of dying and other psychological disturbances, women with breast cancer suffer from body image disturbance, sexual dysfunctions, and loss of sexual desire (Bablon & Weihrein, 1997; Dow, 1997; Watson, 1991). Many of these women have had to cope with body image difficulties over the loss of a breast. It could be assumed that some of the psychological morbidity could be reduced with breast conservation, but the results of studies conflict. The majority of research shows that there are no differences in psychological symptomatology between these two groups. In their study of sexual functioning in women with breast cancer, Weijmar-Schultz, VanDeWeil, Hahn, and Wouda (1995) found that there was significantly greater body image disruption in women who had undergone mastectomy than in those who conserved their breast. Steinberg (as cited in Smith & Reilly, 1994) found that lumpectomy patients felt more attractive and less self-conscious than mastectomy patients. However, despite body image differences, authors have found that both groups of patients experience similar levels of anxiety and depression (Steinberg, Julian, & Wise, as cited in Smith & Reilly, 1994; Fallofield, as cited in Harrison & Maguire, 1994). Furthermore, Fallofield (as cited in Schover, 1994) found no differences in sexual desire between women who had mastectomy and those who had breast conservation surgery; 30% of the women in each sample reported decreased sexual desire since diagnosis. One possible explanation for lack of differences may be that minimizing the fears of cancer recurrence through

mastectomy offsets the body image problems.

Schover (1994) claimed that the focus on breast mutilation has obscured the critical factor in women's sexual functioning after breast cancer. This crucial factor is the impact of systemic treatment. Unfortunately, despite the increasing use of chemotherapy, its morbidity in terms of psychosexual functioning is known only in general terms and has not been the subject of specific research studies (Schover, 1994). The studies on the sexual functioning of women with breast cancer are not specific to those women undergoing chemotherapy, but they have nevertheless shown a high rate of sexual disturbance. For example, Andersen and Jochimsen's (1985) review of sexual functioning studies showed that 21% to 39% of patients experienced general sexual disruption and reduced frequency of intercourse. Weijmar-Schultz, VanDeWeil, Hahn and VanDreil (as cited in Weijmar-Schultz et al., 1995) found a similar 33% rate of problems with sexual functioning.

Watson (1991) stated that these psychosexual problems persist long after treatment is finished. These effects on sexuality are important because sexuality makes a major contribution to quality of life and may also affect people's views of themselves and their feelings about the future. Because of the specific psychosocial consequences of women receiving chemotherapy for regional breast cancer, it is necessary for mental health researchers to investigate the variables that contribute to psychosocial adjustment among these patients.

Problem Statement

Many advances have been made in prolonging the life of cancer patients. Since these patients are living longer, improving their quality of life has become an increasingly important endeavor. A diagnosis of breast cancer and the adverse side effects of treatment usually results in psychological distress and impairment in day-to-day functioning, especially when chemotherapy treatment is involved (Watson, 1991; Dow, 1997). It is widely accepted that support from the spouse (Blanchard, Albrecht, Ruchdeschel, Grant, & Hemmick, 1995; Burman & Margolin, 1992) and effective coping responses (Dunkell-Schetter, Feinstein, Taylor, & Falke, 1992; Parle & Maguire, 1995) are important in buffering the impact of cancer.

Despite this knowledge, the literature has not examined the mutual influence of these two important factors that promote adaptation to this illness. Furthermore, the psychosocial breast cancer research has focused on heterogeneous samples, not specific to stage or type of treatment. Given the high rate of adjustment problems in women receiving chemotherapy for breast cancer, it is essential to examine the role of these variables in promoting adaptation in this population. This quantitative study was designed to evaluate the significance of marital support and coping strategies in explaining psychosocial adjustment in women receiving chemotherapy for breast cancer.

Rationale for the Study

It was not until the late 1970s that researchers began to investigate psychosocial issues in cancer. This preliminary work was followed by a dramatic increase in research during the 1980s, and the field is now labeled *psychosocial oncology* (Redd, 1995). The

growth of this area is evidenced by the appearance of two professional journals devoted exclusively to research on psychosocial factors in oncology: The Journal of Psychosocial Oncology, and Psycho-Oncology (Redd, 1995). There are several reasons for the increased interest in psychosocial factors within comprehensive cancer care. First, treatments are beginning to be evaluated and selected based on psychosocial factors (Wilkund, 1990) because of the variety of equally effective treatments now available. Second, identifying the psychosocial resource variables that enhance the well-being of cancer patients allows these variables to be modified to improve quality of life. Third, improved psychosocial well-being may exert its influence by increasing treatment compliance and may even extend life (Evans, Thompson, Browne, & Barton, 1993; Redd, 1995; Siegel, 1990).

Research on chemotherapy compliance seems to support the idea that psychosocial variables are associated with treatment compliance. For example, Gilbar and Kaplan-DeNour (1989) found that patients who dropped out of chemotherapy had significantly poorer adjustment and more psychosocial distress; Ayres et al. (1994) found that high levels of guilt and hostility predicted lower levels of chemotherapy compliance.

The study of psychological factors in the treatment of cancer is also important since cancer serves as a model for examining key psychological variables. Cancer consists of a series of predictable stressors, beginning with diagnosis and continuing with a series of aversive treatment regimens. This allows researchers and clinicians to examine the role of numerous factors in short-term and long-term adjustment (Redd,

1995).

The incentive for research in psychosocial oncology over the last two decades stems from evidence that there are individual differences in psychological responses to cancer (Spiegel, 1990). These differences exist even when levels of disease and treatment have been similar (Curbow & Somerfield, 1995). Understanding the nature of these differences can provide insight into how people cope with serious illnesses. This understanding will also help to identify the personal and social resources used in adaptation. In the general cancer literature, coping responses and social support are two key factors shown to influence psychological outcomes (Siegel, 1990). These factors may buffer or amplify the effects of stress (Cronkite & Moos, 1984). Examining the relevant bodies of literature will help to explain the influence of these variables in cancer adaptation.

Purpose and Significance of the Study

Little research addresses the role of psychological variables in predicting adjustment in women receiving chemotherapy for breast cancer. There is substantial evidence that both coping and social support from the spouse play a role in predicting adjustment to other types of cancer. However, there is only a handful of studies that investigate both variables in a unifying framework. There are no studies to date that investigate the role of these variables together in predicting adjustment in women receiving chemotherapy for breast cancer. Given the high rate of adjustment problems in these women, and the importance of these variables in relieving distress in other cancer populations, it is especially important to examine their role in adjustment to breast

cancer. The research described has also shown that coping and support may have reciprocal effects on each other, and it is therefore also important to investigate the relationship between these variables. The purpose of this study is to identify the factors that may lead to adaptation in this population and provide a framework for the development of interventions to reduce distress. Nezu, Nezu, Freidman, Faddis and Houts (1998) point to the lack of empirically based interventions designed to meet the needs of cancer patients. The current research attempts to provide an empirical basis for interventions, so they can be tailored to focus on the variables most likely to reduce distress in this population.

Operational Definition of Terms

Marital Support

Marital support was defined operationally according to the relationship domain of the Family Environment Scale (FES) (Moos & Moos, 1986). The three subscales comprising this domain are known as the Family Relationships Index (FRI). These subscales are cohesion, expressiveness, and conflict. Cohesion is the degree to which family members are helpful and supportive of each other. Expressiveness is the extent to which family members are encouraged to express their feelings directly and openly. Conflict is the extent to which expression of anger and conflictual interactions are characteristic of the family. Scoring on the conflict subscale is reversed. Each of these subscale scores consists of nine true-false items. Scores are derived by computing the sum of items marked in the designated direction, and the overall marital support score is the average of these three scores.

Approach Coping

Coping was operationally defined according to responses on the Coping Responses Inventory (CRI) (Moos, 1993). The CRI consists of eight subscales, four of which measure approach coping and four of which measure avoidance coping. The four approach subscales are logical analysis, positive reappraisal, seeking support and information, and taking problem solving action. The four avoidance subscales are as follows: cognitive avoidance, acceptance or resignation, seeking alternative rewards and emotional discharge. Each of these eight subscales consists of six items. Reliance on each of the 48 coping items is rated on a 4-point scale ranging from not at all (1 point) to fairly often (4 points). Adding the sum of these scores produces a raw score for each subscale.

On the basis of research demonstrating the predictive advantages of relative versus absolute coping scores (Vitaliano, Mauro & Russo, 1987), approach and avoidance coping will be measured by percentage. The percentage of approach coping will be computed by summing the scores on the approach scales and dividing by the sum of all coping scales. The percentage of avoidance coping will be computed by summing the scores on the avoidance scales and dividing by the sum of all coping scales. Earlier research using this technique with two of the approach and two of the avoidance scales has shown the utility of this procedure (Holohan, Moos, Holohan, & Brennan, 1995; 1997; Valentiner, Holohan, & Moos, 1994).

Psychosocial Adjustment to Cancer

Psychosocial adjustment to cancer was operationalized according to the

Psychosocial Adjustment to Illness Scale Self Report Form (PAIS-SR; Derogatis, 1978;1983). This instrument measures psychosocial adjustment to illness in terms of seven primary adjustment domains: health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment and psychological distress. Each of the 46 items is rated on a 4-point scale of adjustment (zero through three) with higher scores indicating poorer adjustment. Scale direction is alternated on every other item to reduce response bias. The seven domain scores are then summed to generate a total adjustment score; this total score was the operational definition of psychosocial adjustment.

Hypotheses

This study tested the following null hypotheses:

- 1. A linear combination of marital support (as measured by the FRI) and approach coping (as measured by the CRI) will not explain a significant portion of the variance in psychosocial adjustment (as measured by the PAIS-SR) in women receiving chemotherapy for breast cancer.**
- 2. Neither approach coping nor marital support are significantly correlated with increased psychosocial adjustment to illness in women receiving chemotherapy for breast cancer.**
- 3. Approach coping and marital support are not significantly positively correlated with each other.**

Limitations

There were four limitations in this study:

1. The availability of subjects was a major limitation of this study. Due to the fairly strict inclusion criteria, the sensitive and confidential nature of revealing health and personal issues, and the physically distressing side effects of treatment, it was difficult to find eligible subjects who were willing to participate. The goal of this research was to involve 20 subjects; 21 subjects were obtained.

2. A second limitation involved response bias. The subjects who did not respond may be different from those who did, and this may skew the results.

3. Subjects may not have answered all questions truthfully due to issues of social desirability, and this may have distorted results.

4. The generalizability of this study is limited by the restricted sample used. The subjects were recruited primarily from support groups in Las Vegas, and these women may differ from those who do not attend these groups, or from women in other parts of the country.

5. There may be extraneous factors accounting for the relation between the variables that the researcher did not account for in the statistical analysis.

6. The validity of the results may have been affected by immediacy of experience. For example, some of these patients may have had an especially good or an especially bad day, and this may have influenced the way they answered the questions.

7. There is no data on the patients prior to the diagnosis of cancer, and the quality of the marriage before diagnosis may have affected the perception of marital support at

the time of data collection.

Assumptions

Although the researcher attempted to verify all factors, this study involved the following assumptions:

1. That the subjects have been accurately diagnosed with breast cancer and were receiving chemotherapy.
2. That the subjects in this study possessed the necessary ability to understand the questionnaire items.
3. That this researcher's personal, ongoing experience with gynecologic cancer did not distort the results.

Summary

It has long been known that cancer is a stressful experience, which may cause psychological stress as well as disruption in the social environment. It is also well known that spousal support (Blanchard et al., 1995; Burman & Margolin, 1992), and coping strategies (Dunkell-Schetter et al., 1992; Parle & Maguire, 1995) have an important influence on psychosocial outcome in cancer patients. Marital support and coping responses may be important factors in the adaptation of women receiving chemotherapy for breast cancer. Understanding the relation among psychosocial adjustment, coping strategies, and marital support in this patient population will aid in the identification of psychosocial problems and areas of intervention.

CHAPTER 2 LITERATURE REVIEW

Literature Review

Much of the research in psychosocial oncology over the last 20 years has attempted to understand the individual differences in psychological adaptation to cancer. Given the high rates of psychological distress observed among cancer patients, the understanding of these individual differences is essential. This will allow for the identification of patients at high risk for adverse consequences, and will provide the framework for the development of appropriate psychological interventions that will enhance quality of life.

According to Curbow and Somerfield (1995) the dominant approach in psychosocial oncology has been to examine the role of personal and social resources in adaptation. Coping and social support (particularly marital support) are variables that have received a great deal of attention in the psychosocial oncology literature, and research points to the key role these concepts play in influencing psychosocial adjustment. Despite the growth in the field of psychosocial oncology, there is a lack of literature which focuses specifically on these variables in women receiving chemotherapy for breast cancer. Besides coping with threats to life, emotional equilibrium, and social and occupational functioning, women with this type of cancer have to cope with impairments in sexual functioning and the concomitant threats to self-esteem.

This literature review will apply the existing literature to this population by

examining the role of marital support and coping in predicting psychosocial adjustment. In addition this literature will attempt to bridge the gap between coping responses and marital support in determining adaptation to cancer.

The literature examining adjustment to cancer, coping, and social support uses varying definitions of these terms and operationalizes them in different ways. Every attempt was made to organize and clarify the definitions in these studies. The review was divided into three major sections:

1. Social support and adaptation to cancer.
2. Coping and adaptation to cancer.
3. The relationship between coping and social support.

Within the first two sections, studies were grouped according to the type of cancer in the sample population. The section on social support was divided into the following subsections: (a) models of social support and illness adjustment, (b) the beneficial effects of spousal support, (c) when spousal support is ineffective, (d) emotional support as a key component, and (e) methodological limitations. The section on coping was divided into the following subsections: (a) definitions of coping, (b) dimensions of coping, (c) measures of coping, (d) the positive and negative effects of coping, and (e) methodological limitations. The section on the coping and social support relationship was divided into the following subsections: (a) the relational aspects of coping, (b) coping portrayal and support mobilization, and (c) a mutual influence model. Methodologic and conceptual issues were discussed throughout this review. Finally, this writer addressed some measurement issues regarding psychological adjustment, and

provided support for the Psychosocial Adjustment to Illness Scale (PAIS) as a comprehensive and useful measure of psychological adjustment.

Social Support and Adaptation to Cancer

Models of Social Support in Promoting Adjustment to Illness

Despite the vagueness of the term social support, researchers generally agree on the categories that distinguish different types of support. Cohen and Wills (1985) made a distinction between structure and function of support, and most definitions of support apply this distinction (Blanchard et al., 1995; Burman & Margolin, 1992). Structural support refers to the number of self-reported ties in a person's network, and functional support refers to a person's appraisal of available support.

Within this framework, the absence or presence of a spouse is an example of a structural variable, and the quality of the marital relationship is an example of a functional variable. In their review, Burman and Margolin (1992) provided considerable evidence that being married promotes better medical and psychological outcomes in people with illness. More important, their research shows that the quality of the marriage is more salient than simply being married.

Adequacy of social support is evaluated according to its functional components. Thoitis (1986) stated that the functional components of social support typically include socioemotional aid, informational aid, and instrumental aid, and other researchers have employed these distinctions (i.e., Blanchard et al., 1995; Helgeson & Cohen, 1996). Socioemotional aid refers to demonstrations of love, caring, esteem, sympathy, and belonging. Informational aid refers to communications of opinion or fact that are relevant

to current difficulties and might make the individual's life circumstances easier.

Instrumental aid refers to actions or materials provided by others that help the individual to fulfill ordinary role responsibilities.

An underlying assumption regarding the moderating role of social resources is that people with higher quality resources are protected from the adverse effects of stress. Cohen and Wills (1985) provided support for this buffering hypothesis in their review of evidence showing the beneficial effects of social support under high levels of stress. For example, being able to confide in a caring spouse about the fear of dying may reduce symptoms of anxiety and despair. In addition, empirical evidence supports the idea that social support has beneficial effects irrespective of whether people are under stress; this is known as the main-effects model (Cohen & Wills, 1985; Holohan & Moos, 1990). An example of this is the continuing beneficial function of a good marital relationship.

Another variation of this model is the social-strain model. This model predicts that people who have distressed marital relationships will have worse psychological adjustment than those who have high quality marriages (Burman & Margolin, 1992). A distressed marital relationship will not provide the support or protection needed to cope with the stressful experience. Both the stress-buffering and social-strain models predict better psychological outcomes among the more happily married, and these were the theories guiding this study.

The Beneficial Effects of Spousal Support

The influence of social support on cancer patients' adjustment has been and continues to be a widely studied phenomenon. Wortman (1984), in a comprehensive

review of this topic, demonstrated that support, especially its emotional aspect, can mitigate the adverse psychological impact of diagnosis and treatment. Blanchard et al. (1995) stated that more than 300 studies have addressed this topic since Wortman's (1984) review (p. 76). These authors provided their own more recent review of selected literature on the relationship between psychosocial adjustment in cancer patients and social support. The most important finding across studies was that patients who perceived their relationships as close and supportive had better psychological adjustment than those who did not. This finding highlights the importance of clearly defining what is meant by social support.

Roberts, Cox, Shannon, and Wells (1994) differentiated the notion of a social network, which refers to structural and functional aspects of social networks in the environment, from perceived social support, which refers to the individual's appraisal of adequacy and impact of support. Perceived adequacy of support has been found to be more predictive of positive outcome than perceived availability of support (Roberts et al., 1994), and this study therefore investigated perceived adequacy of support.

Wortman (1984) and Cohen and Wills (1985) also differentiated among distinct types of social support, and pointed to the fact that emotional support is especially important for cancer patients, who are experiencing physical changes. This is because stresses like cancer can deprive patients of feelings of belonging. Emotional reassurance that one is valued and cared for is crucial. In a study examining cancer patients' perceptions of effectiveness of different types of support, emotional support was the most helpful type of support; more than 90% of the sample mentioned emotional support as

one of the most helpful things that anyone had done (Dunkell-Schetter, as cited in Wortman, 1984). Dakof and Taylor (1990), in their study of 55 mixed-cancer patients, found that intimate others were valued most for emotional support. This finding is especially important in the context of cancer; the intimate marital relationship may provide the critical buffer for women with a life-threatening diagnosis as they cope with the stress of the illness.

The fact that these intimate ties, such as those afforded by marriage, is an especially important source of social support has been proposed within the context of the social-strain and buffering models, and has been supported by research. Cohen and Wills's (1985) review showed that confiding husbands and boyfriends served protective functions for women, whereas other confidants did not. Support by the spouse is especially beneficial for those diagnosed with cancer. This is because the spouse can improve the patient's acceptance of the diagnosis, help the patient adjust to treatment, and help the patient find meaning in the dying process (Quinn, Fontana, & Reznikoff, 1986). Most measures of marital satisfaction include some level of cohesion (which is the extent to which family members are helpful and supportive of each other), or some level of emotional closeness. Those couples who rate themselves as higher on these measures see themselves as being in a supportive relationship. This may be why marital quality is used to measure marital support in many studies involving cancer patients.

Breast cancer. A great deal of the research on marital support and its relation to cancer adjustment has been done with breast cancer patients. Northouse and Swain (as cited in Northouse, Crachiolo-Caraway, & Pappas-Appel, 1991) found that breast cancer

patients reported levels of psychological distress significantly above the level reported for the normal population. It is widely noted that depression, anxiety, and anger are widely experienced emotional reactions to the stress of cancer (O'Mahoney & Carroll, 1997; Roberts et al., 1994; Wellisch, 1985).

Spousal support for the breast cancer patient is generally positive and beneficial, with the patient's husband being the most pivotal person in the network (Roberts et al., 1994). For example, Friedman et al. (1988) in their study of 57 women with breast cancer (stages I-IV) provided support for these findings, showing that higher marital adjustment and high levels of closeness in the family were related to better psychological adjustment. In particular, there was a very high correlation ($r=.53$) between marital disharmony (which refers to conflict in the marriage) and psychological distress, which was significant at the $p<.001$ level. These results were confirmed when early stage breast cancer was studied; Hannum, Giese-Davis, Harding, and Hatfield (1991) found that husbands' ratings of the marital relationship predicted psychological distress in 22 wives with Stage I breast cancer ($r=.51$, $p<.05$). Northouse (as cited in Blanchard et al., 1995) and Ptacek et al. (1994) all found that marital adjustment (as reported by both husbands and wives) predicted fewer depressive symptoms in women with Stage I and II breast cancer and their partners.

Similar results were found for women with later stage cancer. Giese-Davis et al. (1998) examined 48 women with metastatic breast cancer and their partners, with the hypothesis that lower mood disturbance would relate to quality of partner relationship. They found these women reported less distress when they rated their relationship as more

engaged ($\beta=.398, p<.002$) and their partners also reported lower mood disturbance ($\beta=.393, p<.003$).

Wellisch (1985) and O'Mahoney and Carroll (1997), in their reviews of research on social support and breast cancer, found that a poor marital relationship prior to the cancer led to ambivalent support by the spouse. This, then, had a negative influence on adjustment. The experience of breast cancer can strain even healthy marriages and has the potential to exacerbate any previous problems. Conflict in the marital relationship predicts communication difficulties in the marriage as well. Couples experiencing a high level of conflict may be unable to control how these feelings are expressed, resulting in increased strain and mood disturbance (Speigel, Bloom, & Gotheil, 1983).

Communication problems are common in these couples dealing with cancer due to avoidance of discussing painful issues, such as fear of recurrence and death (Gotcher, 1992, 1993; Lewis & Deal, 1995; Vess, Moreland, & Schwebel, 1985). Identifying these marital difficulties is important, since open communication and emotional expressiveness are predictive of marital adjustment, and serve an important function in adjustment to cancer (Hilton, 1994; Lewis & Deal, 1995).

O'Mahoney and Carroll (1997) discussed several methodological limitations that apply to studies investigating marital support and adjustment to breast cancer.

Specifically, most studies are cross sectional in nature, and employ small and heterogeneous samples. This limits generalizability and the ability to identify predictive factors in adjustment. In addition, when self-report measures are used, social desirability bias may be operating.

Roberts et al. (1994) demonstrated the effect of social desirability on relationships between spousal support and psychological distress. In his sample of 95 married women newly diagnosed with breast cancer, data analyses revealed significant moderate correlations between greater psychological distress and lower levels of social support ($r = -.27, p < .01$). However, when the personality variable of social desirability was controlled for, this relationship was weakened in strength, dropping to $r = -.18 (p < .05)$. This speaks to the usefulness of observational ratings of marital adjustment. However, these ratings may be difficult to obtain with this population, since illness issues such as fatigue may already impair subject availability and data collection.

Hoskins et al. (1996) addressed some of these methodological criticisms by using large samples and employing a longitudinal design. The authors investigated predictors of emotional adjustment in 128 women with breast cancer and 121 partners at six phases of experience with breast cancer (7-10 days; 1, 2, 3, and 6 months; and 1 year post surgery). This longitudinal design allowed examination between predictors and outcomes of adjustment at each phase. Marital support was assessed with the Partner Relationship Inventory (Hoskins, as cited in Hoskins, 1996), which measures support according to satisfaction of emotional and interactional needs. Adjustment was assessed with several instruments, including the PAIS.

Findings showed that both dimensions of marital support were strongly related to emotional adjustment across all times for both patients and partners, with correlation coefficients ranging from .23 to .55. In fact, the strength of the relationship between inadequate support and negative emotions escalated steadily between 1 month and 1

year. This is consistent with previous research (Lewis, 1990), which noted that the demands related to diagnosis, treatment, and uncertainty of cure are not time limited. However, physical adjustment was not predicted by marital support. The majority of the women examined in this study had small tumors (less than 2 centimeters) and negative lymph node status. However, one weakness of this study was that it did not control for variables such as these.

Mixed cancers. Studies on populations with types of cancer other than breast cancer generally confirm the hypothesis that spousal support, conceptualized as marital quality, is related to psychosocial adjustment to cancer. Yates, Bensley, Lalonde, Lewis and Woods (1995) and Rodrigue and Park (1996) examined the role of marital quality and marital status in promoting adjustment to cancer in mixed cancer populations. The sample used by Yates et al. (1995) was composed of 106 women diagnosed with breast cancer, fibrocystic disease, or diabetes. Findings showed that happily married women ($n=41$) had higher levels of family functioning, fewer illness demands related to communication and support, and to a lesser extent, reduced depression (compared to unhappily married [$n=42$] and single women [$n=41$]). Furthermore, results for unhappily married and single women were not significantly different. One reason for the lack of strong effects regarding depression may be that these women were at relatively stable phases in the course of their illness; their illness had become a routine part of their lifestyle (average time since the illness had been diagnosed was 5 years and all women were under stable medical management) (Yates et al., 1995). This shows the importance of examining women at different points in the illness trajectory to see changes in

adjustment and the relationship between variables related to adjustment.

Rodrique and Park's (1996) sample was composed of 132 men and women with a variety of cancers, including Hodgkin's disease, breast, lymphoma, leukemia, colorectal, melanoma, and testicular cancer. Of the 86 married subjects, 73% reported being satisfied with their marriages ($n=62$). In this study, marriage alone was related to adjustment to illness; unmarried subjects ($n=46$) reported more dysphoria than married subjects. However, the findings from this study provide even stronger support for the stress-buffering effects of marital quality. Adults who reported greater satisfaction with their marriage on the Marital Adjustment Scale reported less depression, less anxiety, reduced global distress, fewer illness-related family problems, and more positive attitudes about health care. These effects were all significant at the $p<.05$ level. One of the most significant findings was the high percentage of distressed patients who were unmarried or had low marital quality. Rates of illness-specific and general adjustment problems ranged from 27% to 41% in these patients; these rates were nearly twice those reported by happily married individuals.

One strength of the above two studies was the large sample size, which produces greater statistical power. However, these studies both collapsed diagnostic categories in an effort to improve generalizability. Both studies, however, determined that there were no differences among different types of cancer on demographic variables or illness demands. However, the treatments and prognoses differed based on cancer type, and these differences may have affected the variables studied. To control for this possibility, Ell, Nishimoto, Medinasky, Mantell, and Hamovitch (1992) conducted separate analyses

for stage of cancer and site of cancer in their sample of 294 patients with breast, lung, or colorectal cancer. They found that emotional support from primary network members (i.e., the spouse) was negatively correlated with psychological distress, a result consistent with previous findings. However, when survival was examined, the adequacy of emotional support exerted a protective effect only during early stages of disease and among women with breast cancer. No such effect was found among advanced stages of disease or among lung or colorectal cancer patients. These findings highlight the fact that social support may operate differently depending on cancer site and extent of disease, and therefore point to the need to examine groups separately.

Gynecologic cancer. Although there are some differences between breast cancer and gynecologic cancer, the emotional trauma resulting from diagnosis and treatment leads to similarly high rates of psychological distress. In addition, both sexual and breast cancer patients are at especially high risk for sexual difficulties (Anderson & Jochimsen, 1985). There are two studies that specifically examined women with gynecologic cancer, and both seem to confirm the importance of the spouse in promoting adaptation to the cancer. However, both were qualitative in nature, pointing to lack of good quantitative research in this area.

Lamb and Sheldon (1994) examined 19 married women who had been treated for endometrial cancer at least one year ago and were currently disease free. The method of data collection was qualitative and consisted primarily of in-depth interviews. Subjects identified many factors that were influential in their ability to adapt to ovarian cancer, and support of the partner was especially beneficial. Communication patterns varied

greatly from one couple to another, and there did seem to be a relationship between partners' ongoing concern, empathy and care, and the women's adaptation. This applied especially to sexual adaptation and to the women's self-concept, and is summarized in the following quotation from one of the participants: "If they [the husband] can reassure you that whatever happens they'll still love you just as much, or you're just as important, you're just as complete a person as you were before" (Katherine, in a study by Lamb & Sheldon, p. 110).

Another important finding of this study was that most subjects claimed their marital relationship was essentially unchanged by the cancer experience. In fact, several participants claimed the experience of cancer brought them closer and led them to have more appreciation for each other. This is consistent with O'Mahoney and Carroll's (1997) statement that relationships that were close before the cancer may become even closer. Most of the intimate relationships in the study were characterized by a high level of reported intimacy before cancer onset.

Tourigny (1994) performed a 39-month ethnographic study of 46 women with ovarian cancer. Data collection consisted of open-ended interviews with family members, loved ones, health care providers, and patients. These interviews averaged 7 hours per month per informant, from diagnosis until death or 1 year into remission. The author did not provide specific descriptive information on the sample, but implied that it consisted of women in the early stages of cancer, as well as women in the terminal stages of cancer. Tourigny (1994) stated that people are inherently social in nature, and they define themselves within the context of meaningful intimate relationships. For example,

quotations of several women indicated that they wished to die because they felt unwanted and unloved, now that they had cancer. Other women indicated that caring and depth of connectedness with their spouse and loved ones were the key components in adaptation and survival. The women with caring, committed relationships reported that these relationships gave meaning to their lives and that the cancer seemed less problematic because of the relationship. Furthermore, the hospital chief pointed to the need for loving relationships in promoting survival. Specifically, he noticed that patients who lacked loving relationships literally willed themselves to die although they were not that sick, whereas those who were in mutually caring relationships would live for exceptionally long periods that transcended clinical realities.

When Social Support is Ineffective

Spousal distress. As noted above, supportive attempts by significant others, especially spouses, are generally seen as helpful in reducing distress in cancer patients (Blanchard et al., 1995; Roberts et al., 1994; Wortman, 1984). However, other studies show that some supportive attempts by significant others are unhelpful (Dakof & Taylor, 1990). One reason that social support may not be effective is because the spouse of the cancer patient may be experiencing his or her own distress in dealing with the experience of cancer. Illness can place restrictions on the lives of spouses and place them in situations for which they are not prepared. For example, Baider, Koch, Escason, and Kaplan-DeNour (1998) spoke of a contagion effect, whereby continued exposure to the distressed patient may lead to spousal distress. In addition, Albrecht, Burleson, and Goldsmith (1994) pointed out that the provider of support can suffer a drainage of

tangible resources, stresses due to responsibility, and fears of their own vulnerabilities and mortality. Williamson and Shulz (1993), in a study of 82 couples with mixed cancers, found that feelings of burden led to more depression in the spouse. Whatever the mechanism, studies show that marital partners as well as the diagnosed patient directly experience the demands of the disease.

Lewis (1990), in her review of studies on the family impact of cancer, pointed to substantial evidence that spouses of patients with cancer experience high levels of tension and distress during the initial and diagnostic treatment phases, during recurrence, and during the later stages of the disease. Wellisch (1985), in one of the first studies to explore the spouse's reaction to cancer, found that husbands reported various emotional problems in responses to their wives' mastectomies. Specifically, 40% of their sample of 30 men reported sleep disorders and nightmares, 33.5% reported loss or increase of appetite, and 42.8 % reported their work was temporarily affected. Similar findings have been reported by other researchers.

For example, Northouse et. al. (1991) found heightened anxiety reactions and depression among husbands of mastectomy patients. In addition, husbands also felt unprepared to cope and reported feelings of inadequacy about their ability to help their wives. In a longitudinal design which attempted to quantify the amount and duration of emotional distress experienced by husbands, Northouse and Swain (as cited in Lewis, 1990) found that husbands reported as much distress as their wives 3 days after a mastectomy and 1 month later. This distress level was significantly higher than the mean distress level for the population. Other investigations over longer periods also seem to

point to the strong effects of breast cancer on the spouse's psychosocial adjustment and on the marital relationship. For example, Lewis, Woods, Hough, and Bensely (1989) in their investigation of 48 spouses of female breast cancer patients over a 3-year period, found the greater the number of illness demands, the greater the spouse's depression. This depression, in turn, negatively affected the couple's marital adjustment and resulted in lower marital quality.

The investigations above largely concentrate on breast cancer, and cannot necessarily be generalized to other cancer populations. Kaye and Gracely (1993) reviewed some studies of other types of cancer, and it appears that findings support the idea of distress in the spouses of cancer patients. For example, Curtis (as cited in Kaye & Gracely, 1993) found that wives of urologic cancer patients experienced even greater distress than the patient themselves. Kaye and Gracely's (1993) own study of a variety of cancers (breast, prostate, lung, and ovarian), found that spouses and patients have a perceived similar level of distress, with conflict in the family increasing over time. Baider, Perez, and Denour (as cited in Davis-Ali, Chesler, & Chesney, 1993) reported that the impact of colon cancer was as strong for the spouse as for the patient.

These studies all emphasize the importance of studying the spouse's experience with cancer, especially since they are the primary providers of social support for the patient. If the spouses themselves are distressed, it logically follows that they cannot provide as much assistance to the patient as they would otherwise. The stress of the spouse can also lead to distress in the patient. Baider et. al. (1998), in their large-scale longitudinal study of 133 married cancer patients and their spouses, found spousal

distress was a significant predictor of patients' distress, even at 2-year follow up. Furthermore, the fear and distress associated with the cancer may lead significant others to avoid the patient and avoid communication about the cancer. This failure to provide support can be especially detrimental to patients' adjustment. For example, Dakof and Taylor (1990) found avoidance to be an especially hurtful behavior for the patient (however, this behavior characterized family and friends more than spouses).

Other unhelpful behaviors. Lack of certain types of support, as well as provision of certain types of alleged support, can be detrimental or distressing to the patient. For example, supporters may contribute to the patient's distress when support attempts are accompanied by expressions of hostility, or when they hinder functional recovery by keeping the patient inactive (Bolger, Vinokur, Foster, & Ng, 1996; Siegel, 1990). This hypothesis about expressions of criticism or hostility is consistent with the hypothesis that a marriage may become strained due to the ongoing stressors of the cancer. This may lead to erosion of support.

Bolger et al. (1996) performed a large-scale study on the effects of spousal support that examined two contrasting accounts of relationship functioning during a crisis such as cancer: Is relationship functioning characterized by a mobilization of effective support or is it characterized by support erosion and ineffectiveness? This study involved 102 breast cancer patients and their significant others. The women were at different stages of breast cancer, had undergone different levels of surgery, and were receiving different levels of treatment. However, these variables were statistically controlled in the data analysis. This study measured the effectiveness of support by

measuring provision of enacted support from the significant other, rather than support perceived by the patient. In addition, the study looked at effects over time by measuring variables at both 4 months and 10 months after diagnosis.

Overall results supported the negative account of relationship functioning in which significant others withdrew support in response to the patients' emotional distress (although they did provide support in response to physical impairment). This type of support from significant others did not alleviate patients' distress or promote physical recovery, probably because the most needed support was emotional, and this is what was lacking. Helgeson and Cohen's (1996) review of helpful versus unhelpful support and cancer provided evidence consistent with these findings. The most frequently reported unhelpful behavior was failure to provide emotional support.

Another approach to determining perceptions of helpful versus unhelpful behaviors involved comparisons of attitudes toward cancer among 100 healthy people and 100 women with breast cancer who had been diagnosed between 3 weeks and 21 years before the interview (Peters-Golden, as cited in Helgeson & Cohen, 1996). The majority of the healthy people claimed they would try to cheer up a patient and they felt that it was important for cancer patients to remain as optimistic as possible. Contrary to this belief, the majority of cancer patients claimed they were disturbed by this forced optimism, and were distressed and confused by the presumption that avoiding discussion of the illness was helpful.

Support may also be detrimental to patients' sense of autonomy and self-esteem. Cancer patients reported they were made to feel incompetent by excessive assistance

from family and friends, and felt forced to accept unnecessary dependency on others. This is consistent with the view of Albrecht et al. (1994) that support entailed risks as well as benefits. Specifically, the risks and costs for support recipients include embarrassment, fear of appearing incompetent, and concern about being obligated or imposing.

Wortman (1984) proposed that cancer patients may be seen as victims who are in need of special reassurance. This reassurance can lead to avoidance of the threatening aspects of the disease as well and minimization of fears and concerns. Dakof and Taylor (1990) found that being told not to worry was viewed as particularly unhelpful to cancer patients. Cancer patients are also disturbed by other's attempts to distract them from discussing their disease because it is assumed that such discussions are distressing. Distraction can inadvertently lead the patient to feel isolated and abandoned (Siegel, 1990).

Manne, Taylor, Dougherty, and Kearney (1997) provided evidence for the idea that the negative behaviors of spousal withdrawal and criticism were detrimental to psychological well-being in cancer patients. The authors studied 158 male and female advanced-stage cancer patients (primary diagnoses were breast and gastrointestinal cancer) currently undergoing treatment (primarily chemotherapy) to investigate the association between positive and negative spouse behaviors and psychological adjustment. Although there was a relatively low frequency of reported withdrawal and critical behaviors by spouses, results were consistent across genders for relations between these behaviors and psychological outcome. Perceived critical and avoidant behaviors

were significantly correlated with both higher distress and less well-being. In this particular study, the result showed that the negative spousal behaviors had stronger relations with psychological outcome than did positive behaviors. The authors did suggest, however, that the support measure used may not be tapping relevant aspects of support such as empathy or understanding. In either case, the study did indicate that negative spousal behaviors may be an important target of intervention when used with support-enhancing interventions.

Emotional Support as a Key Component

Although little research has been conducted on the specificity of social support, communication in an emotionally supportive relationship may be a key component. Most theories of family stress have related effective family adaptation to the ability to talk about the stressor, and emphasized the importance of sharing concerns about a crisis such as cancer or its recurrence (McCubbin & McCubbin, 1989).

Vess et al. (1985) found that an environment of open communication allows family members to build a more cohesive and less conflictive family environment. This type of environment has been shown to enable patients to express their concerns and has enabled family members to offer emotional support. Patients appear to appreciate this opportunity to verbalize their anger and anxieties and clarify their feelings. Research supports this idea that open, honest, and shared communication leads to more satisfaction and better adjustment in cancer patients (Germino, Fife, & Funk, 1995; Gotcher, 1992, 1993; Hilton, 1994; Lewis, & Deal, 1995).

Germino et. al. (1995) presented results from two studies: one based on in-depth

interviews with 50 newly diagnosed patients and their spouses, the other using questionnaires from 412 patients and 175 spouses. The quantitative study results are part of a larger study in which patients were examined at diagnosis, first remission, and disease metastasis. Unfortunately, however, the data are not differentiated according to these criteria. In interviews, both patients and partners indicated they were more likely to communicate about important aspects of the cancer to each other than to anyone else. However, because of feelings of grief and pain, some did not talk about fears and anxieties at all. As expected, open communication was significantly correlated with less anxiety and depression, and greater personal control and adjustment for both patients and partners.

Lewis and Deal (1995) performed a descriptive, qualitative study on 15 married women diagnosed with recurrent breast cancer to examine the married couple's experience of living with cancer. The main theme that emerged was that couples actively worked to keep the breast cancer as a background issue rather than a foreground issue, and this was how they balanced their lives. Although couples did discuss daily realities of the cancer, they did not dwell on them; they focused on moving ahead and healing themselves. Despite this focus on living with the illness, some couples talked about the wife not surviving. Interestingly, the standardized measures of marital adjustment and depression showed that concurrently, one or both members of 60% of the couples scored outside the normative range for either depressed mood or poor marital adjustment. This occurred although they were not dwelling on the negative. Although the couple's ways of balancing their lives may be facilitating the day to day functioning, it may not be

enhancing their mood or marital quality. Although not dwelling on sad thoughts and feelings and moving ahead can be thought of as a result of positive appraisal, the authors noted that they may be avoiding the sad thoughts and feelings. This lack of communication may not allow them to recognize and support each other's view. It seems communication within the dyad is needed if optimal adjustment is to be achieved. Even if feelings of pain and grief are aroused by open communication, it would still be beneficial if couples expressed such thoughts and managed them together, without dwelling on them excessively.

Hilton (1994), in her study of 41 couples where the woman was diagnosed with Stage I or II breast cancer, found that less than 30% of the couples interviewed felt unable to share their feelings and concerns with their partners. The rest were satisfied with their communication and felt understood and free to share their feelings. This communicative satisfaction led to less anxiety. Although these findings contrast with Lewis and Deas' (1995) findings about the rate of distress in women with breast cancer, they are consistent with findings showing that less communication leads to poorer adjustment. When the couple did not talk openly, the wife experienced greater anxiety. This again points to marital communication as a key feature in social support.

Helgeson and Cohen (1996), and Gotcher (1992) pointed out that the opportunity to discuss feelings, even negative ones, is central to the notion of emotional support. The reason patients perceive this type of support as especially crucial may be because this specific type of support is often unavailable. Dunkell-Schetter (as cited in Helgeson & Cohen) found that 87% of patients kept their feelings to themselves because they were

concerned about how others would react to their expression of feelings.

To test the hypothesis that both communication and emotional support predict better adjustment in cancer patients, Gotcher (1992, 1993) performed two different analyses on the same population. He interviewed 102 cancer patients receiving radiation therapy to obtain information concerning family interactions (measured with a 30-minute interview and a patient-family communication instrument) and psychosocial adjustment (measured with the PAIS). Respondents were asked to focus on the family member they spoke most with about the illness; this was the spouse in 65% of cases. The sample was composed of 47 females and 55 males all currently undergoing radiation therapy. Seventy-two percent of the females were being treated for breast cancer and 81% of the males were being treated for prostate cancer. A multiple discriminant analysis revealed that patients who reported effective adjustment talked more often with their family and received more emotional support from their families (Gotcher, 1992). In fact, the discriminant function classified 80% of the patients correctly into well-adjusted and maladjusted groups. In the later study, a simultaneous regression revealed that emotional support, communication satisfaction, communication frequency, and honesty predicted 36% of the variance in global adjustment for the patients (Gotcher, 1993). Emotional support was the most important predictor of global adjustment (with a significant main effect of $\beta = -.40$, $p < .001$), and was also the strongest predictor of health care orientation, domestic environment satisfaction, and psychological distress.

During the interviews, patients explained how interactions with spouses and other family members fulfilled their need for validation by assuring them they were loved and

valued. The results suggest that emotional support decreases anxiety, guilt, hostility, and depression, which are the main factors that comprise psychological distress. As stated previously, psychological distress is one of the most common factors experienced by cancer patients (Zabora et. al., 1997) and these findings point to the importance of family emotional support in decreasing this distress. These findings also corroborate previous research identifying emotional support as the most helpful aspect of support provided by significant others (Dakof & Taylor, 1990; Helgeson & Cohen, 1996).

The findings on the specific components of social support that are important in cancer patients' adjustment led this researcher to conceptualize social support in terms of the Family Relationship Index (Moos & Moos, 1986). The three subscales comprising this measure are cohesion, expressiveness, and conflict, and they were applied to the marital relationship. Cohesion is the degree to which spouses are helpful and supportive of each other. Expressiveness is the extent to which the spouses are encouraged to express their feelings directly and openly. Conflict is the extent to which expression of anger and conflictual interactions are characteristic of the marriage. By use of these subscales, the measure accounts for the detrimental effects of conflict (i.e., the social strain model) as well as the beneficial effects of communication and emotional closeness in the marriage.

Coping and Adaptation to Cancer

Definitions of Coping

As stated before, individuals display great variability in the way in which they respond to the stress of illness. Differences in individual coping resources may help to

explain why some individuals display a good adjustment pattern while others display marked distress. Lazarus and Folkman (1984) developed a transactional model of stress and coping to help explain this variability. Within this model, stress is defined as a condition where a person's resources are strained or exceeded by either environmental or internal demands. Therefore, stress depends on the balance of power between an individual's interpretation of demands and his or her adaptive resources. Following this definition of stress, coping refers to the process by which a person exerts cognitive and behavioral efforts to meet internal or external demands perceived as exceeding available resources (Lazarus & Folkman, 1984). Although coping occurs in many forms across many contexts, its major function is to regulate emotional distress and to change the problematic relationship between person and environment. The coping response is a means to recreate homeostasis resulting from a disruption.

Lazarus and Folkman (1984) stated that coping includes all means to deal with a stressful situation, but they differentiate among appraisal variables, response variables, and outcome variables. Appraisal variables include the person's judgement about whether the demand is potentially threatening (primary appraisal) and what resources or options exist to manage it (secondary appraisal). Responses refer to the things that were done to manage the demand, and outcome variables assess the degree to which these were successful. Lazarus and Folkman's (1984) definition described coping as a response variable. However, the coping strategies are determined by the appraisal one gives to the stress. The effectiveness of coping, which is an outcome variable, can be determined by investigating the influence of coping on mental health or adjustment (Parle & Maguire,

1995).

Cronkite and Moos (1984) also made a similar distinction; they differentiated between coping resources and coping responses. Coping resources refer to dispositional characteristics that an individual may draw on to handle stressful life events. Coping responses refer to cognitive assessments and behavioral efforts made to reduce or eliminate the conflicts created by stressful situations. Coping resources involve generalized attitudes about oneself or the world, such as self-esteem, self-efficacy, self-confidence, and perceived control.

Some researchers have focused on these cognitive appraisal variables in order to identify how they relate to coping styles and psychological outcomes. Two of the most frequently investigated cognitive appraisal variables are hopelessness or pessimism and helplessness or lack of control. Different researchers may give different labels to the variables under investigation, but most of them fit into these categories. Parle and Maguire (1995), in their review of the relationship between coping and mental health in cancer, pointed out that one of the most consistent coping relationships has been the one between helplessness and poor mental health. These results are supported by research reviewed by Thompson and Collins (1995). This research suggested that cancer patients who believe they have control over the consequences of their cancer were more likely to restore or maintain feelings of mastery and to have better psychological adjustment.

Wallston, Stein, and Smith (1994) also investigated this concept of control (or lack of helplessness) through the concept of health locus of control, which refers to a person's beliefs regarding where control over the illness lies. Watson, Greer, Pruyne, and

Van Den Borne (1990) provided corroborating evidence for the Wallston et al. (1994) theory that health locus of control influences a person's behaviors and experience. They found that a high internal locus of control over the course of the illness was associated with a tendency to adopt a fighting spirit, whereas a high internal locus of control over the cause of the illness (i.e., that the person brought the illness on themselves) was associated with anxiety and preoccupation about the cancer.

The concept of control is also related to the concept of self-efficacy. Perceived self-efficacy concerns judgements of how well one thinks he or she could execute action necessary to deal with stressful life events, and this has important consequences for the coping process. Bandura (1987) provided evidence that self-efficacy predicts a wide range of adaptive behaviors; people with high self-efficacy are more likely to expend more effort and initiate more coping responses than those who are less confident about their ability. Gattuso, Litt, and Fitzgerald (1992) as well as Bekkers, van Knippenberg, van den Borne, and van Berge-Henegowen (1996) found support for the role of self-efficacy in patient adaptation. Gattuso et al. (1992) found that self-efficacy predicted success with relaxation techniques in preparing for endoscopy, and Bekkers et al. (1996) found that self-efficacy played an important role in adaptation to a stoma. Merluzzi and Sanchez (1997) recently developed the Cancer Behavior Inventory as a measure of self-efficacy for coping with cancer. All factors show extremely high reliability, and initial validation data show it is significantly related to variables associated with cancer adjustment (i.e., positive correlations with optimism, negative correlations with helplessness).

Liese and Larson (1995) suggested negative appraisals involve threat or loss, which is the opposite of viewing something as a challenge. For example, a negative appraisal may involve thoughts that one will die and their family will suffer. This can also be viewed as pessimism. In contrast, a positive appraisal involves hope and determination, such as the thought that one will fight the illness as best he or she can, and is similar to the notion of fighting spirit. Kobasa, Maddi, and Couring (1981) have shown that a constellation of three personality characteristics called hardiness (commitment, challenge, and control) is related to better health outcomes. Commitment refers to a curiosity about the sense and meaningfulness of life. Control is a belief in one's ability to influence the course of events (and is similar to an internal locus of control). Challenge refers to the expectation that it is normal for life to change. These findings are consistent with research on cancer patients, which suggests that optimism and fighting spirit are related to positive outcomes; whereas helplessness and pessimism are related to poor mental and physical health (Carver et al., 1993; Greer, 1991).

Both Lazarus and Folkman (1984) and Holohan and Moos (1990) agreed that these appraisal variables determine people's coping styles, and a large-scale study by Dunkell-Schetter, et al. (1992) provided support for this idea. In their study of 603 cancer patients, they found the responses of escape and avoidance were associated with greater appraisals of stress.

Dimensions of Coping

Although some researchers prefer to focus on specific cognitions or attitudes, other researchers prefer to focus on coping styles or responses. There are many different

ways to categorize coping responses. Several authors claim that a major obstacle in the study of coping has been a lack of consensus on these dimensions and on how to measure them (De Ridder, 1997; Dunkell-Schetter et al., 1992; Parle & Maguire, 1995).

Moos and Tsu (1978) suggested seven different types of coping skills that are frequently used to deal with illness: These are denying or minimizing the seriousness of the illness, seeking relevant information, requesting reassurance and emotional support, learning illness-related procedures, setting concrete goals, rehearsing alternative outcomes, and finding a purpose or pattern of meaning in the course of a stressful event. These authors cautioned that almost anything can classify as a coping skill if it serves an adaptive task, but stated that these are the most common types observed in coping with illness. Moos (1992) developed a measure called the Coping Responses Inventory (CRI), with scales based on coping skills similar to the ones described by Moos and Tsu (1978). This scale has been successfully used to examine coping responses in illness (Holohan, et al., 1995).

Shapiro, Rodrique, Boggs, and Robinson (1994) reviewed research on coping in cancer patients. They found data showing support for three common coping styles of dealing with cancer: fighting spirit, hopeless/helpless, and avoidant. Generally, patients with fighting spirit display a hopeful attitude and seek greater information. Those with a hopeless/helpless attitude are overwhelmed and perceive themselves as dying. Finally, those with an avoidant attitude are characterized as rejecting information or evidence of their illness. Shapiro et al. (1994) performed a cluster analysis of data obtained from 117 cancer patients, and found four general categories: confrontive, avoidant, resigned, or

non-dominant. Their findings highlight the fact that people use many different coping responses flexibly (Moos & Tsu, 1978).

Measures of Coping

There are several frequently used measures of coping, which were reviewed briefly by both Parle and Maguire (1995) and DeRidder (1997), and each looked at different dimensions. One of the best known and most frequently used measures in cancer research is the Ways of Coping Questionnaire (WCQ) (Folkman & Lazarus, as cited in Atkinson and Violato, 1993 and De Ridder, 1997). This measure is a revision of Lazarus and Folkman's Ways of Coping Checklist (WCCL) (1984), and it assesses coping according to the following eight scales: confrontive coping, distancing, self control, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal. Each of these types of responses is summarized as either problem-focused or emotion-focused coping. Despite the wide use of this measure, it has been criticized for low internal consistencies (De Ridder, 1997) and lack of a stable factor structure (De Ridder, 1997; Parle & Maguire, 1995). Researchers have found different numbers of factors with different populations. For example, Dunkell-Schetter et al. (1992) adapted this measure for use with cancer patients, and when factor analysis was performed on 603 such patients, only five factors were identified. These factors were labeled as follows: seeking or using social support, focusing on the positive, distancing, cognitive escape-avoidance, and behavioral escape-avoidance. Due to this lack of stable factors, Folkman and Lazarus (1988, as cited in DeRidder, 1997) encouraged researchers to conduct factor analyses for their own

samples.

Despite this lack of consensus, there are two broad systems that are most frequently used by coping theorists and researchers. One important system distinguishes between strategies oriented toward approaching and confronting the problem (approach coping) and strategies oriented toward avoiding direct management of the problem (avoidance coping) (Billings & Moos, 1981 as cited in De Ridder, 1997; Valentiner et al., 1994). This is also known as the distinction between active and passive coping, and is the system applied in this study.

The other similar system is Lazarus and Folkman's (1984) distinction between problem-focused and emotion-focused coping. Problem-focused coping consists of direct action on the environment or self whereas emotion-focused coping refers to attempts to change the way the stress is interpreted. Approach coping is usually problem focused whereas avoidance coping is usually emotion focused (Moos, 1993). Lazarus and Folkman (1984) as well as Moos and Tsu (1978) posited that no one coping response is inherently adaptive or maladaptive. Positive outcomes are associated with some strategies and negative outcomes are associated with others, based on the stressor and the situation. However, more approach coping is generally associated with better psychological outcomes whereas more avoidance coping is generally related to poorer outcomes (Holohan & Moos, 1990; Holohan, et al., 1995; Moos, Brennan, Fonadacaro, & Moos, 1990; Vitaliano, et al., 1987).

De Ridder (1997) pointed to the fact that very few authors distinguish between coping strategies (such as distancing or information seeking) and the broader dimensions

that constitute groups of strategies. She suggested that this distinction may be helpful in resolving controversy over the number and character of coping dimensions. Tobin, Holroyd, Reynolds, and Wigal (as cited in DeRidder, 1997) provided support for the fact that coping strategies could be categorized in terms of broader dimensions. In their analysis of the Ways of Coping Inventory (an adaptation of the WCQ) they found the eight ways of coping could be categorized on a secondary level into problem-focused and emotion-focused coping, and on a tertiary level into approach and avoidant coping.

Roth and Cohen (1986) also argued that the approach-avoidance distinction provides a coherent theoretical structure for understanding coping literature. These authors pointed out that approach and avoidance are metaphors for cognitions and behaviors that are oriented either toward or away from threat. They compared avoidance to the defense of denial and repression; all these represent efforts to remove distressing material from consciousness in order to protect oneself (or one's ego) from becoming overwhelmed by the power of the stressor. This avoidance has also been compared to suppression of negative emotions, a coping style that has been observed in cancer patients (Edelman & Kidman, 1997; Kotler, Buzwell, Romeo, & Bowland, 1994). Approach has been compared to integration and containment, which involves a cognitive and emotional acknowledgment of the stressor and an effort to resolve it or incorporate it into one's life.

Roth and Cohen (1986) discussed the costs and benefits of both approach and avoidance coping. Avoidance coping may allow for a temporary reduction of anxiety, whereas approach strategies can initially lead to an increase in emotional distress. For

example, an approach-oriented strategy may lead to unproductive worry and distress, if one is dealing with the experience of killing a child in war-related combat. However, the positive consequences of avoidance strategies can promote approach strategies. A gradual recognition of threat over a specific time period may require use of avoidance, but this will help the person to assimilate the stressor and mobilize approach coping efforts. A primary use of avoidance strategies can interfere with appropriate coping responses, and can result in emotional numbness or intrusion of threatening material. Approach coping allows appropriate action to be taken and feelings to be vented, so one's needs are more likely to be addressed. For example, an approach-oriented strategy is useful in the case of an asthma attack, if appropriate action and preventive cautions are to be taken.

As stated before, approach coping is generally associated with positive outcomes, and avoidance coping is associated with negative outcomes. Research on cancer patients seems to confirm this conclusion. For example, Dunkell-Schetter et al. (1992), in their large-scale study of cancer patients, found that focusing on the positive and seeking social support (both approach-oriented strategies) were associated with less emotional distress, while escape-avoidance strategies were associated with greater distress. Both Edelman and Kidman (1997) as well as Kotler et al. (1994) reviewed literature showing that an avoidant, emotionally suppressive style is associated with increased distress and may be a risk factor for physical symptoms.

This discussion of coping dimensions reflects the fact that these different strategies may be conceptually the same and refer only to differences in taxonomy. The

lack of clear theoretical views may be an important obstacle in categorizing ways of coping (DeRidder, 1997). Research cited above does seem to support the idea that the differences reflected by the broad dimensions of coping (approach vs. avoidance) reflect real differences that correlate with different outcomes (Moos et al., 1990). Given this support, the current study operationalized coping in terms of approach coping, as opposed to examining specific strategies. The CRI is one of the only measures that categorizes coping into the broad dimensions of approach and avoidance. An earlier version of this measure, which differentiates coping in terms of active and avoidant styles, has been used successfully to study coping in cancer patients (Bartman & Roberto, 1996; Friedman, Baer, Lewy, Lane, & Smith, 1989; Friedman et al., 1992). The CRI was employed in the current study to examine the effectiveness of approach coping.

Another issue of controversy concerns the character of coping responses.

DeRidder (1997) stated that many authors consider both cognitions and behaviors to be coping responses. However, some feel the study of coping responses should be limited to one or the other. Researchers may even view the same concept in different ways. For example, the strategy of focusing on the positive can be viewed as either an appraisal variable or a response. If one appraises something as a challenge, this may lead to an active response. However, if someone appraises something as a threat, it may lead to an avoidant response. In order to facilitate conceptual understanding, the distinction is made between appraisal and response. However, Lazarus and Folkman (1984) viewed coping as a process which includes the entire duration between perception of stress and adaptation, so this distinction in the measurement of coping may be artificial.

Coping Responses: Positive and Negative Effects on Adjustment

The role of coping in buffering the impact of cancer has been of considerable interest in both research and clinical domains (Parle & Maguire, 1995), and has been posited to affect one's social and psychological well-being (Mischel & Sorenson, 1993). Cancer patients are faced with many threats to their physical, psychological, and social well being, which create multiple stressors and demands. The impact of these demands may contribute to the high incidence of affective disorders observed in this population (Harrison & Maguire, 1994; Middleboe et al., 1994; Zabora et al., 1997). Therefore, researchers have attempted to explain the role of coping in psychological adaptation to these demands. Parle and Maguire (1995) provided a cogent review of this research, which focused on specific coping responses and examinations of coping effectiveness. The studies were grouped according to type of cancer in the samples.

Breast cancer. Differences in coping have been proposed as one way of accounting for the variability in how individuals adjust to cancer. However, before this idea can be investigated, the different coping styles used in cancer patients must first be identified. Nelson, Friedman, Baer, Lane, and Smith (1989) attempted to identify these attitudes through factor analysis of questionnaire data obtained from 135 breast cancer patients and 83 mixed-cancer patients, almost half of whom were currently undergoing treatment. The analysis yielded the three reliable factors of fighting spirit, information seeking, and denial. Correlations among these factors, and measures of active avoidance coping and negative affect showed different patterns. Fighting spirit was significantly positively associated with active coping and negatively associated with avoidance coping

and negative affect for both breast and mixed-cancer patients. This confirms the previous research of Kobasa et al. (1981), which showed that this attitude is generally associated with positive outcome. Information seeking, on the other hand, was significantly associated only with active coping, while denial showed no significant correlations with either coping dimension or affect. The authors determined that denial is too unstable a factor for use with clinical or research applications. However, one limitation of their study was that the original factor analysis was based on a questionnaire of only eight items. Only two of the items assessed denial. This total of eight items may not be enough to operationalize the factors under study (Nelson et al., 1989).

A later replication study by Friedman, Nelson, Baer, Lane, and Smith (1991) obtained data on 49 women with breast cancer who were part of the above study. The study attempted to relate the factors already identified to psychosocial adjustment (as measured by the Psychosocial Adjustment to Illness Scale). The authors found that fighting spirit and information seeking were related to better adjustment. These represent active strategies, and the findings corroborate findings that active strategies are related to better adjustment. Conversely, avoidant coping was related to poorer adjustment. No reliable relations were found between adjustment and denial. The authors reported this corroborates the view that denial may be an unstable measure that is difficult to operationalize. The authors also pointed out that the measure of denial may incorporate elements of minimization (which may be adaptive and reflect a focus on the positive) and avoidance or delay in treatment seeking (which is maladaptive). Again, the questionnaire used had only eight items total, which creates difficulty in making this distinction.

Bartman and Roberto's (1996) study of middle-aged ($n=51$) and older women ($n=49$) who had mastectomies partially confirm the results of Friedman et al. (1991), that avoidance is related to greater distress. When they examined the relationships between coping strategy and level of depression they found both groups of women used active strategies, but the older women used more avoidance strategies. Type of coping was not associated with adjustment for the younger women, but these women were in the normal range for depression, so the effect of coping would not be as pronounced. The older women were at the extreme upper limit of the normal range, and in their case, avoidance was significantly related to depression.

The studies above were all cross-sectional, and failed to examine whether the relations between coping and adjustment changed over time. Heim, Valach, and Schaffner (1997) addressed this issue by examining 74 women with breast cancer over a period of 3 to 5 years at intervals of 3 to 6 months. They found that a pattern of blaming oneself or the environment, resignation, and passive avoidance was related to poorer psychosocial adjustment. A pattern of seeking social support, maintaining control over the illness, and acceptance was related to better adjustment. It should be noted they used a measure that identified 26 coping strategies in terms of five factors. The control factor included active strategies such as taking initiative in relation to treatment and problem solving. These results provided indirect support for the idea that avoidance strategies are less adaptive than active strategies. These significant correlations were found at all points in the course of illness except convalescence and recovery. However, it may be that coping is not as necessary during these times since stress levels may be lower.

Nelson, Friedman, Baer, Lane, and Smith (1994) performed a later study on 122 women with breast cancer, and they identified four subtypes of psychological adjustment to breast cancer. They externally validated these subtypes on measures of fighting spirit, negative affect, and avoidance to provide insight into the behavioral tendencies of patients in the different subtypes. The group that showed the most distress and global maladjustment showed the greatest amount of avoidance coping and had the least amount of fighting spirit. The best adjusted patients exhibited the least amount of avoidance coping and an intermediate amount of fighting spirit, relative to the others.

Manne et al. (1994) took a slightly different approach to measuring coping strategies in women with breast cancer. They investigated 43 women undergoing adjuvant chemotherapy for breast cancer at the same point in their treatment. Patients were asked specifically how they coped with chemotherapy, rather than how they coped with cancer overall, to obtain a situation-specific measure of coping. The authors examined the relations between coping and adjustment, and found these relations were consistent with prior studies that have taken a more general approach to studying coping. Coping was measured with the Ways of Coping Checklist (WCCL), and results showed that escape-avoidance as well as confrontive coping was related to more negative affect. The authors proposed that confrontive coping was not considered an adaptive strategy because the scale was biased toward blameful forms of confrontation, as opposed to active, positive forms of fighting back. The strategies of positive reappraisal, distancing, and self control were associated with positive affect. The beneficial effect of distancing is consistent with the findings of the Dunkell-Schetter et al. (1992) study and may reflect

an adaptive response to an unalterable situation. The effect of self controlling coping has not been extensively examined by cancer researchers, but one possible interpretation is that these strategies may be used as an attempt to regulate feelings and keep negative feelings from getting out of hand. This is related to the literature on emotional repression, which suggests that people who repress their emotions are more likely to temporarily report more positive emotions. However, over longer periods this may be a maladaptive strategy (Roth & Cohen, 1986).

Thus far, the results regarding breast cancer patients are somewhat inconsistent, and show wide variation in the identification of coping strategies. However, a general pattern may be emerging where fighting spirit and other active responses are related to better adjustment, whereas avoidant, non-active strategies may be related to poorer adjustment. One reason for the inconsistency could be the difference in labels used to identify similar strategies. Another reason may be that the studies did not discriminate the patients in terms of stage of illness, and different coping strategies may be used at different stages.

Several authors have attempted to examine only early or late stage breast cancer in an effort to resolve these inconsistencies. However, the authors define coping strategies in different ways, so results remain difficult to integrate. Jarrett, Ramirez, Richards, and Weiman (1992) performed a factor analytic study using the WCQ on 153 women who had been treated for early breast cancer and were attending follow-up. Their study attempted to identify strategies rather than correlate them with measures of adjustment. In contrast to the eight original factors defined on the general population, a

factor analysis yielded only two factors: wishful thinking and seeking social support. These factors only predicted 7% of the variation in scores. The authors also used a coping interview to examine patient responses on a sample of 49 women. Both the self report measures and the interview produced similar results: women reported extensive use of positive reappraisal and cognitive avoidance. The cognitive avoidance reported in the study corresponded to selective ignoring of unpleasant aspects and focusing on the positive, which was found to be adaptive (Dunkell-Schetter et al., 1992). This contrasts with the view of avoidance as denial. These results also show that coping styles are not mutually exclusive, in that the authors identified a large subgroup of women who reported using most of the ways of coping with their cancer. This is consistent with Moos and Tsu's (1978) view that coping is flexible and multifaceted.

Jarrett et al. (1992) also found that women reported very little use of blaming self or others, and very little use of wishful thinking. This contrasts with the findings of Houldin, Jacobsen, and Lowery (1996). They examined 234 women with early stage breast cancer (81% were diagnosed with Stage I or II) and found that 39% of their sample reported some self blame. These differences may be due to the fact that the women in Jarrett's study were effectively in remission.

Both Jarrett et al. (1992) and Houldin et al. (1996) cited previous studies showing that self-blame is related to poorer psychological outcome in cancer patients. From an attributional perspective, blaming oneself constitutes a situation where one proposes internal causes for negative life events and this would not facilitate adjustment. Although research has found that an internal locus of control can be positive in relation to

adjustment, this is only true when positive approach behaviors are perceived to have an impact on outcome (Thompson & Collins, 1995). In keeping with this perspective, Houldin and colleagues (1996) found that subjects with high self-blame scores had poorer adjustment on the PAIS and other measures of global adjustment.

The last two studies on women with early stage breast cancer produced partially consistent findings. Friedman, Baer, Lewy, Lane, and Smith (1989) interviewed 67 women with breast cancer (75% had Stage I or II) and found active coping styles were related to better adjustment on several indices (including the PAIS), whereas avoidant coping styles were related to poorer adjustment on these same indices. As in the previous studies of Friedman and colleagues, denial did not show reliable relations with adjustment.

Carver and colleagues (1993) investigated 59 women with early breast cancer at several points after diagnosis and found much stronger results for denial. They assessed coping by using the COPE inventory. This scale was developed by the primary author and has adequate reliability (alphas ranged from .65 to .90), and measures coping with a range of conceptually distinct scales ranging from aspects of problem-focused coping to aspects of avoidance coping (denial or disengagement). These authors found that acceptance, positive reframing, and use of religion were the most commonly used strategies whereas denial and behavioral disengagement were the least frequent. These rates should be viewed in a positive manner, given their relationship with distress. Distress was strongly positively associated with denial and disengagement at all points after diagnosis (almost all correlations were significant at the $p < .01$ level). These

strategies were inversely related to acceptance and positive reframing and optimism at almost all points after diagnosis (all correlation significant at the $p < .05$ level, except at last measurement). The strong results for denial may have emerged because the concept was specifically operationalized as denial of the cancer. In a multiple regression, acceptance, denial, and disengagement predicted 73% of the variance in distress at postsurgery; the Beta for denial was .44 and highly significant.

This researcher found only two studies that investigated coping and adjustment in women with advanced breast cancer, probably due to the high mortality rates. The first study investigated coping and mood states on a sample of 101 women with metastatic cancer (Classen, Koopman, Angell, & Spiegel, 1996). Fighting spirit and expression of emotion were found to be related to more positive mood. Contrary to expectation, no relation was found for denial or fatalism and adjustment. This is consistent with the results of Friedman et al. (1991) and Nelson et al. (1989), showing that fighting spirit is related to positive mood whereas denial showed no relation to adjustment.

A recent study by Fitzpatrick, Levine, Cotton, & Dold (1998) also examined the relationship among attitudes, coping style, and distress in a sample of 87 women with invasive breast cancer. They used the constructs of fighting spirit, fatalism, and helplessness/hopelessness to operationalize these attitudes. Findings showed many significant correlations among these attitudes and general coping styles. The correlation between fatalism and fighting spirit was strongly negative, however, both were correlated with the approach coping styles of problem solving, information seeking, and logical analysis. Helplessness/ hopelessness correlated positively with avoidance coping and

correlated negatively with approach coping and distress. The most interesting findings emerged when the attitudes and coping strategies were entered into a stepwise multiple regression to predict distress. The results suggested that women who exhibited more avoidance, information seeking, fighting spirit, and helplessness/hopelessness, combined with lower fatalism and regulation of affect, were actually more distressed than other women. The equation predicted 35% of distress in the sample.

The results regarding avoidance and helplessness/hopelessness appear straightforward in predicting distress. It is surprising, however, that fighting spirit would lead to increased distress whereas fatalism would be associated with less distress. The authors proposed that those with a fatalistic attitude may be more willing to accept the reality of their illness, and those with a fighting-spirit attitude are more willing to admit psychological symptoms. Another possible reason for these results is sample characteristics. The sample involved women with invasive metastatic breast cancer. In this case, fighting spirit may actually represent an unrealistic attitude about the cancer. These results contrast with the findings of Nelson et al. (1989) and Classen et al. (1996) showing fighting spirit is related to better adjustment. The Nelson et al. (1989) study does not indicate stages of disease so it is difficult to determine whether these differential results were due to sample differences. In the Classen et al. (1996) study, the scale measuring fighting spirit encompassed the scale of helplessness/hopelessness because they were highly negatively correlated. This may have masked the fact that fighting spirit was correlated with positive mood due to responses that indicated a lack of helplessness.

Although the inconsistencies remain, it is clearly maladaptive to try to deny a

reality that cannot be ignored (i.e., that death is likely or that treatment is critical). This ability to deny the threat when confronted with its repeated evidence can lead to an inability to move forward in one's life, which creates more distress.

Mixed cancers. The studies of patients with a variety of different cancers show similar patterns to those observed in breast cancer. Using the COPE questionnaire described above, Wagner, Armstrong, and Laughlin (1995) investigated the relationship between coping styles and quality of life in a sample of 41 male patients with a variety of cancers. Only two coping strategies were significantly related to quality of life, both in a negative direction. The more patients suppressed other activities to focus on the illness, and the more they engaged in use of religious practices, the worse they rated their quality of life. This is significant considering that Carver et al. (1993) found use of religion to be one of the top three methods of coping. The authors proposed that religion may have been related to severity of cancer, and this is what produced the negative relation with quality of life. These results contrast with the correlations found in the studies of breast cancer patients. The difference in the significance of coping styles may be due to the effects of gender, although the authors do not explore this possibility.

A study by Burgess, Morris, and Pettingale, (1988) identified four different coping styles used by 178 newly diagnosed cancer patients (early stage breast cancer and Hodgkin's or non-Hodgkin's lymphoma) based on ratings of semi-structured interviews. These factors, which accounted for 65% of the variance in responses, are positive/confronting, fatalistic, hopeless/helpless, and denial/avoidance, and are similar to the factors identified in the breast cancer population.

Consistent with research on breast cancer patients, positive/confronting response was related to lower psychological morbidity, whereas a helpless/hopeless style was related to higher anxiety and depression. This significance of hopelessness and its relation to poor outcome is highlighted by Molassiotis, Van Den Akker, Milligan, and Goldman (1997). They found that less hopefulness was significantly related in shorter survival ($p < .005$) in cancer patients who had received a bone marrow transplant.

Miller, Manne, Taylor, Keates, and Dougherty (1996) stressed the importance of extending findings regarding coping and adjustment to advanced-stage patients to see if these effects extend to a stressor of increased magnitude. Both Miller et al. (1996) and Mytko et al. (1996) focused on advanced-stage cancer and used the WCQ to investigate coping (In the Mytko study, patients were scheduled for a bone marrow transplant). Consistent with previous coping research (e.g., Dunkell-Schetter et al., 1992), both groups of authors found escape-avoidance coping was significantly associated with distress. Miller et al. (1996) found accepting responsibility for the disease was negatively associated with well-being. This type of coping involves acknowledgment of one's own role in the development of the cancer and is similar to the self-blame construct. Optimism was strongly and positively related to well-being and negatively related to distress. Miller et al. (1996) suggested that optimism may buffer the effects of stress by promoting more adaptive coping strategies.

The Friedman et al. study (1992) of 94 mixed-cancer patients provides support for this view. Dispositional optimism was highly negatively correlated with avoidance coping ($r = -.52$, $p < .001$) and was a significant predictor of avoidance coping. Carver et al.

(1993) also showed that optimism was negatively associated with denial and behavioral disengagement, and was positively associated with positive reappraisal and seeking social support. Therefore individuals who are optimistic are more likely to use coping strategies leading to positive psychological outcomes, while pessimists are more likely to employ strategies leading to increased distress.

Support for the negative effects of self-blame is provided by Faller, Schilling, and Lamb (1995) in their study of 121 lung cancer patients. Those patients who were more likely to blame themselves for the illness were more likely to ruminate and brood about the causes of their illness. This was associated with a higher level of psychological distress, and is consistent with Houldin et al. (1995). In the Faller study (1995), self-blame may be particularly salient because of the relation between smoking cigarettes and lung cancer.

This attribution research is related to locus of control research, in that those people who can make external attributions for negative and uncontrollable life stressors may be protected against negative consequences. Houldin et al. (1996) stated that the most common locus attribution pattern is to posit an internal cause for a positive event and an external cause for a negative event. The opposite pattern of attributing internal causes for negative events and external causes for positive events results in psychological distress.

Thompson, Sobolew-Shubin, Galbraith, Schwankovsky, and Cruzen (1993) found perceived control is important in coping with a stressor such as cancer. In their study of 71 mixed-cancer patients, they found that patients with greater perceptions of control

were less maladjusted, even when physical functioning and marital satisfaction were controlled for. However, control over the consequences of the disease, operationalized as control over emotional state and physical symptoms, was more important than perceived control over the actual course of the disease. This is consistent with Thompson and Collins' (1995) view that control over consequences may be more important than control over the course of the disease (beliefs that they could avoid or terminate the cancer). These findings also relate to causal attribution. Making external attributions for the negative uncontrollable aspects of a stressor allows one to concentrate on the aspects of the situation that they can influence, especially in low-control situations (Thompson et al., 1993).

Perceived control is also related to self efficacy, another variable that has been found to relate to better adaptation in cancer (Cunningham, Lockwood, & Cunningham, 1991). Cunningham tested the hypothesis that self efficacy would be positively related to both quality of life and mood in a sample of 273 heterogeneous cancer patients. As expected intercorrelations were very high, ranging from 0.5 to 0.7 ($p < .001$) even after controlling for demographic and disease characteristics. Improvements in all three measures brought about by a coping skills training program were also highly correlated. Although a correlational study cannot prove causality, the authors suggested that coping skills training enhances perceived self efficacy, which brings about improvements in mood and enhanced quality of life. Improvements associated with increased self efficacy were the ability to exert some control over despairing thoughts, improvement in mood, and some control over physical symptoms. These results are in line with previous

literature demonstrating the importance of sense of control and sense of effectiveness in adjustment to stressful situations (Gattuso et al, 1993; Thompson & Collins, 1995; Thomson et al., 1993; Wallston et al., 1994). Three important aspects of this study were its use of a large sample size, the statistical control of confounding variables, and its use of interventions, which is neglected in the cancer literature.

The final study reviewed also employed a large sample of mixed- cancer patients. Parle, Jones and Maguire (1996) investigated 673 cancer patients at 4 to 8 weeks and 1 year later to assess effects of their coping on resolution of concerns on subsequent mental health. Although Lazarus and Folkman (1984) posited that appraisal and response are both parts of the coping process, Parle et al. (1996) measured these variables separately with semi-structured interviews. They asked patients to list the concerns most important to them, and whether their coping responses resolved the concern. This approach provided results partially consistent with studies that used a more general approach. They used regression to predict affective disorder while controlling for the demographic variables and found both concern appraisal and coping efficacy were significantly predictive. Specifically, those who were more worried by cancer- related demands were more likely to have felt helpless. These patients were less likely to have responded to their concerns, were less likely to have resolved them and were more likely to have a concurrent affective disorder. The pattern of high threat appraisal (as indicated by severity of worry) remained independently predictive of later affective disorder.

The authors pointed out that the relationship between helplessness and poor adjustment to cancer is probably the most consistent in the coping literature, and the

research reviewed supports this conclusion (Burgess et al., 1988; Fitzpatrick et al., 1998; Malisiotis et al., 1997). These authors also pointed out that no individual coping response has proved to be consistently protective of psychological distress (Parle & Maguire, 1995; Parle et al., 1996). Although Parle et al. (1996) failed to find evidence of this, the research reviewed in this study demonstrates that the approach strategy of focusing on the positive or maintaining an optimistic attitude shows a fairly consistent relation to better adjustment (Carver et al., 1993; Dunkell-Schetter et al., 1992; Freidman et al., 1992; Manne et al., 1994).

Gynecologic cancer. A literature search found four studies that examined the relationship between coping and adjustment in women with gynecologic cancer. The first study involved a revision of the WCCL used on a clinical population of 273 women with ovarian, uterine, or cervical cancer (Mischel & Sorenson, 1993). These authors followed Lazarus and Folkman's (1984) suggestion that the researchers perform a factor analysis of the population they wish to study, since the subscale structure is expected to vary across populations. Seven factors were identified: four problem-focused strategies (bargaining, focus on the positive, social support, and concentrated efforts) and three emotion-focused strategies (wishful thinking, detachment, and acceptance). To test the validity of the factor structure, the authors investigated the effects of the strategies on several forms of emotional distress. The strongest predictors of emotional distress were wishful thinking, focus on the positive, and detachment. Wishful thinking was associated with increased distress, whereas the other two strategies were associated with decrease in distress. This research is consistent with the findings on other populations, and

provides corroboration of the Dunkell-Schetter et al. (1992) results that found focusing on the positive and distancing to be associated with less distress in mixed-cancer patients.

An earlier study by Mischel and Sorenson (1991) used these same seven strategies to test the mediating effects of coping on the relationship of appraisal to emotional adjustment in 131 women receiving treatment for gynecologic cancer (about half the sample were diagnosed with Stage I or II and half with Stage III or IV). The research is based on the view that when uncertainty (as in the situation of gynecologic cancer) is appraised as a danger or threat, emotion-focused coping will predominate since the situation is seen as uncontrollable. On the other hand, when uncertainty is seen as an opportunity or challenge, active, problem-focused coping will be used since behavior will be perceived to have an impact on the stressor.

The results of a series of regression equations showed the strategies of focus on the positive and wishful thinking were mediators of appraisal. Wishful thinking reduced the magnitude of the relationship between appraisal of danger and emotional distress, but also independently added to the level of emotional distress. So although this strategy reduced the sense of danger, it had a negative influence on affect. Focus on the positive was a mediator for opportunity. When a sense of opportunity exists, a focus on the positive aspects of the situation will reduce emotional distress. These results are consistent with the theory outlined above.

A later study by Padilla, Mischel, and Grant (1992) did not show the expected effects of coping strategies. However, they again differentiated the appraisal process

from coping responses, even though Lazarus and Folkman (1984) considered appraisal to be part of coping. In this study they investigated the influence of uncertainty, mastery, and coping on quality of life in 124 women with gynecologic cancer (primarily Stage I and II). As with the other studies by Mischel and Sorenson (1991, 1993), the revised WCCL was used to investigate coping. The authors statistically controlled for demographic and illness variables such as age, stage of cancer, and metastasis. Although the women in this sample reported using the coping strategies identified in the previous studies, these strategies did not correlate well with health-related quality of life measures. The authors proposed that one reason results did not emerge was sample characteristics. The sample perceived quality of life to be moderately good, reported more positive attitude about illness outcomes, and reported more problem-focused coping and perceived mastery than the other samples with more severe disease. When there are not strong levels of uncertainty or danger appraisal, as in this sample, there is no reason for mobilizing coping strategies. These findings probably reflect the fact that most patients in this sample were in early stages of cancer, which shows the importance of differentiating samples according to this criteria.

Zacharias, Gilg, and Foxall (1994) included spouses in their investigation of coping strategies and adjustment. To assess coping in their sample of 40 gynecologic patients and their husbands, they employed a coping scale that consisted of six strategies: emotional expression, self-blame, wish-fulfilling fantasy, information seeking, cognitive restructuring, and threat minimization (alphas were adequate, ranging .63 to .85). The first three strategies reflected escape-avoidance strategies, whereas the second three

strategies reflected active, problem-focused efforts. Both patients and spouses in this sample rated quality of life as relatively high (except for sex life), but since patients in this study were not differentiated according to stage of illness, no conclusions can be made about the effects of disease severity.

Results of correlations regarding coping revealed that spouses used significantly fewer coping strategies than patients. This is consistent with findings that patients engaged in more active efforts than their spouses (Gotay, 1984 as cited in Zacharias et al., 1994). For the patients, greater use of wish fulfilling fantasy, emotional expression, self blame, and information seeking were related to lower quality of life scores in several domains. These strategies were also correlated with lower quality of life scores for spouses, but only in the domain of health functioning. These results are consistent with results showing escape strategies are associated with poorer adjustment. The unexpected findings regarding seeking information may be because the information provided was discouraging or negative, leading temporarily to greater distress. Another interesting finding was that the use of problem solving or attempts to reduce the threat of the illness was not associated with improved quality of life. The results of this study provide support for Parle and Maguire's (1995) view that no coping strategy has been found to be consistently significantly protective of distress in cancer patients. However, the results using larger samples do seem to show that positive reappraisal and approach coping usually is associated with better outcomes.

Methodological Limitations and Use of the PAIS-SR

One of the methodological problems in psychosocial oncology research is the tendency to aggregate cancer patients with diverse disease sites and stages to form heterogeneous samples (Siegel, 1990). These samples are composed of patients with different prognoses, treatments, side effects, and consequences. These samples also include patients who have lived with the disease for different periods of time or have not received treatment for varying intervals. This aggregation may be necessary to achieve the sample size necessary for adequate power to identify meaningful relationships. However, Siegel (1990) pointed out the diversity of the samples may obscure meaningful relationships that would be seen in homogenous samples. This is reflected in the Ell et al. (1992) study of breast, lung, and colorectal cancer patients; the relationship between variables differed based on type of cancer.

Another major concern relates to the selection of outcome measures of adjustment or adaptation. According to Siegel (1990), the most significant concerns relate to measurement of affect or mood (which are frequently examined outcomes) and their relationship to somatic changes that result from treatment. For example, fatigue, weight loss, and sleep difficulties are frequent side effects of treatment and are also indicators of depression. It is unclear whether the psychological measures are truly measuring adjustment or organic changes due to treatment.

Gotay and Stern (1995) suggested that another problem related to measurement of adjustment is interpretation of scores. They reviewed several instruments used to measure psychological outcomes in cancer patients, and pointed out that most studies

discuss scores in the context of norms determined on psychiatric populations, or in relation to other studies with cancer patients. The authors suggested these norms may be useful for comparing cancer patients with those in need of psychiatric care, but this may not be useful if the aim is to identify cancer patients that are at risk. The threshold for psychological intervention may be different for cancer patients than for other groups, and inappropriate norms may lead to conclusions that are inconsistent with the cancer patient's clinical reality.

Finally, Blanchard et al. (1995) stated that supportive transactions influence many aspects of life besides mood, and the use of quality of life instruments would reflect this influence more appropriately. These concerns are what led to the decision to use the Psychosocial Adjustment to Illness Scale Self Report Form (PAIS-SR) (Derogatis, 1986; Derogatis & Derogatis, 1990) as a measure of adaptation in this study. First, this measure comes close to being a quality of life measure due to its comprehensive scope (Gotay & Stern, 1995). Second, it was originally validated on people with acute and chronic illnesses, including cancer. Third, it showed convergent validity with other scales of functioning, including the Symptom Checklist -90-Revised (SCL-90) (Derogatis, as cited in Gotay & Stern, 1995), and correlated well with clinicians' ratings (Gotay & Stern, 1995). Finally, the measure has been used very frequently in cancer patient populations, and has identified common correlates of distress, such as avoidant coping and lack of social support (Friedman, Baer, Nelson, Lane, Smith, and Dworkin, 1988; Gotcher, 1992; 1993) that will be reviewed in this study.

The Relationship Between Coping and Social Support

Holohan and Moos (1990) proposed a resources model of coping in which social resources exert their influence by promoting coping activity. Lazarus and Folkman (1984) described resources as “what an individual draws on in order to cope” (p. 158). Coping refers to the process by which a person exerts cognitive and behavioral efforts to meet internal or external demands perceived as exceeding available resources (Lazarus & Folkman, 1984). Although coping occurs in many forms across many contexts, its major function is to regulate emotional distress and to change the problematic relationship between person and environment.

Thoitis (1986) asserted that coping and social support have several functions in common; both coping and social support are used to handle problematic demands, or control distressing feelings created by these demands. Social resources can enhance coping efforts by enhancing self-efficacy and self-esteem, and by providing informational guidance. Supportive others can bolster a person’s perceived ability to cope by helping the individual reinterpret a situation as less threatening (Cohen & Wills, 1985). This can occur through direct intervention by supportive others or through knowledge that support exists.

The perception that sufficient social resources exist for handling a stressor may make the stressor seem more manageable. For example, adequate instrumental support in the form of money can reduce the interpersonal stress linked with financial strains (Curbow & Somerfield, 1995). Informational support that helps one reappraise a stressor as benign by suggesting appropriate coping responses would increase perceived control,

thereby reducing distress (Cohen & Wills, 1985). Similarly, the perception that one is accepted for his or her own worth, and has someone to confide in, can counterbalance threats to self-esteem (Cohen & Wills, 1985). In this way social support is hypothesized to be a coping resource and can be thought of as coping assistance. This section examined several proposed mechanisms of how social resources and coping may influence each other in promoting adaptation to cancer.

The Relational Aspects of Coping

O' Mahoney and Carroll (1997) pointed out that most research on illness coping examines an individual patient's coping and emotions while failing to account for the relational aspects of coping. When cancer strikes, patients and spouses have to manage their own emotional distress while coping with lifestyle disruptions imposed by the illness. However, couples are highly interdependent and therefore balance their own needs with the needs of their partner (Kelly & Thibaut, as cited in Coyne & Smith, 1991). According to Coyne and Smith (1991) this process of coping, which is shaped by the actions and responses of each partner, is relationship-focused. This relationship-focused coping can be divided into two broad classes: active engagement, which refers to the process of involving the partner in discussion, exploring feelings, and other constructive problem solving, and protective buffering, which involves hiding worries and submitting to the partner's wishes to avoid disagreement and confrontation. This view of relationship-focused coping combines both personal and social resources.

Coyne and Smith (1991) attempted to investigate adaptation to illness in the context of interpersonal relationships with 56 male myocardial infarction patients and

their spouses. Using their own relationship-focused coping scale (which was found to be reliable; $\alpha=.90$) they found active engagement contributed to higher relationship satisfaction whereas protective buffering was associated with more less satisfaction. These results confirm the importance of engaging in open communication when dealing with illness issues. Patients' coping style also had a strong influence on spouses' distress. When patients coped by active engagement, wives had less distress and when patients coped by protective buffering, wives had greater distress. In addition, wives' distress was strongly and positively associated with husbands' distress.

Sormanti, Kayser, and Strainchamps (1997) agreed with Coyne and Smith (1991), that a relational perspective is necessary to understand adaptation to cancer. The framework used by Sormanti et al. (1997) differed from that of other authors in that they focused specifically on women's adaptation to cancer from a feminist perspective. Sormanti et al. (1997) focused on the centrality of relationships and emotional connectedness in the development of women; they proposed that women's coping abilities are developed in the context of their close relationships. How women respond to a stressor will be determined by the nature of their relationships and perceptions of themselves within these relationships. In particular, Sormanti et al. (1997) hypothesized that coping strategies would be more effective if women feel there is mutual understanding, support, and empowerment in their important relationships. The authors use the concept of mutuality to represent these qualities in a relationship. Specifically, mutuality is a reciprocal exchange of feelings, thoughts, and behaviors between people in a relationship. Women need to feel they can have a significant impact on their significant

other, and coping strategies involve a consideration of how the significant other is coping as well as how the woman herself is coping. Therefore, a woman's ability to handle stressors is enhanced when she experiences increased competence in the context of her relationships.

Based on their relational framework, Sormanti et al. (1997) hypothesized that women in relationships characterized by high mutuality and active engagement would have better psychosocial adaptation to the cancer. They investigated this hypothesis with 34 women recently diagnosed with various types of cancer, and found that women whose relationships were characterized by high mutuality had a higher quality of life. The correlation approached statistical significance ($p < .07$). They did not find that active engagement was significantly associated with adaptation, although the association between use of protective buffering and depression approached significance ($p < .07$). The authors noted that the results would have been stronger with a larger sample. Despite the lack of significant results, the authors did provide preliminary support for the idea that coping and relational characteristics are intimately related, and both relate to psychological well-being.

Several researchers have investigated this issue of whether the coping of one spouse is related to the well-being of the other spouse. Ptacek, Ptacek, and Dodge (1994) investigated this issue in 36 former breast cancer patients (Stage I and II) and their spouses. They obtained questionnaire data on coping strategies using the Ways of Coping Checklist (Vitaliano, Russo, Carr, Mauro, & Becker, as cited in Ptacek et al., 1994), marital satisfaction, and psychological well-being. In addition, they asked husbands and

wives to report on their perceptions of the other's coping. As expected, reports about coping were significantly related to mental health and marital satisfaction. All significant correlations regarding problem-focused coping and seeking social support were positive, whereas all self-blame, wishful thinking, and avoidance were negative. Self-reported coping was more consistently correlated with mental health outcomes for both husbands and wives, whereas the reporting of others' coping was more consistently associated with marital satisfaction for both husbands and wives.

Having a spouse who reported more problem-focused coping was associated with greater marital satisfaction, and patients' self-reported coping was strongly related to the husbands' mental health. In addition, each spouse's perception of the other's coping relates to his or her own outcomes, and these results were particularly strong for husbands. Husbands' perception that wives engaged in problem-focused coping and support seeking was associated with increased mental health and marital satisfaction for both themselves and their wives. These results provide support for the fact that one spouse's coping efforts have a strong impact on the spouse's well-being and marital quality. If marital satisfaction is viewed as an indicator of social support, then one person's coping influences his or her partner's ability to provide support.

Hannum, Giese-Davis, Harding, and Hatfield (1991) also examined coping as an interpersonal process, and their findings are consistent with the findings of Ptacek et al. (1994). In this study of 22 early stage breast cancer patients and their husbands, the authors assessed several relationship variables and the use of several coping strategies by using questionnaire measures as well as observational ratings. Psychological distress was

measured through the SCL-90. The results of a step-wise multiple regression showed the patient's psychological distress was most strongly predicted by the husband's behavior and his view of the marital relationship. In fact, husbands' observed supportiveness, self-reported cohesion and self-reported external control/resignation predicted 82% of the variance in the wives' distress. The results regarding self-reported control may seem to contradict research showing perceived control is more adaptive. The authors proposed that in this case it represents a protective process by which husbands minimized their reactions to wives' behavior so as not to cause further distress.

In addition, variables associated with the wives' behavior (and relationship cohesiveness) were also important in predicting the husbands' distress. The husbands and wives influence one another's distress. This suggests the coping behavior of one spouse can therefore influence the social support provided to him or her. In this study, although the general relationship variables of marital satisfaction and cohesion were highly significant predictors of distress, individual coping strategies added further predictive power. This provides support for the idea that the relationship serves as the context for coping, and both interpersonal and individual variables are both important in understanding adaptation to cancer.

Coping Portrayal and Support Mobilization

Silver, Wortman, and Crofton (1990) proposed a mechanism by which the social support provided to a patient may be influenced by the patient's coping portrayal. If an expression of distress is suppressed, instead of communicated, a spouse may assume the patient is coping well and will see no need to initiate any supportive actions. On the other

hand, if patients cope by frequently expressing distress, supportive others may be overwhelmed by feelings of responsibility and helplessness, and will not initiate supportive acts. They may feel efforts to help will result in no improvement, and may become frustrated and upset. These authors proposed that a *balanced coping portrayal* may present a solution to this self-presentational dilemma. If individuals can express emotional distress while conveying that they are trying to cope through their own efforts, support providers will feel less helpless and overwhelmed, and may be able to provide more effective assistance.

In their experimental study which involved 80 undergraduates and 4 confederates (2 with cancer, 2 without), Silver et al. (1990) manipulated coping portrayals through tape-recorded conversations with an interviewer. After listening to these interviews, students then interacted with the people heard on the tape and various ratings of distress and discomfort were gathered. Results showed that in 9 out of 10 comparisons the responses to confederates who portrayed balanced or good coping were significantly more favorable than were responses to poor copers. The students exhibited less behavioral avoidance, reported less discomfort, and gave more positive evaluations to those who seemed to be coping well. In addition, the balanced coping stance was preferred to the positive coping stance; students exhibited less discomfort with these individuals and expressed more interest in future contact with the balanced coper than the good coper. The authors pointed out that the students may have believed the positive copers were inauthentic, and may be hiding distress that would be revealed later. As predicted, the balanced coping portrayal allowed the person to reveal distress with few

negative consequences. Unfortunately, this study was performed in a laboratory rather than in the context of an actual relationship. However, these results are consistent with Bolger et al.'s (1996) finding that distress in potential supporters is likely to impede their ability to behave supportively, and distress of the patients may lead to an erosion of support.

A Mutual Influence Model

The above findings provide a framework by which coping can influence the provision of social support. If one presents a balanced coping portrayal, then this mobilizes social support, which in turn assists in coping. Holohan, et al. (1995; 1997) provided support for this model of social support as coping assistance. They showed that under conditions of high stress, family support operates as a coping resource in predicting depression in cardiac patients. Social support, as well as the adaptive coping strategies of problem solving and positive reappraisal, predicted fewer depressive symptoms.

In the above study, social support related to depression both directly and indirectly through adaptive coping strategies. This is consistent with earlier research (Holohan & Moos, 1990), which demonstrated increased social resources predicted more approach coping; which in turn predicted better psychological functioning. Consistent with the idea that the psychosocial benefits of a healthy marriage probably derive from a low level of interpersonal stressors as well as a positive emotional quality, these authors found that negative aspects of relationships, such as conflict, were as damaging to adjustment as positive aspects of support were beneficial. These studies also integrated

two sets of key psychosocial factors, social support and adaptive coping, in a unifying predictive framework.

Komproe, Rijken, Ros, Winnburst, and Hart (1997) applied this model to cancer patients in their study of 109 women aged 50-80 who had recently been operated on for breast cancer (the majority had early stage disease). Results from structural equation modeling provided support for Holohan et al.'s (1995,1997) findings above; support had both direct and indirect effects on depression in these patients. Available support had direct beneficial effects on depression and received support had indirect effects, which exerted their influence through the coping process.

This unifying model, which looks at the influence of both coping strategies and social support in predicting adjustment in a cancer patient population, was further investigated by Aymanns, Filipp, and Klauer (1995). These authors pointed out that understanding the relationship between support and coping in unidirectional terms is too simplistic. Coping strategies and social support may have reciprocal effects on each other. In contrast to Holohan et al.'s (1995; 1997) mediational model, where support is mediated by coping, Aymanns et al. (1995) proposed a mutual influence model, whereby support and coping affect each other.

They found some evidence for this model in their study of 169 cancer patients with a variety of malignant neoplasms. They assessed coping strategies, family support (mostly from spouses), and adjustment using questionnaires, and found that coping strategies had a strong influence on perceived support. In particular, a strong tendency to ruminate about the disease led to an avoidance of communication about the disease,

whereas positive reappraisal of the disease led to greater emotional support.

Furthermore, they found those with strong tendencies to ruminate about their disease and those with overall low coping efforts perceived low levels of support from their spouses.

The ruminative patients, who were dissatisfied with their family's support, exhibited very poor adjustment and less compliance to the medical regimen.

Aymanns et al. (1995), in keeping with his model of mutual influence, suggested it is equally possible that individual coping efforts are influenced by social support.

Aymanns (as cited in Aymanns et al., 1995) found support for this idea, whereby patients with strong emotional support from their families showed an increased tendency to adopt a fighting spirit and to affiliate with others over the 3-month study period. Path analyses also revealed the effects of family support on both hopelessness and self-esteem were mediated by the patient's coping behaviors.

Summary

There has been a great deal of research which examines the adaptive effects of social support (Blanchard et al., 1995) for individuals with cancer. Similarly, the role of coping strategies in promoting adjustment to cancer has been extensively studied (Dunkell-Schetter et al., 1992). Efforts to cope with cancer do not exist in a social vacuum, but very little attention has been given to examining how social resources interact with coping resources in adapting to cancer. The research reviewed in this study highlights the importance of examining the influence of both coping strategies and social support quality in predicting adaptation to cancer. The above findings show how the patients' use of certain coping strategies can influence the provision of social support by

significant others. In addition, an individual's coping response may be altered by the provision of social support. This researcher hypothesizes there is a strong correlation between coping responses and marital support in promoting adjustment to cancer. Examining coping strategies in the context of the marital relationship would allow this hypothesis to be tested.

This research is guided by a resistance perspective that views patients as active agents in the stress process. This contrasts with a vulnerability perspective that views people as passive objects who are at the mercy of external forces. The resistance perspective recognizes that health exists on a continuum, with pathology at one end and health on the other. However, this perspective preserves the notion of vulnerability, in which people with few resources are more vulnerable to adverse adjustment outcomes. In addition, this perspective allows consideration of the fact that proactive adaptive efforts can lead to positive outcomes of stressful life events (Curbow & Somerfield, 1995). The identification of the variables that do promote positive outcomes can lead to the development of interventions to influence these variables, promoting better health.

CHAPTER 3 METHODOLOGY

Introduction

This quantitative exploratory study examined the role of approach coping and marital support in psychosocial social adjustment to breast cancer. Both approach coping and marital support have been shown to mitigate the distress associated with different types of cancer. Since women receiving chemotherapy for breast cancer have been shown to have a high level of distress, it is important to investigate the variables that may promote better adjustment.

Research Design

This correlation study employed a cross-sectional survey design. The overall psychosocial adjustment of women receiving chemotherapy for breast cancer was quantitatively assessed using the Psychosocial Adjustment to Illness Scale (Derogatis, 1978; 1983), a well-validated measure of adjustment to illness. These women were also given the Family Relationship Index (Moos & Moos, 1986), to assess their perceived marital support, and the Coping Responses Inventory (Moos, 1993), to assess their use of approach coping. The assessments of marital support and coping were entered into a regression analysis, with psychosocial adjustment as the criterion variable, in order to evaluate their role in determining variation in adjustment. This researcher sought to provide information to help clinicians identify which areas to target in interventions to improve adjustment in this population.

Hypotheses

This study tested the following null hypotheses:

1. A linear combination of marital support (as measured by the FRI) and approach coping (as measured by the CRI) will not explain a significant portion of the variance in psychosocial adjustment (as measured by the PAIS-SR) in women receiving chemotherapy for breast cancer.
2. Neither approach coping nor marital support are significantly correlated with increased psychosocial adjustment to illness in women receiving chemotherapy for breast cancer.
3. Approach coping and marital support are not significantly positively correlated with each other.

Sampling Procedure

The subjects for this study included married women who were receiving chemotherapy for breast cancer. Treatment at this stage usually involves combination chemotherapy (CAF or CMF) after surgery (lumpectomy or mastectomy and lymph node dissection) and radiation. Due to the availability of subjects who were receiving chemotherapy for breast cancer, participants were taken into this study as they were available over a seven-month period of time (March-September). To achieve an adequate level of power, 21 subjects were obtained.

The subjects were obtained primarily through support groups in the Las Vegas area. There are three support groups that focus specifically on breast cancer, and the majority of subjects were recruited through these groups. Additional subjects were

recruited through the American Cancer Society, other cancer support groups, and the Outpatient Oncology Clinic at University Medical Center (the largest outpatient oncology clinic in Las Vegas). Four of the subjects were recruited from a support group in Reno.

Instrumentation

Side Effects Checklist

This researcher derived the side effects checklist from research on the common side effects of chemotherapy treatment for breast cancer (Moore, 1997; Varrichio, 1997) and it consists of 19 physical symptoms (see Appendix B). Portenoy et al. (1994) found that over 20% of his overall sample of 243 mixed-cancer patients (colon, prostate, breast, and ovary) experienced each of the first 16 side effects, and the prevalence of side effects was remarkably similar across tumor types. Two exceptions to this were mouth sores and hair loss; less than 20% of the overall sample experienced these side effects. However, when the 70 breast cancer patients were examined separately, the percentages rose to 20% for mouth sores and 23.2% for hair loss. The breast cancer patients in this study were not limited to those receiving chemotherapy. Adriamycin, a chemotherapeutic agent commonly used in breast cancer treatment, always results in hair loss (Kneece, 1997), and it is expected to be an especially prevalent side effect. Ringler's (1984) study of 59 women receiving chemotherapy for breast cancer found that 90% experienced hair loss.

Another exception to Portenoy's (1994) study involves the side effect of skin changes, since this side effect was only examined in the prostate cancer patients. Kneece

(1997) noted that skin changes are a common side effect of 5-FU, another chemotherapeutic agent commonly used in breast cancer treatment. The symptoms of *hot flashes* and *period stopped* were added based on Ringler's (1984) study of breast cancer patients receiving chemotherapy; over 50% of their sample of 59 cancer patients experienced each of these two side effects.

The Psychosocial Adjustment to Illness Scale Self-Report Form

The Psychosocial Adjustment to Illness Scale Self Report Form, developed by Derogatis (1978; 1983), is a 46-item multiple domain questionnaire designed to assess the quality of adjustment to a current medical illness. The seven primary domains of the PAIS-SR, which were developed through a combination of rational-deductive and factor analytic procedures, are health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment, and psychological distress. Each item is rated on a 4-point scale (0 through 3) of adjustment, with higher scores indicating poorer adjustment. Scale direction is alternated on every other item to reduce position response biases, so the scores on these items must be subtracted from three before being added to the domain sums. The domain scores are then summed to generate a total adjustment score. The PAIS-SR is appropriate for the assessment of adjustment of any medical condition that has an identifiable psychosocial component (Derogatis & Fleming, 1996).

Normative data. Norms based on samples with Ns greater than or equal to 100 have been developed for the following illness groups for the PAIS-SR: heterogeneous cancer, cardiomyopathies, diabetes, and multiple sclerosis. The respondent's raw

dimension scores may be transformed into T scores by reference to the norm table for an appropriate group; these T scores are then summed to generate the PAIS-SR total score. Non-normed scoring forms are available for users assessing a population not easily compared with the normative group. The use of standardized scores allows for comparison between a given patient and others coping with the same illness. The PAIS-SR total score, especially when interpreted in terms of a relevant normative group, provides a good level of the patient's overall adjustment. However, if general overall adjustment, rather than comparison to the patients in the same population is of interest, then raw scores can be used. The current study will use the raw scores. The PAIS-SR total score represents the criterion variable of psychosocial adjustment in this study.

Reliability and validity. Generally, the PAIS-SR shows high internal consistency; coefficient alphas for a sample of 512 mixed-cancer patients showed a range of values from .50 to .87, with .93 for the total score (Merluzzi & Sanchez, 1997). This result relates to the consistency with which items composing a particular scale measure the construct in question. Interrater reliabilities for the PAIS-SR were not available, but for the PAIS ranged from .74 to .86 (breast cancer) and .33 to .82 (Hodgkin's disease) with total score coefficients of .86 and .83 respectively (Derogatis & Fleming, 1996).

Validation of the PAIS-SR has been extensive, with studies of convergent, construct, and predictive validity and confirmation of factor structure (Derogatis & Derogatis, 1990; Derogatis & Fleming, 1996; Merluzzi & Sanchez, 1997). In particular, the PAIS-SR was originally validated on people with acute and chronic illnesses, including cancer, and has been widely used with cancer populations. This measure

showed convergent validity with other scales of functioning, including the Symptom Checklist-90-Revised (SCL-90) (Derogatis, as cited in Gotay & Stern, 1995), and correlated well with clinicians' ratings (Gotay & Stern, 1995). Gotay and Stern (1995) reviewed several studies that identified common correlates of low adjustment scores on the PAIS and PAIS-SR, including avoidant coping (Friedman, Baer, Nelson, Lane Smith and Dworkin, 1988) and lack of social support (Gotcher, 1992; 1993). Meluzzi and Sanchez (1997) confirmed these findings, showing correlations between PAIS-SR adjustment, self efficacy for coping with cancer, and satisfaction with social support. As stated previously in the discussion of methodologic limitations in cancer studies, the predictive utility of the PAIS-SR, as well as its global approach to psychosocial adjustment (e.g., the PAIS-SR measures more than just depression or anxiety) make it a useful measure of adjustment in this sample.

Family Relations Index

Family Relations Index (FRI) is a 27-item composite scale designed to measure the quality of support found in family relationships (Moos & Moos, 1986). This measure comprises the three subscales that make up the interpersonal relationship dimension of the Family Environment Scale (FES-A). The FES is a 90-item instrument consisting of 10 subscales that measure the social-environmental characteristics of families in the following three domains: the relationship domain (FES-A), the personal growth domain (FES-B), and the system maintenance domain (FES-C). The three subscales of the relationship domain are cohesion (the degree to which family members are helpful and supportive of each other), expressivity (the degree to which family members are

encouraged to act openly and express their feelings directly), and conflict (the extent to which the open expression of anger, aggression, and conflictual interaction are characteristic of the family). Each of the subscales consists of nine true or false items. The conflict score is subtracted from the sum of the expressiveness and cohesion scores to obtain an overall index score (Moos & Moos, 1986). This index score will be the definition of marital support as a predictor variable.

Normative data. The FES was normed on 1,125 normal and 500 distressed families from all geographic regions of the country (Buros, 1990; Forbair & Zabora, 1995). Distressed families were selected from a variety of settings, including psychiatric units, probation and parole departments, and substance abuse clinics. The means and standard deviations for the subscales on the representative and distressed families showed that distressed families rated their families lower on cohesion, expressiveness, independence, intellectual and recreational activities, and higher on conflict and control when compared with normal families.

Reliability and validity. The FRI has high internal consistency reliability (Cronbach's $\alpha = .89$) and good construct validity (Holohan & Moos, 1986). In cross validations, the FRI discriminated between recovered and relapsed alcoholics and matched community controls. It also discriminated between remitted and non-remitted depressed patients, and community controls in predictable ways (Holohan & Moos, 1995). Furthermore, the FES has been successfully used in studies of social support with cancer patients (Forbair & Zabora, 1995). Spiegel et al. (1983) examined family environment and its relationship to adjustment in breast cancer. More expressiveness and

less conflict were associated with less mood disturbance, showing the family is a crucial factor in patients' adjustment, and lack of open communication may be harmful. Giese-Davis et al.(1998) used the FRI to measure quality of spousal support in breast cancer patients, and their results provide confirmation of the importance of relationship quality in predicting mood disturbance in this population. The results with cancer patients show the FRI to be a brief, valid, and efficient measure in assessing marital relationship quality in this population. In particular, this measure taps particular components of social support that are very important in promoting adjustment to illness: an atmosphere of helpfulness, open communication, and lack of the strain produced by conflict.

Coping Responses Inventory (CRI)

The CRI is a measure of eight different coping responses to stressful life circumstances (Moos, 1993). These responses are measured by eight subscales, four of which measure approach coping and four of which measure avoidance coping. The four approach subscales are logical analysis, positive reappraisal, seeking support and information, and taking problem solving action. The four avoidance subscales are cognitive avoidance, acceptance or resignation, seeking alternative rewards, and emotional discharge. Each of these eight subscales consists of six items. Reliance on each of the 48 coping items is rated on a 4-point scale ranging from not at all (1 point) to fairly often (4 points). Adding the sum of these scores produces a raw score for each subscale.

This measure combines two conceptual approaches to the classification of coping responses: the focus of coping and the method of coping. Dividing the coping responses

into approach and avoidance scales reflects the focus of coping perspective, which views coping as either problem focused or emotion focused (Lazarus & Folkman, 1984).

Approach coping is generally problem focused and reflects cognitive and behavioral efforts to master life stressors, whereas avoidance coping reflects cognitive or behavioral attempts to avoid thinking about a stressor. Each of these two sets of responses is further divided into cognitive and behavioral methods, which reflects the method of coping perspective.

The CRI can be used to measure how an individual copes with a major stressor such as a severe physical illness. A potential application of the CRI is to identify coping responses associated with adjustment (Moos, 1997). In this study, subjects were asked to respond to items based on the following question: "How have you coped with your breast cancer?" On the basis of research demonstrating the predictive advantages of relative versus absolute coping scores (Vitaliano et al., 1987), approach coping was measured by percentage. This percentage of approach coping will be computed by summing the scores on the approach scales and dividing by the sum of all coping scales. Earlier research using this technique with two of the approach and two of the avoidance scales showed the utility of this procedure (Valentiner et. al., 1994; Holohan et. al., 1995; 1997). This percentage score will be the definition of approach coping as a predictor variable.

Development and normative data. The CRI was developed in several stages, beginning with identification of coping domains and development and reduction of an item pool. This led to construction of a preliminary inventory and expansion of the item pool to cover additional coping dimensions. This version was then field tested on a

sample of adults composed of psychiatric and medical patients, as well as healthy adults. Analysis of this data resulted in a 72-item version of the inventory. This inventory was administered to a group of 1,884 adults who participated in a study of normal and problem drinking in a second field trial. This sample included 700 women and more than 1,100 men. It was mostly Caucasian, and it had a median income of \$22,500 and mean education of 14.2 years (Moos, 1993). Sixty nine percent were married. Analysis from this field trial led to the current 48-item version of the instrument.

Validity and reliability. Content and face validity were built into the CRI by formulating definitions of specific domains, preparing items to fit these definitions, and selecting items shown empirically to belong to that domain. Each item was placed on only one dimension; items that were not highly related to any scale were dropped, and items that correlated more highly with other scales were shifted. Also, each item had to have a varied response distribution; specifically, items on which subjects used the entire 4-point response scale were selected (Moos, 1992).

The CRI scales have moderate to high internal consistency reliabilities (average $\alpha = .65$ for women and $.67$ for men), are moderately inter-correlated (average $r's = .25$ and $.29$ for men and women respectively), and are moderately stable over one year (average $r's = .43$ and $.45$ for women and men respectively). The scales are not associated with sociodemographic characteristics such as age, education, marital status, or ethnic background (Moos, 1997).

A number of researchers have used the CRI to examine associations between coping responses and functioning among medical patients, alcoholic patients, and

depressed patients. For example, more reliance on avoidance coping predicted worse outcomes for alcoholics at 1-year follow-up (Brennan, Moos, & Mertens, 1994). Reliance on avoidance coping is also a significant risk factor for non-remission among depressed patients (Moos, 1993) and is a risk factor for poor glycemic control in diabetics (Frenzel, McCaul, Glasgow, & Schafer, 1988). Regarding cancer patients, Nelson, et al. (1989) found that fighting spirit, which is associated with active-approach coping and lack of avoidance coping, predicted better psychosocial outcomes among breast cancer patients. Keyes, Binso, Richardson, and Martinson (as cited in Moos, 1993) used an earlier version of the CRI to examine coping among colorectal cancer patients. They similarly found that avoidance coping led to poorer outcomes in terms of more depression and physical impairment.

Among community samples, more reliance on approach coping and less reliance on avoidance coping is associated with better outcomes among people who experienced stressors (Moos, 1997) and this reliance on approach coping is facilitated by social resources (Holohan & Moos, 1987, 1990; Holohan et. al., 1995; 1997). These results demonstrate the predictive validity and clinical utility of the CRI in measuring coping responses in the current sample. The information obtained with this measure may add to the body of knowledge concerning effective coping skills in this population.

Data Collection Procedure

The appropriate subjects were given a brief description of the study, as well as a permission to contact form. Signed consent on this form allowed the researcher to contact those subjects willing to participate. The subjects were then contacted by the

researcher, and arrangements were made for the subjects to receive the informed consent and the measures. The measures were administered in the subjects' home or at the American Cancer Society of Las Vegas. This allowed the environment to be controlled while subjects were responding. The examiner was present in the administration areas during the administration for 17 of the 21 subjects. For the remaining four subjects, the measures were completed in the subjects' home, with the examiner in phone contact at the beginning and end of administration. In these cases, the subjects reported that they completed the measures while alone, in an environment free of disruption, with no others present in the immediate vicinity.

Subjects were asked to provide information about their history of treatment for mental illness (including anxiety, depression, and substance abuse). Subjects were also asked to provide some descriptive information including age, stage of cancer, type of chemotherapy, number of recurrences, and number of physical symptoms.

The measures were administered in the following sequence: informed consent (which included the questions on descriptive variables), side effect checklist, Psychosocial Adjustment to Illness Scale Self-Report Form, Family Environment Scale, and Coping Responses Inventory. Each measure begins with instructions for completion in accordance with the manuals. The entire FES was administered and only the items comprising the Family Relationship Inventory were used in the analysis.

Data Analysis

Each of the measures were manually scored and entered into the computer for statistical analysis. The patient sample was described in terms of frequency of illness

variables (stage of cancer, number of recurrences, type of treatment). Descriptive statistics on each of the predictor variables and the criterion variable were provided.

A step-wise multiple regression analysis was then used to determine how much of the variance in psychosocial adjustment is explained by approach coping and marital support. Initially, the variable *side effects* was to be entered in the first step, to control for the effects of these physical symptoms on psychosocial adjustment. The number of symptoms has been shown to be strongly related to psychological distress (Portenoy et al., 1994; Ringley, 1983). However, results of a correlational analysis revealed no relation between side effects and any of the study variables; it was therefore eliminated as a control variable and not entered. The predictor variables of marital quality and approach coping were forced into the regression equation together.

To achieve a power of .70 at a significance level of .05, a sample of no less than 20 is needed. Twenty-one subjects were obtained. These results are based on calculations and tables derived from Cohen and Cohen (1983) for a multiple regression analysis with three independent variables, given that the effect size is estimated to be large ($ES=.35$). This allowed determination of whether the variables in question do account for a significant amount of the variation in psychosocial adjustment. The effect size was determined to be greater than .50, and a power greater than .90 was achieved. In addition to the overall variance, each of the partial correlation coefficients (beta weights) between each independent variable and the criterion variable was calculated. This determined the portion of the variation in adjustment uniquely explained by each of the variables in the context of the others.

The significance of the multiple regression coefficient was tested for significance with the F test. The individual beta-weights as well as the Pearson correlations were examined with the t-test. The correlation between marital support and coping was specifically examined to further clarify the relationship between these variables.

Based on the results of initial stepwise regression, additional analyses were performed. Since each of the variables were highly correlated with each other and with the dependent variable, simple regression analyses on each predictor variable were performed. This determined the unique portion of the variance accounted for by each independent variable. Also, the specific subscales of marital support were examined as correlates of psychosocial adjustment using Pearson correlation and regression analyses.

Summary

It was anticipated that this study would provide valuable information regarding the variables that predict a positive psychosocial outcome in women receiving chemotherapy for breast cancer. These women generally suffer from a high level of psychological distress. Understanding the role of approach coping and marital quality can uniquely contribute to the body of knowledge in this population. This can provide the foundation for this researcher and other researchers to further explore the variables that contribute to adaptation to cancer. Specifically, this study allowed coping to be assessed in the context of a supportive relationship. It is hoped that the knowledge gained will allow for the development of more effective interventions at the level of both personal and social resources.

CHAPTER 4 RESULTS

Introduction

This study examined the role of marital support and approach coping in predicting psychosocial adjustment to breast cancer among married women undergoing chemotherapy. Specifically, this study sought to determine whether marital support and approach coping explained a significant amount of the variance in psychosocial adjustment. This study also sought to determine if there was a significant positive relationship between marital support and approach coping in these women.

If these variables explain a significant amount of the variance in adjustment, which one is a stronger predictor? Furthermore, do these predictors have a significant positive relationship to each other such that those with greater marital support are more likely to exhibit approach coping skills? If both approach coping and marital support explain a significant amount of the variance in adjustment, it may be possible to determine those women at risk for poor psychosocial outcomes on the basis of these variables. If marital support and approach coping are highly correlated, interventions intended to increase support may also result in an increase in coping and vice-versa.

Results

Demographic Information

Twenty-one married women who were receiving chemotherapy for breast cancer participated in study. All women ranged in age from 34-62; the mean age was 49.3 years. Stage information included the following: two women with stage I, eight women with

stage II, seven women with stage III, and two women with stage IV. Two of the women did not know the stage of their cancer. The number of side effects ranged from 3-23; the mean number of side effects was 9.9. Most of the women were receiving double or triple agent chemotherapy usually consisting of a combination of Cytosan ($n=15$), Adriamycin ($n=12$), and 5-Fluorouracil ($n=9$) and Taxol ($n=9$). Four of the women were receiving treatment for recurrent breast cancer. For two women it was their first recurrence; for one it was her second recurrence, and for one it was her third recurrence. Seven of the women had received lumpectomies; all others received mastectomies ($n=14$). Four of the women had breast reconstruction.

A total of five women reported that they had received mental health treatment prior to the onset of the breast cancer. Three of the women had received counseling only for marital problems. One of the women obtained a divorce and is now remarried. One of the women received medication only for anxiety, and one received counseling and medication for depression. Only one of the women was receiving treatment at the time of the study. The woman who was receiving counseling and medication was receiving counseling once a month at the time of the study. Another woman began counseling and medication after the onset of the cancer, in order to manage the depression associated with her illness. She was receiving medication and counseling two times per month at the time of the study. Descriptive statistics on the study measures are presented in Table 1.

Table 1

Descriptive Statistics

Variable	N	Mean	SD
Psychosocial Adjustment	21	34.43	20.61
Marital Support	21	11.62	5.03
Approach Coping	21	64.29	8.09

The scores on psychosocial adjustment ranged from 2-72, with a mean score of 34.43 and a standard deviation (SD) of 20.61. The marital support scores ranged from -4 to 18 with a mean of 11.62 and a standard deviation of 5.03. The approach coping scores, which were calculated as percentage of approach coping, ranged from 49 to 79, with a mean score of 64.29 and a standard deviation of 8.09.

Previous research (Portenoy et al., 1994; Ringley, 1983) indicated that the variable *side effects* should be used as a control variable in any analysis of the effects of marital support and approach coping on psychosocial adjustment, due to the fact that side effects have usually been a major factor in adjustment to illness. However, none of the correlations between side effects and the other variables were statistically significant at the .05 level. In fact, the probability values ranged from .311 to .911, indicating that none of the correlations even approached a statistically significant probability level. The correlations and significance levels are displayed in Table 2.

Table 2

Correlations of Side Effects With Other Variables

Variables	Side Effects	p
Psycho-Social Adjustment (PS)	.192	.405
Marital Support (MS)	-.026	.911
Approach Coping	-.232	.311
Cohesion	-.183	.426
Expressivity	-.050	.831
Conflict	.231	.341

The foregoing correlational analysis showed that side effects was independent of the variables of the present study, so side effects was not used as a control variable.

There are several reasons for this. First, science follows the principle of parsimony which in this case would suggest that the extra variable of side effects not be used in the analyses and instead that only those variables of theoretical interest should be used.

Second, using a related variable would detract from the power of analyses. This can be seen primarily in the utilization of one degree of freedom of the control variable which increases the variance of the statistical tests. When power is calculated using the current large effect size and two independent variables, the resulting power is greater than .90, indicating that there is a greater than 90% probability of correctly rejecting the null hypothesis.

Hypothesis 1

The first null hypothesis was as follows: 1. Marital support (as measured by the FRI) and approach coping (as measured by percentage of approach coping on the CRI)

will not explain a significant portion of the variance in psychosocial adjustment (as measured by the PAIS-SR) in married women receiving chemotherapy for breast cancer. This means that the null hypothesis can be rejected if marital support together with approach coping explain a significant portion of the variance in psychosocial adjustment.

A stepwise multiple regression was used to test this hypothesis. Psychosocial adjustment was the criterion variable with marital support and coping as the predictor variables. All variables were forced into the regression equation. Marital support and coping were significant predictors overall when both were entered into a multiple regression equation to predict psychosocial adjustment, $R^2 = .73$, $F(2, 18) = 23.90$, $p < .001$. The regression equation was

$$Y = 121.29 - 2.10 (\text{Marital Support}) - .97 (\text{Coping}).$$

The b-weight of -2.10 was statistically significant with a t test, $p = .025$. This meant that marital support was a significant predictor of psycho-social adjustment in a linear combination with approach coping. Together, approach coping and marital support predicted 73 % of the variance in psychosocial adjustment. Approach coping was not a significant predictor of psychosocial adjustment in this equation. The b-weight of $-.97$ was not statistically significant with a t test ($t = -1.79$, $p = .090$). Although the multiple regression equation overall with two predictor variables was statistically significant, it was due to the significance of marital support. These results are displayed in Table 3.

Table 3

Parameter Estimates for the Stepwise Multiple Regression of MS and AC Predicting Psychosocial Adjustment (PS)

Model	b-weight	SE	Beta	t	p
Constant	121.29	27.40		4.43	.000
Marital Support(MS)	-.2.10	.87	-.51	-2.40	.027
Approach Coping (AC)	-.97	.54	-.38	- 1.79	.090

Note. SE represents Standard Error in this and all subsequent tables.

The null hypothesis was therefore rejected since a combination of marital support and approach coping were significant predictors of psychosocial adjustment in women undergoing chemotherapy for breast cancer.

Hypothesis 2

The second null hypothesis was as follows: 2. Neither approach coping nor marital support are significantly correlated with increased psychosocial adjustment in women receiving chemotherapy for breast cancer. This was examined using Pearson correlations. If approach coping and marital support are each significantly correlated with psychosocial adjustment, then the null hypothesis is rejected.

There was a significant correlation between approach coping and psychosocial adjustment, $r = -.80$, $p < .01$. This negative correlation (inverse relationship) indicated that those who employed a high percentage of approach coping had greater psychosocial adjustment. As previously stated, higher PAIS-SR scores indicate less psychosocial adjustment, so the relationship is in the expected direction. The intercorrelations between variables are displayed in Table 4.

There was a significant correlation between marital support and psychosocial adjustment, $r = -.82$, $p < .01$, also in the expected direction. This negative relationship

suggested that those with marital support were high in psychosocial adjustment. See Table 3. Since both approach coping and marital support were significantly correlated with psychosocial adjustment, the null hypothesis was rejected.

Table 4

Intercorrelations of Variables

Variables	PS	MS	AC
Psycho-Social Adjustment (PS)	1.00		
Marital Support (MS)	-.82**	1.00	
Approach Coping (AC)	-.80**	.82**	1.00

Note. ** $p < .01$

Hypothesis 3

The third null hypothesis was as follows: 3. Approach coping and marital support are not significantly positively correlated with each other. This was examined using a Pearson correlation. If marital support and approach coping are significantly positively correlated than the null hypothesis is rejected.

As displayed in Table 4, there was a significant correlation between approach coping and marital support which was a positive relationship, $r = .82$, $p < .01$. This indicated that those with approach coping also tended to be high in marital support. The null hypothesis was therefore rejected.

Additional Analyses

In order to further investigate the unique contributions of marital support and approach coping in predicting psychosocial adjustment, two further analyses were performed. One of the possible reasons that approach coping did not emerge as a significant predictor of psychosocial adjustment when entered into a stepwise regression

was restricted variance. When marital support was entered first, it was responsible for such a large portion of the variance in psychosocial adjustment that there was no remaining variance available to be predicted by approach coping.

This issue was examined by performing a simple regression analysis. When approach coping was entered into a simple regression analysis predicting psychosocial adjustment, it emerged as a significant predictor. In the case of a simple regression, the multiple R was equal to the Pearson r , since both were measuring the correlation of the predictor variable with the dependent variable. The b-weight of -2.04 was statistically significant with a t -test, $t=-5.80$, $p<.001$. The R^2 was .64, indicating that 64 % of the variance in psychosocial adjustment is explained by approach coping. The results are displayed in Table 5.

Table 5

Parameter Estimates for the Simple Regression of AC Predicting PS

Model	b-weight	SE	Beta	t	p
Constant	165.36	22.76		7.26	.000
Approach Coping	-2.04	.35	-.80	-5.80	.000

Note. $F(1,19)=33.584$, $p<.001$.

Marital support was also entered into a simple regression predicting psychosocial adjustment. Marital support was a significant predictor, $b=-3.37$, $t=-6.32$, $p<.001$. The R^2 was .67, indicating that marital support accounts for 67% of the variance in psychosocial adjustment. The parameter estimates for this regression are displayed in Table 6. These two regressions show that each independent variable (marital support and approach coping) is a significant unique predictor of psychosocial adjustment.

Table 6

Parameter Estimates for the Simple Regression of MS Predicting PS

Model	b-weight	SE	Beta	t	p
Constant	73.59	6.73		10.94	.000
Marital Support	-3.37	.53	-.82	-6.32	.000

Note. $F(1,19)=39.948, p<.001$.

Another issue that was further investigated related to the specific dimensions of marital support as correlates of psychosocial adjustment. The three subscales of the FRI (cohesion, expressivity, and conflict) were examined as correlates of psychosocial adjustment in Table 7. Each of the three predictor variables were correlated with each other, as well as with the dependent variable (except for the correlation between expressivity and conflict, which was -.32 and not significant).

Table 7

Intercorrelations of Psychosocial Adjustment with Cohesion, Expressivity, and Conflict

Variables	PS	COH	EXP	CON
Psycho-Social Adjustment (PS)	1.00			
Cohesion (COH)	-.77**	1.00		
Expressivity (EXP)	-.68**	.66**	1.00	
Conflict (CON)	.65**	-.78**	-.32	1.00

Note. ** $p<.001$

A stepwise multiple regression was performed with cohesion, expressivity, and conflict as predictors of psychosocial adjustment. In this regression, the criteria for a variable to be included was set at $\alpha=.05$, and the criteria for a variable to be removed was set at 1.00. Only cohesion was selected by this method, because it had the highest correlation with psychosocial adjustment (.765). Expressivity and conflict were no longer significant predictors after cohesion was entered because they did not meet the $p<.05$

criterion for inclusion. The b-weight was -6.33, $t=-5.17$, $p<.001$. The R^2 was .58, indicating that cohesion predicts 58% of the variance in psychosocial adjustment. The results are displayed in Table 8.

Table 8

Parameter Estimates for the Stepwise Multiple Regression of COH, EXP and CON

Predicting PAIS

Model	b-weight	SE	Beta	t	p
Constant	80.27	9.35		8.58	.000**
Marital Support	-6.33	1.23	-.77	-5.17	.000**

Note. $F(1, 19)=26.73$, $p<.001$.

Following the same reasoning as in the initial regression of marital support and approach coping predicting PAIS, two more simple regressions were performed to see if expressivity and conflict by themselves were significant predictors of psychosocial adjustment. The results of the simple regression of cohesion predicting psychosocial adjustment would be the same as those in the stepwise regression, since conflict and expressivity were not entered.

The results for the simple regression of expressivity predicting psychosocial adjustment are displayed in Table 9. Expressivity was a significant predictor, $b=-5.91$, $t=-4.09$, $p=.001$. The R^2 was .47, indicating that expressivity explained 47% of the variance in psychosocial adjustment.

Table 9

Parameter Estimates for the Simple Regression of EXP Predicting PS

Model	b-weight	SE	Beta	t	p
Constant	71.27	9.63		7.40	.000
Expressivity	-5.91	1.45	-.68	-4.09	.001*

Note. $F(1,19)=16.66, p=.001.$

The results for the simple regression of conflict predicting psychosocial adjustment are displayed in Table 10. Conflict was a significant predictor, $b=5.06$, $t=3.74$, $p=.001$. The R^2 was .42. This indicates that conflict explained 42% of the variance in psychosocial adjustment.

Table 10

Parameter Estimates for the Simple Regression of CON Predicting PS

Model	b-weight	SE	Beta	t	p
Constant	19.97	5.22		3.83	.000
Conflict	5.06	1.35	.658	3.74	.001*

Note. $F(1,19)=13.96, p=.001.$

The results of these regressions show that cohesion, expressivity, and conflict were each unique, significant predictors of psychosocial adjustment to illness in married women undergoing chemotherapy for breast cancer.

CHAPTER 5 DISCUSSION, RECOMMENDATIONS, AND CONCLUSIONS

Review of the Hypotheses

The following hypotheses were tested in this study:

1. A linear combination of marital support (as measured by the FRI) and approach coping (as measured by the CRI) does not explain a significant portion of the variance in psychosocial adjustment (as measured by the PAIS-SR) in women receiving chemotherapy for breast cancer.

2. Neither approach coping nor marital support are significantly correlated with increased psychosocial adjustment to illness in women receiving chemotherapy for breast cancer.

3. Approach coping and marital support are not significantly positively correlated with each other.

Results of a Pearson correlation showed that none of the variables were correlated with the number of side effects, so this measure was not used in any of the analyses. In order to more specifically investigate the predictors of psychosocial adjustment, several additional analyses were performed. Stated in null form, these were as follows:

1. A linear combination of cohesion, expressivity, and conflict, as measured by the Family Relationship Inventory, does not explain a significant portion of the variance in psychosocial adjustment in women receiving chemotherapy for breast cancer.

2. Neither cohesion, expressivity, nor conflict explain a significant portion of the variance in psychosocial adjustment in women receiving chemotherapy for breast cancer.

Results

Results showed that the null hypothesis was rejected in all cases. For hypothesis 1, a stepwise regression determined that a linear combination of marital support and approach coping predicted a highly significant portion of the variance in psychosocial adjustment in women receiving chemotherapy for breast cancer.

For hypothesis 2, results showed that marital support and approach coping were each significantly correlated with psychosocial adjustment, in the expected direction. Further simple regressions showed that each of these variables explained a significant amount of the variance in psychosocial adjustment, with marital support being the stronger predictor. Taken together, these results indicate that those women who experienced greater marital support, and those who employed a higher percentage of approach coping strategies, had better psychosocial adjustment to their breast cancer.

For hypothesis 3, results showed that approach coping and marital support were highly correlated with each other; the correlation coefficients were significant at the $p < .001$ level. This indicates those women who experienced greater marital support were more likely to have employed approach coping strategies.

The additional analyses (hypotheses 5 and 6), showed that a linear combination of cohesion, expressivity, and conflict predicted a significant portion of the variance in psychosocial adjustment. Furthermore, each of these variables alone were significant predictors of psychosocial adjustment, with cohesion being the strongest predictor. These results indicate that those women who perceived their spouses as helpful, and had marriages characterized by open, honest communication without angry verbal

interaction, had better psychosocial adjustment to their breast cancer.

Discussion and Clinical Implications

Due to the fact that increased numbers of cancer patients are living longer, psychosocial oncology has shifted its focus from helping cancer patients cope with impending death to helping them improve their quality of life. In the interest of advancing this goal, psychosocial oncology research has also sought to identify the common factors that influence the degree of psychological disturbance that is experienced by cancer patients.

High rates of psychological distress and the variables which influence adaptation to cancer have been documented in the literature. Two of the most important factors identified in the adjustment process are coping and marital support. The results of this study are in agreement with previous research showing that marital support and approach coping are important factors in determining how one adjusts to the diagnosis of breast cancer.

The high rates of psychological distress in cancer patients are understandable, given the stressors that are involved. Research has indicated that emotional distress is a normal impact of medical disease. However, this does not preclude the need for psychological intervention in the face of clinically significant levels of distress experienced by cancer patients. Due to the necessity of ameliorating psychological distress and assisting cancer patients in their adjustment to the illness, there is a rapidly growing body of research on the effectiveness of interventions. Reviews have generally produced promising results, showing that most types of psychosocial intervention have

been beneficial for cancer patients (Iaccovino & Reesor, 1997; Meyer & Marck, 1995).

These meta-analyses classified intervention studies according to methodology and types of interventions. In their meta-analysis, Meyer and Marck (1995) synthesized results of 45 controlled outcome studies and found effect sizes ranging from .19 to .28 for a variety of psychosocial adjustment measures. The treatments were classified as follows: behavioral interventions, non-behavioral counseling, informational methods, organized social support from other patients, and other non-hospice treatments (which referred to mixed treatments). They also found no significant differences between categories of treatment on these measures. Iaccovino and Ressor's (1997) review of 33 three intervention studies found similar results. These authors concluded that the evidence shows psychosocial interventions to be generally beneficial with no particular intervention being significantly more effective than another. Based on these results, Meyer and Marck (1995) suggested that future research be focused on the specific mechanisms of beneficial outcomes. One reason for the lack of differential outcomes between treatments may be due to the lack of tailoring interventions to the specific variables known to promote adjustment.

Nezu et al. (1998) stated that there are few empirically based psychosocial interventions designed to meet the needs of cancer patients. The current research attempts to provide an empirical basis for intervention by identifying those factors which may be likely targets for intervention.

Several interventions have been designed to target coping as a variable to promote adjustment, and they have showed promising results (Bottomley, Hunton,

Roberts, Jones & Bradley, 1996; Greer, Moorey, & Baruch, et al., 1992; Fawzy, 1994). All of the treatments implemented and evaluated by these authors can be described as problem focused, cognitive-behavioral group counseling. The interventions generally included the following components: problem-solving and positive reframing, relaxation and stress reduction, and information and education. Psychological support was inherent in all of the interventions in that women are sharing their concerns and receiving feedback and assistance from open discussions with fellow cancer patients. In all of these studies, results showed that women receiving the interventions reported better adjustment to their illness and lower psychological distress than they did prior to the treatment. They also reported an increase in active cognitive and behavioral coping styles, such as positive reframing, seeking information from physicians, and fighting spirit. They also reported less helplessness and less anxious preoccupation. In the current study, logical analysis, positive reframing, problem solving, and seeking support are all factors that comprise approach coping, and are consistent with the results showing that women who rank high on these skills have better psychosocial adjustment.

Nezu et al. (1998) has also designed a problem solving therapy intervention which is tailored specifically for cancer patients. His treatment model consists of several interacting component processes which focus on helping the cancer patient to identify the problem, generate alternatives, make decisions about solutions and implement these solutions. The techniques advocated are mostly behavioral in nature, and include reinforcement, modeling, behavioral rehearsal, and homework. Their preliminary findings from Project Genesis, a large scale prospective outcome study funded by the

National Cancer Institute, provide support for the effectiveness of problem solving therapy in increasing problem solving skills, improving adjustment, and reducing psychological distress (Nezu et al., 1998).

What appears to be lacking in the literature are those interventions that target marital support as essential in cancer patients' psychosocial adjustment. No intervention studies were found which focused on the couple building support. Of the three related studies found, two focused solely on the spouse of the cancer patients as the target of intervention (Gilbrar, 1997; Toseland, Blanchard, & McCallion, 1995). As previously shown by Northouse et al. (1991) and Ell et al. (1988), spouses report as many psychological symptoms as the patients themselves, as well as marital strain. Therefore, it is indeed important for intervention programs to address these issues. Toseland et al. (1995) examined the efficacy of group problem-solving therapy for spouses of cancer patients. In this intervention, spouses were encouraged to discuss their own reactions as well as the spouses' reactions to the cancer in order to receive assistance on solving problems. The spouses who received this intervention showed an improvement in their ability to cope with problems, and their partners themselves showed a reduction in depression.

Nezu et al. (1998) did include a significant other in one of the therapy conditions assessing problem-solving therapy, and found that this was not shown to add to the effects of treatment. However, in this condition, the significant other functioned as a coach to assist in learning and implementing problem-solving skills, rather than as an equal participant who also shares his feelings and concerns. Nezu (1998) stated that it

should not be concluded that working with couples will not add value to the intervention.

Vess, Moreland, Schwebel and Kraut (1988) conducted tape recorded interviews with 54 cancer patients and their spouses in order to suggest ways to more effectively meet the psychosocial needs of cancer patients. One of the purposes of this study was to allow cancer patients and their spouses to share thoughts, feelings, and perceptions of their experiences. Anecdotal data indicated that spouses found it helpful to be able to communicate openly about their changing family roles, needs, and concerns in order to devise ways to meet sexual and affectional needs. The author also concluded hospital based health care delivery is inadequate to meet those needs, further stressing the need for appropriate intervention, specifically needs related to the marital relationship.

Research Limitations

Results of this study have limited generalizability for several reasons. Due to the nature of the convenience sample, all of the women were from the state of Nevada. In addition, due to the availability of subjects, this researcher was able to locate only 21 subjects who met the criteria of this study. This does not adequately represent a cross section of the total population of married women currently undergoing chemotherapy for breast cancer.

In addition, the study relied exclusively on self-report and assumed that the women were responding as accurately and honestly as possible. Possible confounding factors could be the mood or fatigue levels of the women or experimenter bias. In four of the instances the environment could not be controlled, and this may have also produced a confound in the results.

Recommendations for Future Research

Cancer was selected as one of the main themes of the 1999 American Psychological Association Annual Convention (June 1999). The presidential mini-convention highlighted the role of psychologists in cancer treatment and prevention. The necessity of focusing on the role psychologists play in caring for cancer patients is evidenced by the results of the Institute of Medicine Report National Cancer Policy Board (Rabasco, 1999). They reported that there is a lack of consistent psychosocial services and support for cancer patients and their families.

The great need for psychological services to help mitigate the distress of cancer patients and their families suggests a necessity for future research in this area . As previously stated, psychosocial oncology is a relatively young field, and there is further need for empirically based interventions. The results of Toseland et al.'s (1995) intervention study show partners described feeling frustrated about their inability to communicate more effectively with their spouses. He stated that couples counseling may be more effective than individual or group counseling in increasing psychosocial adjustment, since it addresses marital satisfaction. The results of the current study are consistent with this the idea that future research may focus on intervention with the couple. Interventions may be specifically designed to increase open communication (defined as expressivity in the current study) and support, and to reduce conflict in the marriage. This suggestion is also consistent with Kupst's (as cited in Clay, 1999) assertion that the family adjustment is one of the strongest predictors of psychosocial adjustment. She described an intervention designed by Redd (as cited in Clay, 1999)

which teaches family members to act as interventionists, to help channel their anxieties into a productive behavior. It appears that allowing families to help practice relaxation or guided imagery with their spouses would build cohesiveness and understanding in the marriage.

Another very important direction for future research is to further investigate the role of psychosocial variables and interventions on disease parameters such as metastasis, recurrence, and survival. Several researchers have begun to investigate the effects of psychosocial interventions on these variables. For example, Fawzy, Fawzy, and Hyun et al. (1993) evaluated survival and recurrence on 64 malignant melanoma patients and found that psychological interventions which increase active coping and reduce depression and anxiety appear to have beneficial effects for survival. They found that the size and depth of the melanoma lesions, as well as problem-solving group intervention, predicted greater recurrence and poorer survival. Even when the size of the lesion was accounted for statistically, treatment remained a significant predictor. In addition, baseline levels of distress and coping predicted recurrence and survival. Greater psychological distress and greater active-behavioral coping predicted greater rates of survival and lower rates of recurrence. It is possible that low levels of distress were due to minimization or denial, so that coping efforts may not have been mobilized.

Van der Pompe, Antoni, Visser, and Garsen (1996) reviewed the effects of psychosocial interventions on both biological and psychological functioning of women with breast cancer. Although the authors did not do a formal analysis, they concluded that the evidence showed most psychosocial interventions were effective in decreasing

distress in breast cancer patients. They found that several studies showed increased survival for those women with less helplessness and hopelessness, and greater fighting spirit. In addition, they reviewed several studies which measured the impact of psychosocial factors on immune function in women with breast cancer.

One study found that women who perceived greater marital support, and actively sought support from others, had greater immune function (Levy et al., as cited in van der Pompe et al., 1996). The assumption of studies measuring immune function is that psychological variables influence tumor progression through their influence on immune and neuroendocrine function. Other studies showed that those who received group psychotherapy had a greater survival time. The authors suggested that future research should focus on the effects of psychosocial variables and intervention on both immune function and tumor growth, to determine a possible mechanism.

Overall, the research in this area relating psychosocial intervention to biological variables is relatively sparse and inconclusive. Azar (1999) described several studies now in progress which are investigating several hundred women with breast cancer.

Both Anderson and Morrow (as cited in Azar, 1999) are examining the mechanisms which relate psychosocial variables, immune function, and survival. As Morrow (as cited in Azar, 1999) stated, "the leap across the biobehavioral boundary should be made with great caution and intense humility" (p. 14).

Conclusions

Although caution must be taken in making the assumption that psychosocial variables relate to survival, the research has shown that psychosocial variables definitely

relate to adjustment to cancer. This study found that both marital support and approach coping are strong predictors of adjustment to illness in married women receiving chemotherapy for breast cancer. This highlights the need for interventions tailored to address these specific variables, as they are likely to be very effective in promoting adjustment.

Furthermore, if evidence for a mechanism among psychological variables, immune function, and survival is strong, psychologists may actually have a lifesaving role in performing psychosocial interventions. There is an essential need to design such interventions based on empirical evidence, so they can be most effective in improving the lives of cancer patients and their families. The current research attempts to add to the empirical basis for developing such interventions by identifying the variables that should be targeted to promote adjustment and quality of life in women with breast cancer.

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APPENDIX A: Consent Forms

Permission to Contact

Psychosocial Adjustment to Breast Cancer: The Role of Marital Support and Approach Coping

I am Jacqueline Schonholtz, M.A., a Stage III ovarian cancer survivor, and I am currently pursuing my doctorate in psychology. I am therefore extremely interested in the adjustment of women undergoing chemotherapy for breast cancer. You are invited to participate in a research study regarding the psychological and social adjustment of married women with breast cancer. You were selected for this study because you are currently undergoing chemotherapy for breast cancer and are currently married. The purpose of this study is to examine the effects of coping strategies and marital support on the psychological and social adjustment of women with breast cancer. It is the sincere hope of the principal researcher that this study will aid in the identification of variables that promote adjustment to breast cancer and in the development of effective treatment for adjustment problems.

If you give consent to be contacted, the principal investigator will contact you by phone. You will be asked to complete a checklist of physical symptoms, a scale measuring adjustment to cancer, a scale measuring marital support and an inventory on the coping strategies you have used to deal with the cancer. Each of these forms should take less than 30 minutes to complete.

Jacqueline Schonholtz, MA, Walden University, is conducting this study.

Phone : 702-792-6720

Address: 4248 Spencer St. #127 LV, NV 89119

Confidentiality:

The records of this study will be kept private. In any sort of report that will be published, it will not include any information that will make it possible to identify a subject.

Research records will be kept in a confidential file; only the researcher will have access to the records.

I hereby give consent to be contacted by Jacqueline Schonholtz, MA, principal investigator

Name: _____

Signature: _____

Please provide number and best hours to call: _____

What type of surgery did you have? Lumpectomy Mastectomy Other

Did you have breast reconstruction? Yes No

Did you receive radiation? Yes No

What type of chemotherapy do you receive? _____

Stage of cancer (if known) _____

CONSENT FORM

Psychosocial Adjustment to Breast Cancer: The Role of Marital Support and Approach Coping

I am Jacqueline Schonholtz, M.A., a Stage III ovarian cancer survivor who is currently pursuing my doctorate in psychology. I am therefore extremely interested in the adjustment of women undergoing chemotherapy for breast cancer. You are invited to participate in a research study regarding the psychological and social adjustment of married women with breast cancer. You were selected for this study because you are currently undergoing treatment for breast cancer and are currently married. I ask that you carefully read this form and ask any questions before agreeing to participate in this study.

Jacqueline Schonholtz, M.A., Walden University, is conducting this study.

Background Information:

The purpose of this study is to examine the effects of coping strategies and marital support on the psychological and social adjustment of women with regional breast cancer. It is the sincere hope of primary researcher that this study will aid in the identification of variables that promote adjustment to breast cancer and in the development of effective treatment for adjustment problems.

You will be asked to complete a checklist of physical symptoms, a scale measuring adjustment to cancer, a scale measuring marital support and an inventory on the coping strategies you have used to deal with the cancer. Each of these forms should take less than 30 minutes to complete.

Confidentiality:

The records of this study will be kept private. In any sort of report that will be published, it will not include any information that will make it possible to identify a subject. Research record will be kept in a confidential file, only the principal investigator will have access to the records.

Voluntary Nature of the Study:

Your decision whether or not to participate in this study will not effect you current or future relations with the treatment facility, or medical personnel. If you decide to participate, you are free to withdraw without effecting those relationships.

Contacts and Questions:

The researcher conducting this study is Jacqueline Schonholtz, Faculty Advisor, is Steven Lifrak, Ph.D. If you have any questions, you may ask the nurses or contact Jacqueline at 702-792-6720. Please feel free to leave a message and I will return the call as soon as possible. Or you may write to 4248 Spencer St. #127, Las Vegas, NV 89119.

Statement of Consent:

I have read the above information and I consent to participate in the study.

Signature: _____ Date: _____

Name: _____ Age: _____ Date of Birth: _____

Descriptive Information:

Have you ever been treated for a mental health problem (i.e., anxiety, depression, substance abuse, schizophrenia) **before the onset of the cancer?** If so, please list type of problem _____

Please circle type of treatment: medication counseling/psychotherapy both

Are you currently receiving treatment for this or any other mental health problem? If so, please list type of problem and type of treatment _____

Stage of Cancer: _____

First Set of Treatments? _____ If no, please state if this is the 1st, 2nd, 3rd set _____

What type of chemotherapy are you receiving ?

What type of surgery did you have?	Lumpectomy	Mastectomy	Other
Did you have breast reconstruction?	Yes	No	
Did you receive radiation?	Yes	No	

APPENDIX B: Side Effects Checklist

Do you experience any of the following physical symptoms? Please circle those that apply.

1. Lack of energy
2. Feeling Bloating
3. Drowsiness
4. Sore mouth
5. Difficulty sleeping
6. Change in Appetite (lack of appetite or increased appetite)
7. Nausea
8. Numbness/Tingling in Hands and Feet
9. Change in Taste
10. Weight Changes (Loss or Gain)
11. Dizziness
12. Pain
12. Vomiting
13. Diarrhea
14. Cough
15. Hair Loss
16. Problems with Sexual Interest or Activity
17. Skin changes
18. Hot flashes
19. Period Stopped
20. Other: Please list

APPENDIX C: Sample Questions From the PAIS-SR

SAMPLE

PAIS

S • R
• SELF REPORT •



CLINICAL PSYCHOMETRIC RESEARCH

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Sample Questions from the PAIS-SR

SECTION I

(1) Which of the following statements best describes your attitude about taking care of your health?

- a) I am very concerned and pay close attention to my personal health.
- b) Most of the time I pay attention to my health care needs.
- c) Usually, I try to care of health matters but sometimes I just don't get around to it.
- d) Health care is something that I just don't worry too much about.

SECTION II

(1) Has your illness interfered with your ability to do your job (schoolwork)?

- a) No problems with my job
- b) Some problems but only minor ones
- c) Some serious problems
- d) Illness has totally interfered with my job.

SECTION III

(1) How would you describe your relationship with your husband or wife(partner, if not married) since your illness?

- a) Good
- b) Fair
- c) Poor
- d) Very poor

SECTION IV

(1) Sometimes having an illness can cause problems in a relationship. Has your illness led to any problems with your husband or wife (partner, if not married)?

- a) There has been no change in our relationship
- b) We are a little less close since my illness
- c) We are definitely less close since my illness.
- d) We have had serious problems or a break in our relationship since my illness.

SECTION V

(1) Have you had as much contact as usual (either personally or by telephone) with members of your family outside your household since your illness?

- a) Contact is the same or greater since illness
- b) Contact is slightly less
- c) Contact is markedly less
- d) No contact since illness

SECTION VI

(1) Are you still as interested in your leisure time activities and hobbies as you were prior to your illness?

- a) Same level of interest as previously
- b) Slightly less interest than before
- c) Significantly less interest than before
- d) Little or no interest remaining

SECTION VII

(1) Recently, have you felt afraid, tense, nervous or anxious?

- a) Not at all
- b) A little bit
- c) Quite a bit
- d) Extremely

APPENDIX D: Coping Responses Inventory Items and Answer Sheet

The Coping Responses Inventory Actual Adult Form and Answer Form is adapted and reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc. 16204 North Florida Avenue, Lutz, Florida 33549 from the Coping Responses Inventory by Rudolph Moos, Ph.D., Copy right 1993 by PAR, Inc. Further reproduction is prohibited without permission from PAR, Inc.

SAMPLE

CRI-ADULT FORM

Item Booklet


Rudolf H. Moos, Ph.D.

Directions:

On the accompanying answer sheet, please fill in your name, today's date, and your sex, age, marital status, ethnic group, and education (number of years completed). Please mark all your answers on the answer sheet. **Do not write in this booklet.**

PAR Psychological Assessment Resources, Inc./P.O. Box 998/Odessa, FL 33556/Toll-Free 1-800-331-TEST

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RESPONDENT'S NAME: _____	1. PT ID NO _____	2. STD NO _____
MEDICAL INSTITUTION: _____	3. Dx _____	4. Dx Cc _____
TREATING DOCTOR'S NAME: _____	5. Rx _____	6. Rx Cc _____
DATE FORM WAS COMPLETED: _____	7. Med. Dept. _____	
AGE: _____ SEX: _____ EDUCATION: _____	8. Vist Cd. _____	9. Soc. Stat. _____
OCCUPATION: _____	10. Tech. _____	
MARITAL STATUS: _____		

INSTRUCTIONS

The present form contains a set of questions concerning the effects that your recent illness has had on you. We are interested in knowing what effects it has had on your relationships and performance at home and on your job, as well as on family and personal relationships. Other questions deal with its effects on your social and leisure time activities, and how you have felt emotionally.

In answering each question, please put a check mark (✓) in the box alongside the answer that best describes your experience. Please answer all the questions and try not to skip any. If none of the answers to a question match your experience exactly, please choose the answer that comes closest to the experience you have had.

The time we would like you to refer to is the past 30 days, including today. Answer each question in terms of what your experience has been like during this time. In the event you are presently a patient in the hospital, please report your experiences for the 30 days before entering the hospital.

Some questions on the form assume that you are married or have a steady partner you are close to. Other questions ask about family relationships. If these questions do not apply to you because you are unmarried, or you have no family or partner, please leave them blank. Try to answer all the questions that do apply to you, however.

Section II asks questions about your job performance. If you have either full-time or substantial part-time employment, please answer in terms of your job. If you are primarily a student, answer in terms of your school work. If you are a housewife, answer as though housework, neighbors, etc. are your work environment.

We appreciate the time you have taken to do this form. Please check again to make sure you have completed all the items. If you have any questions about the form, please ask. If you are responding by mail, please write them in the space provided below. Please return the form as soon as you have completed it.

Thank You.

Part 1

This booklet contains questions about how you manage important problems that come up in your life. Please think about the most important problem or stressful situation you have experienced **in the last 12 months** (for example, troubles with a relative or friend, the illness or death of a relative or friend, an accident or illness, financial or work problems). Briefly describe the problem in the space provided in Part 1 of the answer sheet. If you have not experienced a major problem, list a minor problem that you have had to deal with. Then answer each of the 10 questions about the problem or situation (listed below and again on the answer sheet) by circling the appropriate response:

Circle "DN" if your response is **DEFINITELY NO**.

Circle "MN" if your response is **MAINLY NO**.

Circle "MY" if your response is **MAINLY YES**.

Circle "DY" if your response is **DEFINITELY YES**.

DN	MN	MY	DY
DN	MN	MY	DY
DN	MN	MY	DY
DN	MN	MY	DY

1. Have you ever faced a problem like this before?
2. Did you know this problem was going to occur?
3. Did you have enough time to get ready to handle this problem?
4. When this problem occurred, did you think of it as a threat?
5. When this problem occurred, did you think of it as a challenge?
6. Was this problem caused by something you did?
7. Was this problem caused by something someone else did?
8. Did anything good come out of dealing with this problem?
9. Has this problem or situation been resolved?
10. If the problem has been worked out, did it turn out all right for you?

Part 2

Read each item carefully and indicate how often you engaged in that behavior in connection with the problem you described in Part 1. Circle the appropriate response on the answer sheet:

Circle "N" if your response is NO, Not at all.

Circle "O" if your response is YES, Once or Twice.

Circle "S" if your response is YES, Sometimes.

Circle "F" if your response is YES, Fairly often.

<input checked="" type="radio"/> N	<input type="radio"/> O	<input type="radio"/> S	<input type="radio"/> F
<input type="radio"/> N	<input checked="" type="radio"/> O	<input type="radio"/> S	<input type="radio"/> F
<input type="radio"/> N	<input type="radio"/> O	<input checked="" type="radio"/> S	<input type="radio"/> F
<input type="radio"/> N	<input type="radio"/> O	<input type="radio"/> S	<input checked="" type="radio"/> F

There are 48 items in Part 2. Remember to mark all your answers on the answer sheet. Please answer each item as accurately as you can. All your answers are strictly confidential. If you do not wish to answer an item, please circle the number of that item on the answer sheet to indicate that you have decided to skip it. If an item does not apply to you, please write **NA** (Not Applicable) in the box to the right of the number for that item. If you wish to change an answer, make an **X** through your original answer and circle the new answer. Note that answers are numbered across in rows on Part 2 of the answer sheet.

1. Did you think of different ways to deal with the problem?
2. Did you tell yourself things to make yourself feel better?
3. Did you talk with your spouse or other relative about the problem?
4. Did you make a plan of action and follow it?
5. Did you try to forget the whole thing?
6. Did you feel that time would make a difference—that the only thing to do was wait?
7. Did you try to help others deal with a similar problem?
8. Did you take it out on other people when you felt angry or depressed?

9. Did you try to step back from the situation and be more objective?
10. Did you remind yourself how much worse things could be?
11. Did you talk with a friend about the problem?
12. Did you know what had to be done and try hard to make things work?
13. Did you try not to think about the problem?
14. Did you realize that you had no control over the problem?
15. Did you get involved in new activities?
16. Did you take a chance and do something risky?

17. Did you go over in your mind what you would say or do?
18. Did you try to see the good side of the situation?
19. Did you talk with a professional person (e.g., doctor, lawyer, clergy)?
20. Did you decide what you wanted and try hard to get it?

21. Did you daydream or imagine a better time or place than the one you were in?
22. Did you think that the outcome would be decided by fate?
23. Did you try to make new friends?
24. Did you keep away from people in general?

25. Did you try to anticipate how things would turn out?
26. Did you think about how you were much better off than other people with similar problems?
27. Did you seek help from persons or groups with the same type of problem?
28. Did you try at least two different ways to solve the problem?
29. Did you try to put off thinking about the situation, even though you knew you would have to at some point?
30. Did you accept it; nothing could be done?
31. Did you read more often as a source of enjoyment?
32. Did you yell or shout to let off steam?

33. Did you try to find some personal meaning in the situation?
34. Did you try to tell yourself that things would get better?
35. Did you try to find out more about the situation?
36. Did you try to learn to do more things on your own?
37. Did you wish the problem would go away or somehow be over with?
38. Did you expect the worst possible outcome?
39. Did you spend more time in recreational activities?
40. Did you cry to let your feelings out?

41. Did you try to anticipate the new demands that would be placed on you?
42. Did you think about how this event could change your life in a positive way?
43. Did you pray for guidance and/or strength?
44. Did you take things a day at a time, one step at a time?
45. Did you try to deny how serious the problem really was?
46. Did you lose hope that things would ever be the same?
47. Did you turn to work or other activities to help you manage things?
48. Did you do something that you didn't think would work, but at least you were doing something?

CRI-ADULT ANSWER SHEET

Form: Actual _____ Ideal _____

Name _____ Date _____ / _____ Sex _____ Age _____

Marital Status _____ Ethnic Group _____ Education _____

Part 1

Describe the problem or situation _____

DN = Definitely No

MN = Mainly No

MY = Mainly Yes

DY = Definitely Yes

1. Have you ever faced a problem like this before? DN MN MY DY
2. Did you know this problem was going to occur? DN MN MY DY
3. Did you have enough time to get ready to handle this problem? DN MN MY DY
4. When this problem occurred, did you think of it as a threat? DN MN MY DY
5. When this problem occurred, did you think of it as a challenge? DN MN MY DY
6. Was this problem caused by something you did? DN MN MY DY
7. Was this problem caused by something someone else did? DN MN MY DY
8. Did anything good come out of dealing with this problem? DN MN MY DY
9. Has this problem or situation been resolved? DN MN MY DY
10. If the problem has been worked out, did it turn out all right for you? DN MN MY DY

Part 2

N = No, Not at all **O = Yes, Once or twice** **S = Yes, Sometimes** **F = Yes, Fairly often**

1	2	3	4	5	6	7	8
N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F
9	10	11	12	13	14	15	16
N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F
17	18	19	20	21	22	23	24
N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F
25	26	27	28	29	30	31	32
N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F
33	34	35	36	37	38	39	40
N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F
41	42	43	44	45	46	47	48
N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F	N O S F

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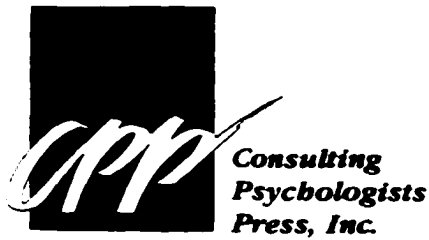
CRI-ADULT PROFILE

T Score	Raw Score								T Score
80									80
79									79
78									78
77									77
76									76
75									75
74									74
73									73
72			18						72
71									71
70									70
69			17						69
68		18						10	68
67	18		16		18		14		67
66									66
65	17	17				13			65
64			15		17				64
63							13		63
62	16	16	14		16	12		11	62
61							12		61
60	15	15			15	11		10	60
59			13				11		59
58		14				10		9	58
57	14		12		14				57
56		13					10		56
55	13				13	9		8	55
54			11				9		54
53		12				8		7	53
52	12		10		12		8		52
51		11				7		6	51
50	11				11				50
49		10	9				7		49
48					10	6		5	48
47	10	9	8						47
46						5		4	46
45		8			9				45
44	9		7			4		5	44
43					8				43
42	8	7	6				4	2	42
41					7	3			41
40		6					3		40
39	7		5			2		1	39
38		5			6				38
37	6		4			1	2	0	37
36		4			5				36
35							1		35
34									34
33									33
32									32
31									31
30									30
29									29
28									28
27									27
26									26
25									25
24									24
23									23
22									22
21									21
20									20

Raw Score LA PR SG PS CA AR SR ED

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APPENDIX E: Sample Items for the Family Environment Scale-Form R



SAMPLE ITEMS FOR THE FAMILY ENVIRONMENT SCALE - FORM R

by Rudolf H. Moos

Directions: These statements are about families. You are to decide which statements are true of your family and which are false. If you think the statement is True or mostly True of your family, make an X in the box labeled T (true). If you think the statement is False or mostly False of your family, make an X in the box labeled F (false).

You may feel that some of the statements are true for some family members and false for others. Mark T if the statement is true for most members. Mark F if the statement is false for most members. If the members are evenly divided, decide what is the stronger overall impression and answer accordingly.

Remember, we would like to know what your family seems like to you. Do not try to figure out how other members see your family, but do give us your general impression of your family for each statement.

Relationship Dimensions

- | | T | F |
|--|--------------------------|--------------------------|
| 1. Family members really help and support one another. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Family members often keep their feelings to themselves. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. We fight a lot in our family. | <input type="checkbox"/> | <input type="checkbox"/> |

From the Family Environment Scale by Rudolf H. Moos. Copyright 1974 by Consulting Psychologists Press, Inc. All rights reserved. Further reproduction is prohibited without the Publisher's written consent.

You may change the format of these items to fit your needs, but the wording may not be altered. Please do not present these items to your readers as any kind of "mini-text," but rather as an illustrative sample of items from this instrument. We have provided these items as samples so that we may maintain control over which items appear in published media. This avoids an entire instrument appearing at once or in segments which may be pieced together to form a working instrument, protecting the validity and reliability of the test. Thank you for your cooperation. Consulting Psychologists Press, Inc., Permissions & Contracts Department.

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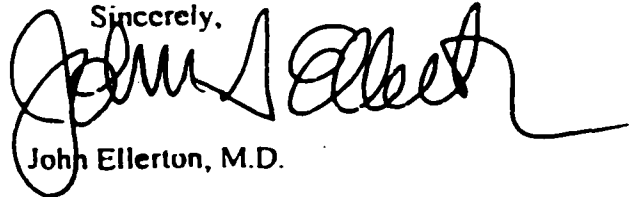
APPENDIX F: Permission to Use Sample

Letter of Cooperation

I am in receipt of Ms. Jacqueline Schonholtz's proposal and she has my permission to draw a sample from the outpatient oncology clinic at University Medical Center.

If additional information is needed, please advise.

Sincerely,

A handwritten signature in black ink, appearing to read "John Ellerton", with a long horizontal flourish extending to the right.

John Ellerton, M.D.

Date: 22299

APPENDIX G: Permission to Reproduce Sample Items and Measures

Return-Path: <MDero@aol.com>
Delivered-To: ../tehama-mail/lvdi.net%jackie@lvdi.net
Received: (cpmta 9649 invoked from network); 2 Jun 1999 07:45:06 -0700
Received: from imo15.mx.aol.com (198.81.17.5)
by smtp.c000-mx000.c000.paix.cp.net with SMTP; 2 Jun 1999 07:45:06 -0700
X-Received: 2 Jun 1999 14:45:06 GMT
Received: from MDero@aol.com (2613)
by imo15.mx.aol.com (IMOV20) id nKVVa02575
for <jackie@lvdi.net>; Wed, 2 Jun 1999 10:43:51 -0400 (EDT)
From: MDero@aol.com
Message-ID: <b3328827.24869d27@aol.com>
Date: Wed, 2 Jun 1999 10:43:51 EDT
Subject: PAIS-SR Instrument in Appendix
To: jackie@lvdi.net
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit
X-Mailer: AOL 3.0 16-bit for Windows sub 64
Status: U
X-UIDL: 928334706.9659.c000-mx000.c000.paix.cp.net

June 2, 1999

Ms. Jacqueline Schonholt
4248 Spencer St. #127
Las Vegas, NV 89119

Dear Ms. Schonholtz:

In response to your recent request to include a copy of the Psychosocial Adjustment to Illness Scale (Self-Report) (PAIS-SR) in the Appendix of your dissertation proposal and final dissertation, our policy is the following:

You may include a copy of the instrument in your dissertation proposal. However, you may only include one sample question from each of the seven domains in the final copy of your dissertation.

Please feel free to contact me if you need any additional information concerning this matter.

Sincerely,

Leonard R. Derogatis, Ph.D.

PAR
Psychological
Assessment
Resources

POST OFFICE BOX 979
CORUJA, FLORIDA 32909
TEL. (813) 966-3333
FAX. (813) 966-2598
http://www.papr.com

June 2, 1999

Jacqueline Schonholtz
4248 Spencer Street, #127
Las Vegas, NV 89119

Dear Ms. Schonholtz:

In response to your recent, permission is hereby granted to you to include a copy of the Coping Responses Inventory - Actual Adult Form and Answer Forms in the appendix of your dissertation entitled "Psychosocial Adjustment to Breast Cancer: The Role of Marital Support and Approach Coping".

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Jacqueline Schonholtz
June 2, 1999
Page 2

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Sincerely,



Brenda D. VanAntwerp
Administrative Assistant
To the President and CEO

ACCEPTED AND AGREED:

BY: Jacqueline Schonholtz
JACQUELINE SCHONHOLTZ

DATE: 6/4/99

SIGNATURE OF PROFESSOR REQUIRED:

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BY: Stephen T. Lifran

Printed Name: STEPHEN T. LIFRAN, Ph.D

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Jacqueline Schonholtz
4248 Spencer Street #127
Las Vegas, NV 89119

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SAMPLE ITEMS**

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By 
Laura Wiggs, Permissions Editor

Date JUN 29, 1999

 CONDITIONS
Jacqueline Schonholtz

By 
Jacqueline Schonholtz

Date 7/27/99

CURRICULUM VITA

Jacqueline K. Schonholtz
817 Spyglass Lane
Las Vegas, NV 89107

EDUCATION

Walden University-Minneapolis, MN
Clinical Psychology Doctoral Program
Doctor of Philosophy in Clinical Psychology-2000

New York University-New York, NY
Clinical Psychology Doctoral Program
Master of Arts in Clinical Psychology-1993

Boston University-Boston, MA
Master of Arts in Psychology-Family Studies-1989

Massachusetts Institute of Technology-Cambridge, MA
Bachelor of Science in Brain and Cognitive Sciences-1987

PROFESSIONAL EXPERIENCE

State of Nevada Special Children's Clinic, Las Vegas, NV (1999-present)
Psychological Developmental Counselor. Provided standardized developmental assessments, individual and family intervention, counseling and service coordination for children who have or may be at risk for developmental disabilities or emotional disorders. Participated in multidisciplinary team evaluations with other professionals from different disciplines. Participated in weekly case conferences to determine eligibility for treatment.

Sunrise Youth Services, Las Vegas, NV (1999-present)
Psychological Assistant. Performed psychological evaluations and provided psychotherapy to foster children and adolescents under the supervision of a licensed clinical psychologist. Clients included juvenile sexual offenders, sexual abuse victims, and youth suffering from psychological and behavioral disorders. Participated in multifamily group therapy with clients and their parents.

Montevista Hospital, Las Vegas, NV (1998-present)
Psychology Intern/Therapist. Provided individual, group, and family therapy to children, adolescents, and adults with a broad range of psychological problems. Performed psychological evaluations, developed therapeutic goals and implemented interventions. Led substance abuse groups and provided individual substance abuse counseling under the supervision of a certified substance abuse counselor. Participated in treatment team meetings. Attended Nevada State Psychological Association meetings.

University Medical Center, Las Vegas, NV (1997-1998)

Therapist. Performed psychological evaluations and provided therapeutic services for individuals with psychological and neuropsychological problems resulting from illness or injury. Clients included those from the oncology unit as well as the rehabilitation center. Developed and implemented treatment plans. Provided individual counseling and grief support. Participated in treatment team meetings and discharge planning.

South County Mental Health Center, Delray Beach, FL (1993-1996)

Intake and Evaluation Specialist. Performed psychological assessments and provided crisis counseling for children, adults, and geriatric clients needing emergency and non-emergency services. Clients included those who were court ordered as well as those voluntarily seeking mental health and chemical dependency treatment. Developed service plans and referred to other service providers when appropriate. Obtaining authorization from insurance providers. Supervised and trained new employees. Served on Clients' Rights and Satisfaction Committee.

Proxy Care Management Inc., Boca Raton, FL (1994-1996)

Case Manager. Visited geriatric clients to assess need for guardianship. Performed psychosocial evaluations and weekly follow up visits, attended care-plan meetings to ensure quality of treatment. Assisted in annual accounting. Served as treasurer on Board of Directors.

New York University Dept. Of Psychology, New York, NY (1991-1993)

Researcher / Teaching Assistant. Developed instrument to assess triadic parent-child interactions; determined scale reliability, performed statistical analysis.

Researcher. Developed research design, performed statistical analysis and literature review for paper on family interaction and it's relation to inflammatory bowel disease.

Boston University, Dept. of Psychology, Boston, MA (1989-1990)

Researcher. Tested the efficacy of magnesium as a substitute for cocaine in a self-administration paradigm in rats.

CERTIFICATIONS

Crisis Intervention
 ACT (Aggression Control Techniques)
 TEAM (Team Effective Aggression Management)
 CPR

PUBLICATIONS AND PRESENTATIONS

Schonholtz, J. (1999, June). Psychosocial adjustment to breast cancer. Paper presented at the meeting of the American Cancer Society on Breast Cancer, Mesquite, NV.

Gerson, M. J., Schonholtz, J., Grega, C. H., Barr, D. R. (1998). The importance of the family context in inflammatory bowel disease. Mount Sinai Journal of Medicine, 65, 398-403.

Schonholtz, J. (1998, March). Positive thinking strategies and managing cancer. Lecture presented at the Annual Oncology Symposium of University Medical Center, Las Vegas, NV.

Westerman, M. A. & Schonholtz, J. (1993). Marital adjustment, joint parental support in a triadic problem solving task, and child behavior problems. Journal of Clinical Child Psychology, 22, 97-106.

Schonholtz, J., Kelner, S. P., Curto, K., Anderson, J., White, K. M. (1990, August). Marriage well-functioning: Correlations between Boston University O-Set and Spanier adjustment scores. Poster session presented at the Annual Meeting of the American Psychological Association, Boston, MA.

Volunteer Work

Columbia Presbyterian Children's Hospital, New York, NY
Counseled, provided support, and conducted play therapy with hospitalized children and adolescents, including those with anorexia. Received Florence Nightingale Award for dedication and commitment.

Professional Affiliations

Graduate Student Affiliate Member of the following: American Psychological Association, Nevada State Psychological Association, Division of Clinical Psychology (12), Division of Family Psychology (43), and Division of Health Psychology (38).