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HELP-SEEKING AND QUALITY OF LIFE
IN WOMEN WITH BREAST CANCER

by

Hui-Ling Chiang

A Dissertation Submitted to the Faculty of the
COLLEGE OF NURSING
In Partial Fulfillment of the Requirements
For the Degree of
DOCTOR OF PHILOSOPHY
In the Graduate College
THE UNIVERSITY OF ARIZONA

1998
As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Hui-Ling Chiang entitled Help-seeking and quality of life in women with breast cancer and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

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Date 4/3/98

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Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Kathleen M. May
Dissertation Director
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SIGNED: [Signature]
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DEDICATION

This dissertation is dedicated to my family, those who have ever fought to strive for their life, and those who have helped them to fight.
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ABSTRACT

The purpose of this study was to examine direct and interactive relationships of stimuli and adaptive modes on help-seeking and quality of life. Stimuli were external (social network characteristics, social support need) and internal (age, symptom, symptom severity, satisfaction with social support). Adaptive modes were physiologic function, self-concept (enabling skill, mastery), role function (socioeconomic status, self-care), and interdependence (trust in health care provider, dyadic adjustment). The conceptual framework was based on Roy's Adaptation Model.

Data were secondary analyzed using stepwise multiple regression to test the research hypothesis. The sample consisted of 102 married/cohabitating women with breast cancer. Thirteen instruments measured the variables. Factor analysis constructed indices for variables having multiple measures.

Social support need had a direct effect on help-seeking. Number in the network interacted with education on help-seeking. Number of symptoms interacted with mastery on help-seeking. Self-care had a direct effect on quality of life. Satisfaction with social support, number of symptoms, and number in the network interacted with self-care on quality of life. Age interacted with self-care and trust in health care provider on quality of life. Severity of
symptom interacted with mastery on quality of life. Social support need, the interaction between number in the network and education, and the interaction between number of symptoms and mastery significantly contributed to help-seeking. The interaction between satisfaction with social support and self-care significantly contributed to quality of life.

Based on multiple interactive effects of stimuli and adaptive modes relative to help-seeking and quality of life rather than separate direct effects, Roy's Adaptation Model may better specify interactive relationships of stimuli and adaptive modes than simple direct relationships. To promote women's help-seeking, nurses should assess the number in women's social networks and women's level of education, be aware of women's level of social support need, recognize women's symptoms, and enhance women's sense of mastery. To promote women's quality of life, nurses should assist women toward improved perception of social support, which should increase their level of satisfaction with social support, and encourage performance of self-care activities.
CHAPTER I
INTRODUCTION

The most commonly occurring cancer among women is breast cancer, a major health problem that is of great interest and importance to a variety of health care professionals. Women with breast cancer constitute a population at risk for health problems because of the high prevalence of subtle changes in breast tissue that are difficult to diagnose (Dontje, Sparks, & Given, 1996).

When persons have problems difficult to solve by themselves, they need other resources, including other people, to help them reach solutions. Help-seeking includes looking for help from informal sources, such as spouse, other family members, and friends, or from formal sources, such as health care professionals (Pridham, 1997). Help-seeking is important for persons with illness because they are in situations that may require further resources.

Quality of life has gained recognition as an important outcome of health care (Baker, Jodrey, & Intagliata, 1992; King, 1996). Quality of life is an important aspect in understanding and managing the care of persons with cancer (Dunn, Lewis, Bonner, & Meize-Grochowski, 1994). Breast cancer has an impact on quality of life (Ferrell, Grant, Funk, Garcia, Otis-Green, & Schaffner, 1996). The focus of
this study was to investigate stimuli and adaptive mode factors that are related to help-seeking and quality of life in women with breast cancer.

**Background of the Problem**

The background of the problem begins with a description of breast cancer, followed by review of key study variables.

**Breast Cancer**

In the Western world, breast cancer is the most common malignancy in women. Breast cancer is estimated as comprising 25 percent of all cancer cases and 18 percent of all deaths from cancer in women (Cabill, 1994). Because breast cancer is the most common cancer in women in most countries, it is a worldwide concern (Lavery & Clarke, 1996).

The incidence of breast cancer varies between countries. Approximately 1 in 8 women in the United States, 1 in 9 in Canada, 1 in 10 in Iceland, 1 in 12 in the United Kingdom, 1 in 15 in Australia, and 1 in 50 women in Japan will develop breast cancer within a lifetime (American Cancer Society, 1997; Anonymous, 1997; Fridfinnsdottir, 1997; Lavery & Clarke, 1996). Breast cancer incidence is higher in affluent countries, particularly in higher socioeconomic groups (Cabill, 1994).

Breast cancer is the most commonly diagnosed cancer among women in the United States. In 1997, the American
Cancer Society (1997) estimated that 180,200 new invasive cases of breast cancer would be diagnosed in women in the United States that year. It was projected that breast cancer would account for 30% of all new cancer cases in women in 1997. Only 1,400 new cases would be among men in 1997 (American Cancer Society, 1997; Parder, Tong, Bolden, & Wingo, 1997). More than 99% of cases of breast cancer occur in women (Drugay, 1992).

In the United States, breast cancer incidence rates for women increased approximately 4% a year between 1982 and 1987 (American Cancer Society, 1997). The observed risk of developing breast cancer in women within a lifetime increased by more than 50 percent in just 15 years (Howes, Hoke, Winterbottom, & Delafield, 1994). An American woman’s risk of developing breast cancer within a lifetime is 1 out of 8 (12.6%) (American Cancer Society, 1997).

Most women who develop breast cancer are 30 years of age or older. Two-thirds of breast cancer occurs in women age 50 and older (Knobf & Morra, 1993). In the past 20 years, the incidence of premenopausal breast cancer has increased steadily (Dow, 1994). However, breast cancer incidence rates for women have leveled off recently at approximately 110 per 100,000 (American Cancer Society, 1997). There seems to be an increasing incidence of breast cancer at earlier ages, during the premenopausal stage, and
during the perimenopausal stage among women with no known risk factors (Lewis, Ritenbaugh, & Aickin, 1995).

Because there has been a recent trend toward delayed age at first birth, it is estimated that women in the birth cohort of 1945-1949 will have a 5 percent greater incidence of breast cancer compared with the cohort of 1935-1939, which had the distribution of age at first birth most favorable for breast cancer risk. Women in the birth cohort of 1950-1954 will have an estimated 9 percent greater incidence (White, 1987).

Breast cancer (15.4%) was the second most prevalent type of cancer diagnosed and reported to the Arizona Cancer Registry (1995) in 1992. The most common cancer site among women reported to the Arizona Cancer Registry (1995) in 1992 was the breast (32.3%; Arizona Cancer Registry, 1995).

Breast cancer is the second leading cause of cancer death in women in the United States. In 1993, 43,555 deaths from breast cancer were reported (American Cancer Society, 1997). In 1997, the American Cancer Society (1997) estimated that 43,900 deaths from breast cancer would occur among women in the United States. Breast cancer was projected to account for 17% of all cancer deaths in women in 1997 (American Cancer Society, 1997; Parder, Tong, Bolden, & Wingo, 1997). In 1992 it was estimated that every
12 minutes one American woman dies from breast cancer (Evans & Drugay, 1992).

Breast cancer mortality rates for women age 50 and older (91.8) were 15-fold higher than for women under age 50 (6.0) in 1991 (Anonymous, 1994). The breast cancer mortality rates have increased among women over age 65, especially in African American women, in spite of two decades of the war on breast cancer (Evans & Drugay, 1992). During 1986 to 1990, breast cancer was the most frequent cause of cancer death among women under age 55 years of age in the United States (Devesa, 1995; Howes et al., 1994).

Breast cancer killed 43,583 American women in 1991, when the overall mortality rate for breast cancer was 27.0 per 100,000 women, and 19% higher for black women (31.9) than for white women (26.8) (Anonymous, 1994). Based on the most recent data, the breast cancer mortality rate continues to decrease in white American women and is also decreasing in younger black American women for the first time (American Cancer Society, 1997). Although there was a 0.5% average annual increase during 1980 to 1988, there was a 1.6% average annual decrease in breast cancer mortality rates among white women of all ages during 1989 to 1992 (Chevarley & White, 1997).

Mortality rates for breast cancer decreased for white American women in the calendar period of 1991 to 1992. In
the decades of 1972 to 1981 and 1982 to 1991, breast cancer mortality for white American women in the Northeast region of the United States was significantly ($p < .005$) higher than in any other region and in the South region was significantly lower than in any other region (Tarone, Chu, & Gaudette, 1997).

Earlier detection and improved treatment may have contributed to the declines in breast cancer mortality. The 5-year survival rate of women with breast cancer has increased from 72% in the 1940s to 97% today (American Cancer Society, 1997). In 1996, there were 1,721,700 women living with breast cancer (Ferrell et al., 1996).

For women diagnosed with breast cancer, more than 70% do not have a known risk factor in their background. Because research has not determined what causes breast cancer, there is no known way to prevent it. Breast cancer is a chronic illness for which there is no cure (Evans & Drugay, 1992).

In summary, the breast is among the major cancer sites in the United States and Arizona. Health care professionals are searching for information that might cause a decrease in incidence and mortality of breast cancer (Arizona Cancer Registry, 1995). It is a major health problem for women and poses a significant challenge to health care professionals and to the health care system (Beder, 1995). These factors
support the need for research on factors related to breast cancer.

**Key Study Variables**

Given that breast cancer is a significant problem, help-seeking is an important strategy, and quality of life is an important aspect. Thus, key variables of this study are help-seeking and quality of life as related to cancer. However, the literature regarding help-seeking seldom reports research with a sample with cancer. Therefore, help-seeking literature reporting research with samples other than women with cancer is included in the review.

**Help-seeking.** Help-seeking is a strategy important for persons with disease because they may be in situations that require further help. Help-seeking is defined as a process by which an individual finds and uses resources for problem solving (May, 1997). Oppenheimer and Heller (1984) also have a similar definition of help-seeking, which is a process by which an individual finds and uses a potential provider to solve a problem and reach a goal.

Help-seeking or why persons do or do not seek professional medical help has been and continues to be an important research problem in the field of health care (Cockerham, 1981). Delay in seeking medical help for potential breast cancer symptoms may cause advanced states of disease, consequently contributing to breast cancer
mortality (Caplan & Helzlsouer, 1992). Indicators of potential breast cancer symptoms include lump, thickening, swelling, dimpling, skin irritation, distortion, retraction, scaliness, pain, tenderness of the nipple, and nipple discharge (American Cancer Society, 1997). The earlier a breast cancer is treated, the greater the likelihood of long-term survival (Caplan & Helzlsouer, 1992). A woman’s potential for breast cancer survival is reduced if she delays help-seeking for breast cancer symptoms (Facione, 1993).

Characteristics of social networks have been shown to influence professional help-seeking. It is suggested that social network might operate to restrict help-seeking toward use of professionals. The implication is that there is a tendency to keep problems within high-density social networks (Wills & DePaulo, 1990). An individual with high social network density is more likely to seek help from family members and less likely to seek help from professionals (Wills & DePaulo, 1990). Other studies also have similar findings that indicate more professional help-seeking occurs in low-density social network and less formal help-seeking when social network density is high (May, 1985; Wills, 1987).

It is suggested that low social support might contribute to help-seeking (Wills & DePaulo, 1990). High
informal social support would decrease seeking help from professionals (Wills, 1987). Social support operates to decrease psychological distress so might decrease seeking help from professional services (Wills & DePaulo, 1990).

Findings typically show a decline in help-seeking with advancing age (Veroff, 1981). Younger persons are more likely than older persons to seek help (Tijhuis, Peters, & Foets, 1990). Older women showed delays in help-seeking for breast cancer symptoms (Facione, 1993). An association between relative youth and help-seeking has been found (Fisher, Winer, & Abramowitz, 1983; Wills & DePaulo, 1990).

Symptoms and severity of symptoms have been shown to be important determinants of help-seeking. Symptom has been a significant predictor of help-seeking, and more symptoms of psychological distress have predicted general help-seeking (Rickwood & Braithwaite, 1994). Number of symptoms and severity of symptoms have been positively related to help-seeking. The severity of symptoms is a decisive factor in seeking professional psychiatric help (Solomon, 1989). The severity of symptoms has been reported as the primary reason why women with breast cancer decide to see a physician (Wool, 1986).

Persons with higher socioeconomic status have been believed to be more willing to seek professional help (Fisher et al., 1983). Women with lower socioeconomic
status showed delays in help-seeking for breast cancer symptoms (Facione, 1993). Higher social class individuals have been found to seek more professional help than lower social class individuals (Fisher et al., 1983). Lower social class persons are less willing to seek help than higher social class persons (Nadler, 1983). Education and income are associated with higher rates of help-seeking (Tijhuis et al., 1990; Wills & DePaulo, 1990). Although persons with a lower income have been found to be less likely to seek formal help, if they have a strong sense of mastery they are more likely to seek formal help (Menaghan, 1978).

Marital status has been found to be related to help-seeking. A statistically significant main effect of marital status on help-seeking has been obtained, \( F(1, 112) = 31.65, p<.01 \). Married persons have had a higher mean score on the help-seeking scale than unmarried persons, indicating that persons who are married are more likely to seek help than persons who are not married (Selby, Calhoun, & Parrott, 1978). Based on the following literature, there might be variance in help-seeking by married women that may be attributed to characteristics of the marital relationship. Regarding the relationship of marital situation to help-seeking, it is suggested that unsatisfactory marriages may partly motivate help-seeking (Chamberlaine, Barnes, Waring,
& Wood, 1989). Lack of marital intimacy is related to help-seeking. There is a positive relationship between level of intimacy and marital adjustment. High levels of intimacy are related to marital adjustment (Waring, McElrath, Mitchell, & Derry, 1981). In a study sample in which all are married, such as in the sample for this study, the focus is on exploring variations within the sample of married women.

In summary, characteristics of social networks, social support, and marital adjustment have been shown to affect help-seeking. Age has been negatively associated with help-seeking. Symptoms and severity of symptoms have been positively associated with help-seeking. Socioeconomic status, including education and income, is associated with higher rates of help-seeking.

Quality of life. There is no consistent definition of quality of life (Farquhar, 1995; Ferrans & Powers, 1992; Rhodes & McDaniel, 1996). For this study, quality of life is a person's "level of satisfaction with one's current situation" (Braden, 1993b, p. 161).

Quality of life means not only the lack of illness but also a state of physical, psychological, and social well-being (Cella, 1994; Lutgendorf, Antoni, Schneiderman, & Fletcher, 1994). The concept of quality of life is multifaceted and encompasses satisfaction with physical,
emotional, and social needs and aspirations (Packa, 1989; Wingate, 1995).

Although the term "quality of life" has been used in many different contexts, there is no agreement on its definition and use in health care and nursing. However, some definitions of quality of life include the terms "well-being" and "satisfaction" (Rhodes & McDaniel, 1996). Quality of life has been defined as an individual's sense of well-being that stems from satisfaction or dissatisfaction with areas of life that are important to the individual (Ferrans & Powers, 1992).

Quality of life following various cancer treatments is of growing interest in recent years (Hann, Jacobsen, Martin, Kronish, Azzarello, & Fields, 1997). There has been increasing concern of oncology nurses for quality of life in persons with cancer (Ferrans, 1990). In persons with cancer, quality of life is a significant variable in nursing care and an important element of making clinical decisions (Wingate, 1995).

It is suggested that during the course of illness the size of social networks will decrease for persons who are seriously ill. The results of one study showed that cancer clients have rather small and dense networks, consisting mostly of family members (Courtens, Stevens, Crebolder, & Philpsen, 1996). The association between social network and
quality of life in cancer clients is less known. However, one study found an association between social network and quality of life in cancer clients (de Ruiter, de Haes, & Tempelaar, 1993).

Social support is claimed to have positive effects on physical, mental, and social well-being. It is suggested that research in longitudinal studies is needed to examine types of social support related to several aspects of quality of life (Courtens et al., 1996). One study found that age was slightly negatively associated with quality of life in cancer clients. Older clients had slightly lower quality of life, especially in the physical health domains (Mor, 1987).

Because cancer and cancer treatment symptoms might impose changes on a person's life in many areas, their criteria for good quality of life might alter (Germino, 1987). It is suggested that there are strong links between a client's perceived side effects and quality of life (Fieler, 1997). It has been postulated that quality of life would be negatively associated with the number of reported cancer therapy-related symptoms. Some studies have supported this hypothesis. Findings have shown that when the level of symptoms from cancer therapy was higher, a person's quality of life was poorer (Youngblood, Williams, Eyles, Waring, & Runyon, 1994).
Mastery has been found to be a key predictor of health-related quality of life scores in women with gynecological cancer (Padilla, Mishel, & Grant, 1992). One study found that income significantly affected quality of life in cancer survivors (Ferrell, Dow, Leigh, Ly, & Gulasekaram, 1995). Clients with metastatic breast cancer have rated self-care in the top quartile in terms of importance of quality of life (Sutherland, Lockwood, & Boyd, 1990).

Presence of a spouse or partner has been found to significantly affect quality of life in cancer survivors. When persons are living with a loved one, a positive effect on quality of life exists (Ferrell et al., 1995). Because marital adjustment has been found to be a predictor of quality of life for spouses of continuous ambulatory peritoneal dialysis clients (Dunn et al., 1994), there might be variance in quality of life by married women with cancer that may be attributed to characteristics of the marital relationship.

In summary, social network, social support, mastery, income, and presence of spouse/partner influence quality of life. Age has been negatively associated with quality of life. Cancer therapy-related symptoms have been negatively associated with quality of life. Self-care has an important effect on quality of life.
Statement of the Problem

As indicated in the background of the problem, breast cancer is the most common cancer and the second major cause of cancer death in women in the United States. Therefore, it is important to investigate factors related to breast cancer experience in women. Help-seeking is important for persons with illness because they are in situations that may require use of additional resources for help. Help-seeking has been an important research focus in the field of health care. Delay in seeking medical help for breast cancer symptoms may result in advanced states of disease, thereby contributing to breast cancer mortality.

Quality of life is an important element in the lives of women with breast cancer. The diagnosis of breast cancer and its treatment influence various aspects of a woman's life. Although quality of life is discussed often in the health care literature, only a few studies describe factors that promote quality of life (Aller & Van Ess Coeling, 1995).

Social network, social support, age, symptom, mastery, socioeconomic status (education and income), self-care, and dyadic adjustment are factors that might affect help-seeking and quality of life. Although several articles have addressed issues related to help-seeking and quality of life in women with breast cancer, few studies have examined these
specific factors related to help-seeking and quality of life in women with breast cancer. Therefore, research to examine help-seeking and quality of life in women with breast cancer can contribute to a knowledge base for nursing care of women with breast cancer.

**Significance of the Study**

A woman's risk of developing breast cancer has continued to increase and the 5-year survival rate of women with breast cancer also has continued to increase. Therefore, increasing numbers of women will continue to be affected by breast cancer. Help-seeking is an especially relevant topic for health care research because it relates to clients' tendency to seek lay or professional help or not. By understanding clients' help-seeking, nurses can explore clients' perception of need to seek help when situations requiring further resources occur. Promoting help-seeking that reduces risk is a critical activity for the nurse and may affect survival rates and quality of life of women with breast cancer.

Quality of life in women with breast cancer has become a significant area of research in recent years (Stefanek, 1994), because the number of breast cancer survivors continues to rise (Ferrell et al., 1996). Nurses as health care providers to women with breast cancer should pursue their knowledge about quality of life. By understanding the
meaning and importance of quality of life nurses can enhance their ability to promote quality of life in women with breast cancer. For example, it is useful to recognize factors that can potentially enhance women’s quality of life so that nurses can identify which factors are most important for a particular woman and develop nursing interventions to promote these factors (Aller & Van Ess Coeling, 1995).

Statement of Purpose

The purpose of this study was to examine (a) the direct effects of external stimuli as sources of stress from the environment and internal stimuli as sources of stress from the self on responses; (b) the direct effects of adaptive modes on responses; and (c) the interactive effects of external stimuli from the environment and internal stimuli from the self with adaptive modes on responses relative to help-seeking and quality of life.

Summary

Breast cancer is the most common cancer in women. When persons cannot solve problems by themselves, they often find solutions for problems through seeking help from others. Help-seeking is especially important for persons with illness because they are in situations that may require further resources. Quality of life can be affected by breast cancer. Various aspects of a woman’s life are affected by breast cancer and its treatment. As the number
of survivors of breast cancer has continued to increase, nurses must pursue knowledge of quality of life for breast cancer survivors so that nurses can apply the knowledge to help women have a better life living with breast cancer.

Social network, social support, age, symptom, mastery, socioeconomic status, self-care, and dyadic adjustment are factors that might influence help-seeking and quality of life. Few studies have examined these specific factors related to help-seeking and quality of life in women with breast cancer. The significance of this study is to examine these factors related to help-seeking and quality of life in women with breast cancer so that nurses can enhance their ability to promote help-seeking and quality of life in women with breast cancer.

The purpose of this study was to examine the direct effects of external stimuli from the environment and internal stimuli from the self on responses, the direct effects of adaptive modes on responses, and the interactive effects of external stimuli from the environment and internal stimuli from the self with adaptive modes on responses relative to help-seeking and quality of life.
In this chapter, the conceptual framework, review of the literature, research questions, and definition of terms are presented. The conceptual framework for this study is based on Roy's Adaptation Model (Andrews & Roy, 1991a). The derivation of concepts from Roy's Adaptation Model to specify variables within a help-seeking middle range theory are addressed. Literature associated with help-seeking and quality of life dealing with characteristics of social network, social support need, age, symptom, severity of symptom, satisfaction with social support, enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment are reviewed. One research hypothesis is addressed. Definition of terms includes conceptual definitions and operational definitions.

Conceptual Framework

This section on the conceptual framework addresses various models of help-seeking, Roy's Adaptation Model, concept derivation and relationship patterns of the help-seeking middle range theory from Roy's Adaptation Model, and constructs, concepts, and operational terms.
Various Models of Help-Seeking

Several models of help-seeking have been proposed. For example, Gross and McMullen (1983) proposed the help-seeking decision model. This model can be collapsed into three general stages, which are perceiving a problem, deciding to seek help, and operationalizing strategies. One criticism of this model is that it portrays the help-seeking decision process necessarily as linear and sequential, which it may not be (Gross & McMullen, 1983).

Fisher, Winer, and Abramowitz (1983) synthesized help-seeking models and proposed five stages of help-seeking for psychological problems: perception and identification of a problem, contemplating ways of helping oneself, decision to seek or accept help, precipitating event, and overt help-seeking behavior (Fisher et al., 1983). One criticism of this model is that it is specifically oriented only to psychological help-seeking.

Nelson-Le Gall, Gumerman, and Scott-Jones (1983) proposed a model of help-seeking processes. This model is based on a task analysis of the help-seeking process. It identifies both behavioral and cognitive activities in which an individual who seeks help may be thought to engage prior to, during, and after seeking help. This model has five main component processes: awareness of need for help, decision to seek help, identification of potential
helper(s), employment of strategies to elicit help, and reactions to help-seeking attempts. One criticism of this model is that it represents only the processes of help-seeking and not other components of helping interactions (Nelson-Le Gall, Gumerman, & Scott-Jones, 1983). After reviewing and evaluating the various models of help-seeking, this researcher determined that each particular model was limited in its applicability for studying help-seeking and quality of life in women with breast cancer.

Roy's Adaptation Model

The Roy Adaptation Model can be used to serve as a conceptual framework for holistic oncology nursing practice. For example, the Roy Adaptation Model has been applied to women with breast cancer for assessing behavior and the stimuli affecting behavior, and for planning and evaluating nursing care (Piazza, Foote, Holcombe, Harris, & Wright, 1992).

The Roy Adaptation Model can also be used to serve as a conceptual framework for oncology nursing research. For instance, the Roy Adaptation Model has been used to provide a framework for studying the role of perception and biopsychosocial adaptation in clients with cancer entering an aggressive cancer treatment program (Frederickson, Jackson, Strauman, & Strauman, 1991). The Roy Adaptation Model also has been used to provide a framework for cancer
support groups that facilitate women's adaptation to the diagnosis and treatment of breast cancer (Samarel & Fawcett, 1992).

The Roy Adaptation Model also can be used specifically as a conceptual framework for studying women with breast cancer. For example, the Roy Adaptation Model has been used to provide a framework for investigating changes in and variables related to functional status after diagnosis of breast cancer (Tulman & Fawcett, 1990). The Roy Adaptation Model has been a useful guide for designing and conducting studies of functional status following diagnosis of breast cancer (Fawcett & Tulman, 1990).

Adaptation is the central concept of the Roy Adaptation Model (Fawcett, 1995; Tiedeman, 1996), and is defined as one's ability to respond to a changing environment positively (Andrews & Roy, 1991a). The Roy Adaptation Model concentrates on the responses of the adaptive system to a constantly changing environment (Fawcett, 1995). Within the Roy Adaptation Model, a person is defined as a holistic adaptive system which is in constant interaction with a changing environment (Andrew & Roy, 1991a). Within the Roy Adaptation Model, environment is defined as "all conditions, circumstances, and influences that surround and affect the development and behavior of the person" (Andrew & Roy, 1991a, p. 18).
Within the Roy Adaptation Model, health is defined as "a state and a process of being and becoming an integrated and whole person" (Andrew & Roy, 1991a, p. 19). Roy (1976) defined nursing as "a theoretical system of knowledge which prescribes a process of analysis and action related to the care of the ill or potentially ill person" (p. 3). Within the Roy Adaptation Model, the goal of nursing is to promote adaptation in each of the four adaptive modes, thus contributing to an individual's "health, quality of life, and dying with dignity" (Andrew & Roy, 1991a, p. 20; Roy, 1987, p. 43).

As a holistic system, the person can be described as having inputs, control processes, outputs, and feedback processes (Tiedeman, 1996). Within the Roy Adaptation Model, input for the person consists of stimuli which can come from the environment outside the person or from within a person's self (Fawcett, 1995; Tiedeman; Wesley, 1992, 1996). A stimulus is defined as "that which provokes a response" (Andrew & Roy, 1991b, p. 33). The environment provides input for the person in the form of external stimuli from the environment and internal stimuli from the self (Andrews & Roy, 1991a). Within the Roy Adaptation Model, the person's environment consists of internal and external stimuli (Roy, 1984). A stressor is "a stimulus
that causes" one's "bodily or mental tension" (Mish, 1993, p. 1164).

The control processes of the person are coping mechanisms (Tiedeman, 1996). Coping mechanisms are defined as "innate or acquired ways of responding to the changing environment" (Andrew & Roy, 1991a, p. 13). The person uses coping mechanisms to adapt to environmental stimuli (Andrews & Roy, 1986). Coping mechanisms are manifested by four adaptive modes. The four adaptive modes are physiological function, self-concept, role function, and interdependence. These modes reflect basic needs for physiological integrity, psychic integrity, and social integrity (Andrews & Roy, 1991a).

The physiological mode deals with the needs of the person for physiologic integrity (Meleis, 1997). According to Andrews and Roy (1991a), the physiological mode is related to "the way the person responds as a physical being to stimuli from the environment" (p. 15). The physiological mode focuses on five basic physiological needs, which, hierarchically arranged, are oxygenation, nutrition, elimination, activity and rest, and protection (Andrews & Roy, 1991a).

The self-concept mode deals with the need for psychic integrity (Meleis, 1997). Self-concept is "the need to know who one is so that one can be or exist with a sense [of]
unity" (Andrews & Roy, 1991a, p. 16). Self-concept is defined as "the composite of beliefs and feelings that a person holds about himself or herself at a given time" (Andrews & Roy, 1991a, p. 16). Self-concept is formed from perceptions of self and others and directs one's behavior (Fawcett, 1995).

The role function mode deals with the need for social integrity (Meleis, 1997). Role function is "the need to know who one is in relation to others so that one can act" (Andrews & Roy, 1991a, p. 16). Roles are regarded as "the functioning units of society" (Andrews, 1991, p. 348). Each role exists in relation to another role. People need to know what roles they occupy and the related expectations about those roles so that they know how to act appropriately (Andrews, 1991).

The interdependence mode also deals with the need for social integrity (Meleis, 1997). Interdependence is "a way of maintaining integrity that involves the willingness and ability to love, respect, and value others, and to accept and respond to love, respect, and value given by others" (Roy, 1987, p. 41). According to Andrews and Roy (1991a), the primary focus of the interdependence mode is affectional adequacy, which is "the feeling of security in nurturing relationships" (p. 17). Significant others and support systems are two specific relationships that are the focus of
interdependence. Significant others are the persons most important to the individual (Andrews & Roy, 1991a). Support systems are "others contributing to the meeting of interdependence needs" (Andrews & Roy, 1991a, p. 17).

When stimuli confront the person, the person's coping mechanisms are activated and cause responses (Piazza et al., 1992). The outputs of the person are adaptive and ineffective responses. Adaptive responses are "those that promote the integrity of the person in terms of the goals of adaptation: survival, growth, reproduction, and mastery" (Andrews & Roy, 1991a, p. 12). However, ineffective responses do not promote integrity or contribute to the goals of adaptation (Andrews & Roy, 1991a). Through feedback processes, these responses "act as feedback or further input to the system, allowing the person to decide whether to increase or decrease efforts to cope with stimuli" (Andrews & Roy, 1991a, pp. 7-8).

Concept Derivation and Relationship Patterns of the Help-Seeking Middle Range Theory from Roy's Adaptation Model

The conceptual framework is built upon Roy's Adaptation Model. Reasons for the choice of Roy's Adaptation Model as the basis for the conceptual framework are: (a) it is a nursing model; (b) it builds on the author's (Chiang, 1995) previous work showing direct relationships among variables and some different from previous study placement of
variables; (c) it supports a holistic view of adaptation in breast cancer recovery; and (d) there is an empirical and conceptual fit between Roy's Adaptation Model and the variables in this study and their relationship to each other.

Based on the author's (Chiang, 1995) previous work, internal stimuli from the self (number of years ill, other chronic illnesses, perceived severity of illness, dependency, and uncertainty) had a negative relationship with responses (quality of life). Adaptive modes (marital status, education, family income, working/school, disability payments, attended self-help classes, enabling skill, and self-care) had a positive relationship with responses. Internal stimuli from the self had a negative relationship with adaptive modes.

Some of the variables in this study were reconceptualized to be placed differently in the conceptual framework. For example, in the previous study, enabling skill was classified as interdependence. Enabling skill is classified as self-concept in this study to fit the definition of self-concept, as presented under Roy's Adaptation Model. In the previous study, self-care was classified as interdependence. Self-care is classified as role function in this study to fit the definition of role function, as presented under Roy's Adaptation Model.
Inputs (Stressors), Coping Mechanisms, Outputs (Adaptation), environment, adaptive modes, and responses including adaptive and ineffective are components of Roy’s Adaptation Model that provide a framework for this study. The focus is on external stimuli from the environment, internal stimuli, three of the adaptive modes (self-concept, role function, and interdependence), and responses. The conceptual framework is presented in Figure 1. Variables of interest in this study represent the components of Roy’s Adaptation Model. The author identified the variables in this study then conceptualized them as reflective of Roy’s Adaptation Model.

Based on the literature review presented later, research indicates that characteristics of social network, social support need, age, symptom, severity of symptom, and satisfaction of social support can have negative effects on help-seeking and quality of life. Therefore, they are classified under stressors in the conceptual framework for this study. Characteristics of social network and social support need are classified as external stimuli because they can be stimuli from the environment. Age, symptom, severity of symptom, and satisfaction of social support are classified as internal stimuli because they can be stimuli from the self.
Figure 1. Conceptual Framework

**INPUTS** (Stressors)

- External stimuli from the environment:
  - Characteristics of social network
  - Social support need

- Internal stimuli from the self:
  - Age
  - Symptom
  - Severity of symptom
  - Satisfaction with social support

**COPING MECHANISMS**

- Adaptive Modes
  - Physiologic Function
  - Self-Concept:
    - Enabling skill
    - Mastery
  - Role Function:
    - Socioeconomic status
    - Self-care
  - Interdependence:
    - Trust in health care provider
    - Dyadic adjustment

**OUTPUTS** (Adaptation)

- Responses: (Adaptive/Ineffective)
  - Help-seeking and Quality of Life

- Adaptive Modes
Also based on the literature review presented later, research indicates that enabling skill, mastery, socioeconomic status, self-care, and dyadic adjustment can have positive effects on help-seeking and quality of life. Dyadic adjustment in this study was reflected in marital status. Trust in health care provider may potentially have positive effects on help-seeking and quality of life. Therefore, enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment are classified under adaptive modes in the conceptual framework for this study. Based on the definition of self-concept, enabling skill and mastery are classified as self-concept. Based on the definition of role function, socioeconomic status and self-care are classified as role function. Based on the definition of interdependence, trust in health care provider and dyadic adjustment are classified as interdependence.

Based on the definition of adaptive and ineffective responses, help-seeking and quality of life are classified as responses in the conceptual framework for this study. Further explication of the conceptual framework for this study follows in description of the constructs, concepts, and operational terms used.

The direct relationships between coping mechanisms and responses and between responses and stimuli have been
specified in the Roy’s Adaptation Model (Andrews & Roy, 1991a). The author also specified the direct relationships between internal stimuli from the self and responses, adaptive modes and responses, and internal stimuli from the self and adaptive modes (Chiang, 1995).

As is common in grand theories (Fawcett, 1995), in Roy’s Adaptation Model the interactive relationships are not well specified. Although the interactive relationships between stimuli and adaptive modes on responses have not been specified in the Roy’s Adaptation Model and no study was found to examine the interactive relationships between variables used in this study on help-seeking and quality of life, the variables that influence help-seeking and quality of life are more complex than only having direct relationships. Characteristics of social network, social support need, age, symptom, severity of symptom, and satisfaction with social support may interact with enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment on help-seeking and quality of life.

Moderating effects and mediating effects can represent relationships different from direct relationships. The moderating effect represents an interaction between two independent variables on a dependent variable (Lindley & Walker, 1993). A moderating effect exists when the
interaction is significant, although direct effects of the two independent variables may or may not be significant. The mediating effect can be described as a process or mechanism that accounts for the relationship between an independent variable and a dependent variable (Lindley & Walker, 1993). The mediating effect can specify how or why this relationship occurs. The moderating effect is investigated when there is a greater interest in the independent variable itself. The mediating effect is investigated when there is a greater interest in the mechanism than in the independent variable itself (Baron & Kenny, 1986). This study investigated moderating effects because there was a greater interest in the independent variables themselves.

**Constructs, Concepts, and Operational Terms**

The constructs, concepts, and operational terms are presented in Figure 2. The first major construct is stressors. External stimuli and internal stimuli represent stressors at the concept level. At the operational level, the concept of external stimuli is composed of characteristics of social network and social support need. At the operational level, the concept of internal stimuli is composed of age, symptom, severity of symptom, and satisfaction with social support. Characteristics of social network and social support need are measured by the Arizona
### Figure 2. Construct, Concept, and Operational Levels

<table>
<thead>
<tr>
<th>Construct Level</th>
<th>Stressors</th>
<th>Coping Mechanisms</th>
<th>Adaptation</th>
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<tr>
<td></td>
<td>External Stimuli &amp; Internal Stimuli</td>
<td>Adaptive Modes</td>
<td>Help-seeking &amp; Quality of Life</td>
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<td>Concept Level</td>
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<tr>
<td>Operational Level</td>
<td>Characteristics of Social Network</td>
<td>Enabling Skill</td>
<td>Resources Access &amp; Well-Being</td>
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<td></td>
<td>Social Support Need</td>
<td>Mastery</td>
<td>measured by scores on:</td>
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<td></td>
<td>Age</td>
<td>Socioeconomic Status</td>
<td>Sources of Information</td>
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<td></td>
<td>Symptom</td>
<td>Self-Care</td>
<td>Arizona Social Support</td>
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<td></td>
<td>Severity of Symptom</td>
<td>Trust in Health Care Provider</td>
<td>Interview Schedule</td>
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<td></td>
<td>Satisfaction with Social Support</td>
<td>Dyadic Adjustment</td>
<td>Access to Cancer Therapy</td>
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<td>measured by scores on:</td>
<td>measured by scores on:</td>
<td>Index of Well-Being</td>
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<td>Arizona Social Support Interview Schedule</td>
<td>Arizona Social Support Interview Schedule</td>
<td>Cantril's Ladder</td>
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<td>Demographic Data Form</td>
<td>Demographic Data Form</td>
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<td>Symptom Pattern/Transition Scale</td>
<td>Self-Care Inventory</td>
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<td></td>
<td>Arizona Social Support Interview Schedule</td>
<td>Inventory of Adult Self-Care</td>
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<td>Health Care Orientation</td>
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<td>Dyadic Adjustment Scale</td>
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Social Support Interview Schedule. Age is measured by the Demographic Data Form. Symptom and severity of symptom are measured by the Symptom Pattern/Transition Scale. Satisfaction with social support is measured by the Arizona Social Support Interview Schedule.

Coping mechanisms comprise the second major construct. Adaptive modes represent coping mechanisms at the concept level. At the operational level, this concept consists of enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment. Enabling skill is measured by the Self-Control Schedule. Mastery is measured by the Mastery Scale. Socioeconomic status is measured by the Demographic Data Form. Self-care is measured by the Self-Care Inventory and Inventory of Adult Self-Care. Trust in health care provider is measured by the Health Care Orientation. Dyadic adjustment is measured by the Dyadic Adjustment Scale.

The third major construct is adaptation, reflected in responses. At the concept level, it is represented by help-seeking and quality of life. At the operational level, the concept of help-seeking is represented by resources access, and measured by the Sources of Information, Arizona Social Support Interview Schedule, and Access to Cancer Therapy. At the operational level, the concept of quality of life is
represented by well-being, and measured by the Index of Well-Being and Cantril's Ladder.

Review of Literature

The review of literature addresses help-seeking and quality of life in terms of characteristics of social network, social support need, age, symptom, severity of symptom, satisfaction with social support, enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment.

Help-Seeking

Research literature on help-seeking addresses characteristics of social network, social support need, age, symptom, severity of symptom, satisfaction with social support, enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment.

Characteristics of social network. Characteristics of social network include number of persons in the network, duration of relationship, frequency of interaction, geographic dispersion, and network density (May, 1992; Wilcox & Birkel, 1983). The network density is "the ratio of actually existing relationships between network members to the total possible number of relationships" (Wilcox & Birkel, 1983, p. 239).
A study was conducted to investigate the relationship among social network orientation, social support, and the stress responses to the death of a family member (Reif, Patton, & Gold, 1995). Subjects (N = 158) were members of a national self-help group for the bereaved. The results indicated that the number of people in subjects' social networks was the best predictor of amount of help-seeking. Help-seeking was directly associated with number of people in the social network.

Auslander and Litwin (1990) used data from a study of social networks and formal help-seeking among the Jewish elderly to clarify the degree to which formal help-seeking may actually be associated with diminished social network resources. Applicants (n = 100) for public social service assistance were compared to persons (n = 100) who had not applied for formal public assistance. In regard to characteristics of social networks, the results showed that overall size of applicants' social networks was smaller than that of non-applicants (5.38 versus 7.26).

Wilcox and Birkel (1983) conducted a study to examine the relationships between characteristics of social network and help-seeking. A sample (N = 100) of recently divorced women was interviewed. The results showed that women with high network density sought more help from family members than did women with low network density (47% versus 15%).
Women with low network density were significantly more likely to seek help outside network than were women with high network density (37% versus 14%).

Rickwood and Braithwaite (1994) conducted a study to examine the determinants of help-seeking among Australian adolescents. The sample was composed of 404 females and 311 males (N = 715). Eighty-six percent of help-seekers sought help within their social network from family and friends. Only 14% of help-seekers sought help from a professional service. Most general help-seeking occurred within the informal social network of family and friends rather than from professional agencies.

Social support need. Tellen (1990) conducted a study to examine mothers' help-seeking from a family support program. Mothers (n = 79) who participated in a community-based family support program were compared to mothers (n = 56) who did not use a family support program. The univariate t test showed that the need for social support distinguished the program users and non-program users, t(117) = 2.86, p<.01. The discriminant analysis also showed similar results (R = .790). Mothers participating in the family support program reported more need for social support in the informal network than did mothers not using the program.

Phillips and Murrell (1994) selected subjects from a study of elderly in a large community sample. They examined
factors influencing mental health help-seeking among adults over age 55. Subjects ($n = 120$) who reported having needed and sought mental health services were compared to subjects ($n = 120$) who did not report having needed services. Subjects who sought help perceived less social support compared with subjects who did not seek help. Help-seekers perceived greater deficits in the amount of social support available to them in time of need.

**Age.** Brown (1978) used data from a longitudinal survey of urban adults ($N = 1,106$) aged 20 to 70 to examine the relationship between help-seeking and demographic, psychological, and social factors. The analyses of this study were based on members ($N = 606$) of the survey. The proportion of persons seeking help decreased with age, $\chi^2(7, N = 405) = 20.63, p < .01$. There was help-seeking by 50% of persons over age 60 in comparison to 70% of persons in their 40s and 50s.

A study was conducted to examine help-seeking in a national representative sample of Americans. The sample was composed of 1304 female and 960 male adults ($N = 2,264$) who were age 21 years old and older living in the United States in 1976. Veroff (1981) used data from this interview study. The data indicted that age had a potent general effect on
help-seeking. The elderly were generally less likely to seek professional help than other groups.

Rodriguez and O'Donnell (1995) used data from a survey of elderly Puerto Ricans to examine help-seeking and use of mental health services by the Hispanic elderly. Subjects (N = 1,002) were interviewed. The data indicated that older age was related to lower levels of help-seeking for emotional problems.

A study was conducted to examine the relationship between individual characteristics and the orientation toward help-seeking (Tijhuis et al., 1990). The sample consisted of Dutch persons age 18 and older (N = 10,171). Younger subjects were more willing than older subjects to seek help.

Symptom/Cancer therapy-related symptom (side effect). In the study conducted by Rickwood and Braithwaite (1994), described previously, general help-seeking was shown to be associated with more symptoms. Seeking help from a professional agency was associated with more symptoms compared to seeking help only from the social network. Subjects with more symptoms were more likely to seek help from professionals.

Hourani and Khlat (1986) conducted a study to preliminarily test a conceptual model of cognitive determinants of the perception of mental health status. The
sample consisted of 36 females and 17 males (N = 53) aged 19 to 72. The number of symptoms was found to be the best predictor of help-seeking. Subjects with more symptoms were more likely to seek help.

Severity of symptom/Side effect burden. Wool (1986) conducted a study focused on the conceptualization of denial. The sample consisted of women with breast cancer (N = 50). Subjects (n = 20) who delayed help-seeking and demonstrated extreme denial were compared to subjects (n = 30) who did not manifest delay or denial. More than half of deniers and non-deniers (66.7% versus 50.0%) reported severity of symptom was the primary reason why they decided to see a physician.

Facione and Dodd (1995) conducted a study to examine women's (N = 39) narratives of help-seeking for breast cancer. Women sought delayed evaluations only as symptoms worsened. They described themselves as seeking evaluations only after their initial symptoms advanced such as increasing number or size of lumps, increasing pain, or breast asymmetry. Women with increasing symptoms sought for a reevaluation from the same (n = 8) or a new (n = 4) doctor.

Solomon (1989) conducted a study to assess factors interfering with psychiatric help-seeking among soldiers (N = 716) suffering from post-traumatic stress disorder. The
results indicated that the severity of symptoms was a decisive factor in seeking professional psychiatric help.

Satisfaction with social support. In an online CINAHL, Medline, Cancerlit, PsycINFO search conducted in February, 1998, for citations with the words "satisfaction", "social support", and "help seeking" in the title, abstract, or keywords, no study was found to examine satisfaction with social support related to help-seeking. Therefore, studies examining social support related to help-seeking were reviewed instead.

In the analyses done by Auslander and Litwin (1990), described previously, in spite of similar size of social network, applicants to public social services had a significantly lower average level of affective social support than did non-applicants. Applicants perceived less emotional social support even when controlling for social network size.

In the study conducted by Rickwood and Braithwaite (1994), described previously, general help-seeking was also shown to be associated with availability of frank and confiding relationships. Seeking help from a professional agency was also associated with lack of availability of frank and confiding relationships compared to seeking help only from the social network. The findings supported a direct effect of social support on help-seeking. In the
analyses done by Rodriguez and O'Donnell (1995), described previously, the data indicated that social support was negatively related to help-seeking.

A study was conducted to determine whether social maladjustment is a determining factor in women's health care-seeking during the climacteric period (Montero, Ruiz, & Hernandez, 1993). The study group consisted of women (n = 85) who consecutively sought gynecological care due to menopausal-related symptoms in an out-patient clinic. The control groups (n = 420) were women (n = 363) from the general population and women (n = 57) attending the gynecological out-patient clinic for other clinical reasons. Lack of social support was found to be related to a higher clinical demand due to menopausal complaints (odds ratio = 2.12). The findings of the logistic regression analysis indicated that lack of social support was one of the main social factors that led to seeking care for menopausal complaints.

**Enabling skill.** In an online CINAHL, Medline, Cancerlit, PsycINFO search conducted in February, 1998, for citations with the words "enabling skill", "resourcefulness", and "help seeking" in the title, abstract, or keywords, no study was found to examine enabling skill or resourcefulness related to help-seeking.
However, there were two studies that examined enabling skill, which has implications for help-seeking.

Braden (1990a) conducted a study to test a self-help model to explain the essential dynamics of learned response to chronic illness experience. The sample was composed of persons (N = 396) with rheumatoid arthritis or other arthritic conditions. Stepwise regression analysis indicated that enabling skill was the strongest predictor of self-help, β = .42. Persons with greater levels of enabling skill were more likely to help themselves.

Braden (1990b) also conducted another study to generate a self-help model to describe the essential dynamics of learned response to chronic illness experience. The sample consisted of persons (N = 288) with arthritis or other arthritic conditions. The findings showed that enabling skill had a positive relationship with self-help, R² change = .31.

Mastery. Menaghan (1978) used data from a larger study of life events, role experience, and adult adaptation to describe parents' concerns and seeking help about their late adolescent and young adult children. The sample consisted of adults (N = 551) who had children between age 16 to 35. Parents with a high sense of personal mastery were more likely to seek formal help (r = .33, p<.05). Although
parents with lower income were less likely to seek formal help, a strong sense of mastery inclined them to use formal help ($r = .37, p < .05$).

**Socioeconomic status.** In the analyses done by Veroff (1981), described previously, the data also indicated that educational status had a potent general effect on help-seeking. Increased levels of education increased seeking help in general. In the study conducted by Tijhuis et al. (1990), described previously, subjects who had a higher level of education and income were more prone to seek help. The findings indicated a positive relationship between education and income and the orientation toward help-seeking.

In the study conducted by Hourani and Khlat (1986), described previously, a higher level of education was found to be the second best predictive variable of help-seeking and subjects with higher levels of income were more likely to seek help. In the analyses done by Menaghan (1978), described previously, parents with a lower level of income were less likely to use formal help ($r = -.26$).

**Self-care.** In an online CINAHL, Medline, Cancerlit, PsycINFO search conducted in February, 1998, for citations with the words "self care" and "help seeking" in the title, abstract, or keywords, no study was found to examine self-care related to help-seeking. However, there were two
studies on self-care with potential implications for help-seeking.

Because help-seeking is a process to solve a problem, one study that examined self-care and perception of the extent to which the problem was solved was reviewed (Spitzer, Bar-Tal, & Ziv, 1996). In this study the researchers examined the moderating effect of age on self-care and younger and older clients' perception of the extent of problem solution. The sample consisted of 121 female and 167 male clients (N = 288) with chronic illness. Perception of the extent to which the problem was solved was positively associated with self-care in older clients.

A study was conducted to describe clients' perceived efficacy of self-care activities used to manage chemotherapy side effects (Nail, Jones, Greene, Schipper, & Jensen, 1991). The sample was composed of adult clients (N = 49) with cancer. The majority of self-care activities used by clients were rated as providing some relief to moderate relief of side effects. None of the reported self-care activities received mean efficacy ratings that indicated complete relief of side effects. The implication of the findings is that clients might need to seek help because side effects were not completely relieved.

Trust in health care provider. In the study conducted by Rickwood and Braithwaite (1994), described previously,
seeking help from a professional agency was also associated with less confidence in physicians, compared to seeking help only from the social network. Less confidence in physicians was related to a greater likelihood of professional help-seeking.

**Dyadic adjustment.** One study was conducted to test the hypothesis that marital intimacy predicts marital adjustment and lack of intimacy is related to psychiatric help-seeking (Waring et al., 1981). Ninety married couples (N = 180) in the general population were interviewed. The results showed that low levels of marital intimacy were significantly related to psychiatric help-seeking. The results also showed that there was a positive relationship between level of marital intimacy and marital adjustment.

Another study was conducted to examine the relationship between marital intimacy and seeking psychiatric help (Chamberlaine et al., 1989). Psychiatric outpatients (n = 57) were compared with a community sample of symptomatic non-patients (n = 90). More outpatients reported deficient or absent intimacy in their marriages compared with symptomatic non-patients. This finding indicated that subjects who sought psychiatric help perceived less marital intimacy than those who did not seek help when symptoms of emotional illness were present. Even when controlled for symptomatology, age, and sex, subjects who sought
psychiatric help still perceived less marital intimacy than those who did not seek psychiatric help. These findings suggested that unsatisfactory marriages may partly motivate help-seeking.

Summary of the Literature on Help-Seeking

In summary, help-seeking is related to number of people in the social network. The size of help-seekers' social networks is smaller than that of non-seekers. Most general help-seeking occurs within the informal social network of family and friends rather than from professionals. Persons who seek help report more need for social support in the informal network. Help-seekers perceive greater deficits in the amount of social support available to them in time of need.

Elderly are less likely to seek professional help than other groups. Younger people are more willing to seek help than older people. Persons with more symptoms are more likely to seek help. Seeking help from professionals is related to more symptoms compared to seeking help only from the social network. Severity of symptom is a reason why some people decide to seek professional help. Some people seek professional help only as symptoms advance. Persons who seek help perceive less emotional social support. Help-seeking is related to availability of social support. Social support is negatively associated with help-seeking.
Lack of social support can lead to seeking professional help.  

Enabling skill is a strong predictor of self-help and has a positive relationship with self-help. Persons with a high sense of mastery are more likely to seek professional help. Persons with higher levels of education and income are more likely to seek help. There is a positive relationship between education and income, and help-seeking. Perceived problem solving is positively related to self-care in older people. Seeking help from professionals is related to less trust in health care providers compared to seeking help only from the social network. Low levels of marital intimacy are associated with professional help-seeking. There is a positive relationship between level of marital intimacy and marital adjustment. Unsatisfactory marriages may partly motivate help-seeking.

**Quality of Life**

Research literature on quality of life addresses characteristics of social network, social support need, age, symptom, severity of symptom, satisfaction with social support, enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment.

**Characteristics of social network.** A study was conducted to examine the effect of social interactions on
quality of life in cancer clients (de Ruiter et al., 1993). A group \((n = 108)\) of cancer clients with surgery as recent treatment for their cancer and a group \((n = 109)\) of cancer clients with chemotherapy were compared to a group \((n = 192)\) of cancer clients free from disease. Affective component of quality of life was significantly related to social network support in chemotherapy clients and ex-clients \((r = .24, p < .05; r = .19, p < .05)\).

A cross-sectional study was conducted to identify factors associated with health-related quality of life in dialysis clients \((N = 256)\) (Tell, Shumaker, Mittelmark, Russell, Hylander, & Burkart, 1995). The sample was composed of 72 black women, 59 black men, 61 white women, and 64 white men. A larger social network was associated with better feelings about life \((r = .15, p = .03)\) and with better life satisfaction \((r = .21, p = .002)\).

**Social support need.** A study was conducted to explore the relationship between social support and quality of life of cancer clients \((N = 51)\) during the first year after diagnosis (Courtens et al., 1996). The results indicated that emotional support was positively associated to quality of life. Clients who perceived more emotional support had a better global evaluation of life. Clients who perceived a decrease of instrumental support after one year also had an improvement in global well-being. Clients with an improved
quality of life would perceive less instrumental support because they needed less support of this type.

Because quality of life means a state of physical, psychological, and social well-being, one study examining social support need and well-being was reviewed (Koomen, Kniesmeijer, Vos-Panhuijsen, & Velthuijsen, 1990). A longitudinal study was conducted to test one hypothesis that low need for social support would lead to better recovery in terms of well-being of clients ($N = 46$) with coronary heart disease. The findings indicated that need for social support had an effect on well-being. The well-being of heart clients was reduced by a high need for social support.

Age. Mor (1987) conducted a study to examine correlates of the Quality of Life Index in three separate populations of cancer clients. The samples, drawn from three different studies of cancer patients, were: the newly diagnosed sample ($N = 397$), active treatment sample ($N = 194$), and terminal sample ($N = 2,046$). Age was slightly negatively associated with all Quality of Life Index elements. Older clients had slightly poorer quality of life.

A study was conducted to determine if age differences exist in psychosocial condition among myocardial infarction survivors (Conn, Taylor, & Abele, 1991). Adults ($N = 197$) aged 40 to 88 were interviewed one to two years after their
first myocardial infarction. Increased age was related to lower quality of life ($r = -.28$, $p = .0001$).

**Symptom/Cancer therapy-related symptom (side effect).** In Mor's (1987) study, described previously, symptom was a significant predictor of the Quality of Life Index in all samples. In the active treatment sample, symptoms induced by treatment comprised the major factor that compromised quality of life. Lamping (1994) conducted a study to compare different methods of measuring health-related quality of life in persons ($N = 81$) with HIV infection. Symptoms were negatively related to Quality of Life Index ($r = -.58$, $p < .001$).

A study was conducted to examine the relationship between symptom prevalence and quality of life after bone marrow transplantation for breast cancer (Hann et al., 1997). The sample consisted of women ($n = 43$) with autologous bone marrow transplantation as treatment for breast cancer and women ($n = 43$) of similar age with no history of cancer. A greater number of symptoms associated with cancer treatment was significantly related to quality of life in terms of physical health and mental health ($r = -.54$, $p < .001$; $r = -.63$, $p < .0001$).

A study was conducted to examine the relative importance of 28 items concerned with general health or with disease and treatment to clients ($N = 60$) with metastatic
breast cancer (Sutherland et al., 1990). The common side-effects of treatment were rated in the third or fourth quartiles in terms of its effects on quality of life.

Longman, Braden, and Mishel (1996) used data from the Self-Help Intervention Project to describe the side effects burden and their impact on quality of life in women (N = 307) receiving treatment for breast cancer. Overall quality of life had a small negative correlation with number of side effects (r = -.22, p < .001). Present quality of life had a medium negative correlation with number of side effects (r = -.42, p < .0001).

Severity of symptom/Side effect burden. In the study conducted by Hann et al. (1997), described previously, another focus of the study was to examine the relationship between symptom severity and quality of life after bone marrow transplantation for breast cancer. The severity of cancer therapy-related symptoms was significantly and negatively associated with quality of life in terms of physical health and mental health (r = .56, p ≤ .0001; r = .68, p ≤ .0001).

In the analyses done by Longman et al. (1996), described previously, overall quality of life had a small negative correlation with side effects burden (r = -.21, p < .001). Present quality of life had a medium negative correlation with side effects burden (r = -.43, p < .0001).
A study was conducted to examine the relationship between the number of symptoms and quality of life in clients (N = 91) receiving cancer treatment (Youngblood et al., 1994). The degree of toxic symptoms of cancer therapy was significantly and negatively associated with quality of life (r = -.67, p=.0001). A lower level of toxic symptoms was associated with higher quality of life.

**Satisfaction with social support.** In the study conducted by Tell et al. (1995), described previously, another focus of the study was to investigate the role of social support as a factor in health-related quality of life. In univariate analysis, lack of social support was associated with poorer health-related quality of life. In multivariate regression analysis, better social support was one of the two strongest predictors of a more positive health-related quality of life. In Mor's (1987) study, described previously, social support was a significant predictor of the Quality of Life Index in all samples.

Wingate (1995) conducted a study to determine the relationship between selected variables and quality of life in a sample of women (N = 96) after a myocardial infarction. Social support had a strong relation to quality of life. Women who had higher levels of social support reported higher levels of quality of life.
A study was conducted to examine the relationship between social support and quality of life in persons (N = 50) with HIV (Nunes, Raymond, Nicholas, Leuner, & Webster, 1995). Based on Pearson’s product-moment correlations, social support was significantly related to quality of life ($r = .81, p<.0001$).

In the study conducted by Lamping (1994), described previously, satisfaction with social support was positively related to quality of life as measured by the Quality of Life Index ($r = .36, p<.01$). Another study was conducted to determine whether social support contributes to better quality of life in head and neck oncology clients (N = 45) (Mathieson, Logan-Smith, Phillips, MacPhee, & Attia, 1996). The most important predictor of clients’ quality of life was satisfaction with family physician. Clients had higher quality of life when they more satisfied with their family physicians. Satisfaction with family physician support contributed to almost half (45%) of the variance in the quality of life score.

Because quality of life means a state of physical, psychological, and social well-being, one study examining satisfaction with social support and psychological well-being was reviewed (Lambert, Lambert, & Klipple, & Mewshaw, 1990). In this study the researchers examined the relationship among social support and psychological well-
being in women ($N = 122$) with rheumatoid arthritis. A significant positive correlation was found between satisfaction with social support and psychological well-being ($r = .60, p < .0001$). This result indicated that as satisfaction with social support increased so did a person's state of psychological well-being. Satisfaction with social support was the best predictor of psychological well-being and accounted for one-third (35%) of the variance in measuring psychological well-being.

**Enabling skill.** Chiang (1995) used data from Braden's (1993a) Learned Self-Help Response to Chronic Illness Experience to examine the relationships among burden of illness, resources, and quality of life. The sample was composed of persons ($N = 806$) with rheumatoid arthritis, other arthritic conditions, and systemic lupus erythematosus. A positive relationship was found between enabling skill and quality of life among three subsamples ($r = .5338, p = .000; r = .4355, p = .000; r = .5873, p = .001$).

**Mastery.** In the study conducted by Lamping (1994), described previously, mastery was positively related to Quality of Life Index ($r = .31, p < .01$). In another study the researchers evaluated the influence of different factors in the adaptation process activated by uncertainty illness on health-related quality of life (Padilla et al., 1992). The sample consisted of women ($N = 100$) receiving treatment
for newly diagnosed gynecological cancer. Stepwise regression analyses indicated that mastery was a predictor of quality of life.

A study was conducted to explore the relationship between mastery and depression and depression as a mediating factor in quality of life in women (N = 125) with urinary incontinence (Chiverton, Wells, Brink, & Mayer, 1996). Mastery was significantly and positively related to quality of life (r = .55, p<.01). Women with a high sense of mastery had high quality of life. Mastery was a significant predictor of quality of life and accounted for 40% of the variance in the quality of life score.

Socioeconomic status. In Chiang's (1995) study, described previously, a positive relationship was found between education and quality of life among rheumatoid arthritis and other arthritic conditions subsamples (r = .1377, p=.005; r = .1328, p=.012). A positive relationship also was found between family income and quality of life among three subsamples (r = .2791, p=.000; r = .2426, p=.000; r = .4637, p=.011).

In the study conducted by Hann et al. (1997), described previously, another focus of the study was to examine the relationship between demographic factors and quality of life after bone marrow transplantation for breast cancer. Income
was significantly and positively associated with quality of life in terms of physical health ($r = .30$).

Sarna (1993) conducted a study to describe disruptions in quality of life in women ($N = 69$) with lung cancer. The analysis of variance indicated significant differences in overall quality of life by income, $F(4, 63) = 3.8$, $p = .008$. Women with the lowest income ($<$10,000 a year) had the most disruptions in quality of life. Income was a predictor of quality of life and accounted for 15% of the variance in the quality of life score.

A longitudinal study was conducted to explore whether demographic variables influence quality of life (LoBiondo-Wood, Williams, Wood, & Shaw, 1997). The sample consisted of liver transplant recipients ($N = 41$) who were age 19 years old and older. The results showed that income was significantly and positively related to overall quality of life ($r = .37$, $p < .01$) and to the subscales of health and functioning ($r = .33$, $p < .05$), psychological/spiritual ($r = .31$, $p < .05$), and socioeconomic ($r = .40$, $p < .01$).

A study was conducted to determine whether socioeconomic status is a predictor of quality of life for spouses ($N = 38$) of continuous ambulatory peritoneal dialysis clients (Dunn et al., 1994). The stepwise multiple regression analysis indicated that income was the second best predictor of quality of life for the spouse and
accounted for one-third (31%) of the variance in the quality of life score.

In Wingate's (1995) study, described previously, women who returned to their former employment status reported higher levels of quality of life. Perse (1997) conducted a descriptive study to examine the effect of unmet needs of clients (N = 73) with chronic mental illnesses upon their quality of life. The findings indicated that lack of employment strongly affected quality of life.

A study was conducted to examine effects of demographic, psychosocial, physical, and rehabilitation factors affecting quality of life in persons (N = 116) with traumatic brain injuries two years after hospital discharge (Webb, Wrigley, Yoels, & Fine, 1995). The sample was obtained from a larger longitudinal study (N = 2,004). Based on correlational analyses, changes in employment status was significant related to quality of life (r = .5217, p<.05). Based on multivariate analyses, employment had the most significant direct effect on quality of life. The strongest contributor to improved quality of life after one year was employment.

Self-care. In the study conducted by Sutherland et al. (1990), described previously, self-care was rated in the top quartile in terms of its effects on quality of life (Sutherland et al., 1990). In Chiang’s (1995) study,
described previously, a positive relationship was found between self-care and quality of life among rheumatoid arthritis and other arthritic conditions subsamples ($r = .4114, p=.000; r = .3601, p=.000$).

Aller and Van Ess Coeling (1995) conducted a study to explore what quality of life meant to long-term care residents ($N = 12$). The ability to care for themselves was the second theme that gave residents a sense of quality in their life. Self-care was among the three strongest element affecting the quality of life for these residents. Residents who were able to perform self-care activities experienced a sense of their life quality.

**Trust in health care provider.** In an online CINAHL, Medline, Cancerlit, PsycINFO search conducted in February, 1998, for citations with the words "trust" and "quality of life" in the title, abstract, or keywords, no study was found to examine trust related to quality of life. However, in the analyses done by Longman et al. (1996), described previously, they mentioned that the first item of Cantril's Ladder measuring present quality of life was significantly related to trust in health care provider ($r = .32, p<.0001$).

**Dyadic adjustment.** In the study conducted by Dunn et al. (1994), described previously, another focus of the study is to determine if a relationship exists between marital adjustment and quality of life and determine whether marital
adjustment is a predictor of quality of life. The findings showed that marital adjustment was positively related to quality of life for the spouse. This indicated that as spouses were adjusted better in their marital relationship, their perceived quality of life was higher. Marital adjustment was the best predictor of spouse's quality of life and accounted for more than half (54%) of the variance in the quality of life score.

**Summary of the Literature on Quality of Life**

In summary, a larger social network is related to better quality of life. Persons with an improved quality of life will perceive less instrumental support because they need less support of this type. A person's well-being can be reduced by a high social support need.

Older persons have slightly poorer quality of life. Increased age is related to lower quality of life. Symptoms are a predictor of quality of life in that a greater number of cancer-therapy related symptoms is related to poorer quality of life. The number of side effects has a negative relationship with quality of life. The severity of cancer-therapy related symptoms is negatively related to quality of life. Side effects burden has a negative relationship with quality of life. A lower level of toxic symptoms of cancer treatment is related to higher quality of life. Lack of social support is related to poorer quality of life.
support is a predictor of quality of life. Persons who have higher levels of social support report higher levels of quality of life. Social support is positively related to quality of life. Satisfaction with family physician support is a predictor of quality of life. Satisfaction with social support is a predictor of psychological well-being.

Enabling skill has a positive relationship with quality of life. Mastery is a predictor of quality of life. Persons with a high sense of mastery have high quality of life. Education and income have a positive relationship with quality of life. Income is also a predictor of quality of life. Lack of employment affects quality of life. Employment is a contributor to improved quality of life. Self-care ranks high in terms of its effects on quality of life. Self-care has a positive relationship with quality of life. Self-care is an element affecting quality of life. Trust in health care provider is positively related to quality of life. Marital adjustment is positively related to quality of life and is a predictor of quality of life.

Research Hypothesis

Based on the author's (Chiang, 1995) previous work, internal stimuli from the self had a negative relationship with responses, adaptive modes had a positive relationship with responses, and internal stimuli from the self had a negative relationship with adaptive modes. Also from the
literature there is a basis to support the relationships between the variables in this study and help-seeking and quality of life. Interactive effects are moderating effects which can reflect the complexities of variables influencing help-seeking and quality of life other than direct relationships. Therefore, the research hypothesis to be addressed in this study is:

(a) The external stimuli of characteristics of social network and social support need from the environment and internal stimuli of age, symptom, severity of symptom, and satisfaction with social support from the self will have direct effects on responses; (b) The adaptive modes of enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment will have direct effects on responses; and (c) The external stimuli of characteristics of social network and social support need from the environment and internal stimuli of age, symptom, severity of symptom, and satisfaction with social support from the self will have interactive effects with adaptive modes of enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment on responses, which are help-seeking and quality of life.
Definition of Terms

The following definitions are presented to explain terms as used in the research hypotheses and context of this study:

External Stimuli: Characteristics of social network and social support need.

Characteristics of social network. Conceptual definition: descriptors of persons who formed "a specific set of linkage" (Mitchell, 1969, p. 2) with another person. Operational definition: total score on items A1, B1, C1, D1, E1, and F1 of the Arizona Social Support Interview Schedule (ASSIS). This total score indicates number of persons in the social network.

Social support need. Conceptual definition: the requirement of "the endorsement of another's behaviors, perceptions, or expressed views", and/or "the giving of symbolic or material aid to another" (Kahn, 1979, p. 85). Operational definition: total score on items A4i, B4i, C4i, D4i, E4i, and F4i of the Arizona Social Support Interview Schedule (ASSIS).

Internal Stimuli: Age, symptom, severity of symptom, and satisfaction with social support.
**Age.** Conceptual definition: the length of life in years. Operational definition: age on the Demographic Data Form.

**Symptom.** Conceptual definition: "phenomenon that arises from and accompanies a particular disease of disorder and serves as an indication of it" (Steinmetz, 1997, p. 1306). Operational definition: total score on the Symptom Pattern Scale (SP). This total score indicates number of symptoms.

**Severity of symptom.** Conceptual definition: intensity of an indication of disease or disorder. Operational definition: total score on items 2, 4, 6, 7, 8, 9, and 10 of the Symptom Transition Scale (STS).

**Satisfaction with social support.** Conceptual definition: a person's "subjective appraisals of adequacy" (Barrera, 1981, p. 74) of "the endorsement of another’s behaviors, perceptions, or expressed views", and/or "the giving of symbolic or material aid to another" (Kahn, 1979, p. 85). Operational definition: total score on items A3i, B3i, C3i, D3i, E3i, and F3i of the Arizona Social Support Interview Schedule (ASSIS).

**Self-Concept: Enabling skill and mastery.**

**Enabling skill.** Conceptual definition: a person's "perceived ability to manage adversity" (Braden, 1993b, p.

...
Operational definition: total score on the Self-Control Schedule (SCS).

**Mastery.** Conceptual definition: expert skill or knowledge (Steinmetz, 1997, p. 808). Operational definition: total score on the Mastery Scale (MS).

**Role Function:** Socioeconomic status and self-care.

**Socioeconomic status.** Conceptual definition: "a standard sociological paradigm" composed of education, income, and employment (Zhan, 1992, p. 799). Operational definition: education, family income, and working/school status on the Demographic Data Form.

**Self-care.** Conceptual definition: "the level of direct action behaviors for prevention or alleviation of treatment side effects or of preventable complications of illness" (Braden, 1993b, p. 161). Operational definition: total score on items 1-4, 6, 7, 9-18, 20-27, and 30 of the Self-Care Inventory (SCI) and total score on the Inventory of Adult Self-Care (IASC).

**Interdependence:** Trust in health care provider and dyadic adjustment.

**Trust in health care provider.** Conceptual definition: confidence in or "Reliance on the integrity, strength, and ability" (Steinmetz, 1997, p. 1381) of a professional who gives well-being services. Operational definition: total
score on items 3, 4, 6, 7, and 8 of the Health Care Orientation (HCO).

**Dyadic adjustment.** Conceptual definition: adaptation of two persons in relationship with each other. Operational definition: total score on the Dyadic Adjustment Scale (DAS).

**Responses:** Help-seeking and quality of life.

**Help-seeking:** Conceptual definition: the extent to which looks for, finds, and uses persons as resources for problem solving necessary for reaching a goal. Operational definition: total score on the Sources of Information (SI), total score on items A2, B2, C2, D2, E2, and F2 of the Arizona Social Support Interview Schedule (ASSIS), and total score on items 21a-i, 22h, 26, 28, 29, and 30 of the Access to Cancer Therapy (ACT).

**Quality of life:** Conceptual definition: a person's "level of satisfaction with one's current situation" (Braden, 1993b, p. 161). Operational definition: total scores on the Index of Well-Being and items 1, 3, and 4 of the Cantril's Ladder (CL).

**Summary**

A conceptual framework based on Roy's Adaptation model was presented to guide this study of help-seeking and quality of life in women with breast cancer. The conceptual framework includes stressors, coping mechanisms, adaptation,
environment, adaptive modes, and responses including adaptive and ineffective. In this study the focus was on external stimuli from the environment, internal stimuli from the self, the adaptive modes of self-concept, role function and interdependence, and responses. The derivation of concepts from Roy's Adaptation Model to specify variables within a help-seeking middle range theory were presented.

Literature was reviewed and presented on help-seeking and quality of life in terms of characteristics of social network, social support need, age, symptom, severity of symptom, satisfaction with social support, enabling skill, mastery, socioeconomic status, self-care, trust in health care provider, and dyadic adjustment. One research hypothesis was presented. Definition of terms, including conceptual definition and operational definition, was also presented.
CHAPTER III

METHOD

This chapter consists of a description of the research design, setting, sample, protection of human subjects, data collection procedure, secondary data analysis, and instruments. Instrument reliability and construction of measures are described. The plan for secondary data analysis is addressed in relation to the research hypothesis for the study. The data were obtained from the Self-Help Intervention Project. The purpose of this study was to examine the direct effects of external stimuli from the environment and internal stimuli from the self on responses, the direct effects of adaptive modes on responses, and the interactive effects of external stimuli from the environment and internal stimuli from the self with adaptive modes on responses relative to help-seeking and quality of life.

Research Design

This study used secondary analysis of data from the Self-Help Intervention Project (SHIP) which was conducted by Braden, Mishel, Longman, and Burns (1990) to test the effectiveness of nursing interventions promoting self help response in women receiving treatment for breast cancer. An experimental, randomized block, repeated measures design was used in the SHIP study (Braden, 1988). This secondary
analysis study extended the SHIP study by testing a hypothesis on data collected before implementing the SHIP interventions.

**Setting and Sample**

The sample of the SHIP study was composed of women diagnosed with breast cancer who met sample criteria, which were: (a) 18 years of age and older; (b) literate in English; (c) currently receiving adjuvant therapy for primary or recurrent breast cancer, including any or combination of the following: chemotherapy, radiation therapy, hormone therapy, and hyperthermia; and (d) free of clinically diagnosed psychopathology such as major depression. Because psychological alterations interfere with learning, perception of events, and performance of self-care activities, thus potentially confounding the expected outcomes, women with clinically diagnosed psychopathology were excluded from the SHIP study (Duong, 1996).

Women receiving breast cancer therapy at multiple clinical treatment sites and community sites in southwestern Arizona were recruited for the SHIP study. Recruitment from clinical treatment sites was primarily from a regional cancer center, private practice offices, and health maintenance organization clinics located in the southwestern United States. Recruitment by advertisement occurred in
community sites, including libraries, retail stores, recreational facilities, hair dressers, and media announcements. Potential subjects were contacted by field workers who explained the study and invited women to participate in the study.

Subjects were recruited to the SHIP study over a three-year period, from January 1990 to March 1992. The initial sample of convenience was a total of 307 women. Subjects were randomly assigned to the natural learning condition or one of the five interventions, including self-help independent study, self-help class, uncertainty management, combined self-help independent study/uncertainty management, and combined self-help class/uncertainty management. In the SHIP study, data were collected at Time One, before the intervention, and at five other points in time. This study using secondary data analysis examined data of the SHIP study only from Time One because no interventions had been performed that would influence subjects' help-seeking and quality of life. In this study, the sample was a subsample for the Time One data set. The sample for this study consisted of 102 women with breast cancer who responded to Dyadic Adjustment Scale.

Protection of Human Subjects

The SHIP study was approved by the institutional review board of the University of Arizona and the project was
exempt from review (Appendix A). This secondary data analysis study entitled "Help-seeking and Quality of Life in Women with Breast Cancer" was approved by the Office of Nursing Research of the College of Nursing at the University of Arizona, after conducting an ethical review of the proposed study (Appendix A).

Subjects were invited to voluntarily participate in the SHIP study. They were introduced to the study and were requested to sign a written consent form (Appendix B). There were no hazards or costs beyond the time involvement as a result of participate in the SHIP study. Subjects could ask questions and withdraw from the study at any time. All questionnaires were coded to assure confidentiality. Only the collaborative research team and staff had access to the data. Subject code numbers were used to maintain confidentiality. No identifying information was kept with the data and the data were kept secure (Braden, 1988).

Data Collection Procedure

SHIP data were collected at six points in time. The Time One data were the baseline data collected before implementation of SHIP interventions. There were five subsequent data collection points from which data were not used for this secondary analysis study. Collection of Time One data was timed to occur after the medical treatment protocol was underway to allow for the appearance of
treatment-related side effects. Time One data were collected within 6, 7, and 12 weeks for women on adjuvant therapies of radiation, chemotherapy, and hormone respectively, after breast cancer diagnosis.

Time One data were collected by a trained, monitored field worker. The setting for Time One data collection was usually in the subject's home. The structured interview format was used in Time One data collection to ensure understanding of the questionnaires and ease respondent burden. After Time One subjects chose which method for data collection was most convenient for them, which, in addition to structured interview, could be mailed questionnaire or mailed questionnaire with follow up telephone assistance (Duong, 1996).

Secondary Data Analysis

Secondary data analysis is defined as the "re-analysis of data for the purpose of answering the original research question with better statistical techniques, or answering new questions with old data" (Glass, 1976, p. 3). Another definition of secondary data analysis is a further analysis of existing data for the purpose of presenting interpretations, conclusions, or knowledge from the original study (Leske, 1990).

Strengths of secondary data analysis include cost effectiveness and efficiency in both money and time (Gleit &
Secondary data analysis is a cost effective and efficient method of research because three stages including instrument development, sample selection, and data collection have been removed from the research process. Most investigators find these stages potentially costly and time consuming (McArt & McDougal, 1985).

Another strength of secondary data analysis is secondary investigators' contributions to knowledge development. Because secondary data analysis may shed new light on research questions, secondary investigators can develop knowledge about areas under investigation (McArt & McDougal, 1985). Secondary data analysis helps knowledge generation through consideration of important questions without some of the limitations of, or with limitations different from, those in the original research (Burstein, 1978). Secondary investigators can look at the same research questions from theoretically different perspectives (McArt & McDougal, 1985).

A built-in advantage is another strength of secondary data analysis. Secondary data analysis provides opportunities to interact with colleagues and fellow nurse investigators on topics of mutual interest. A number of benefits can be gained from such a relationship (McArt & McDougal, 1985). In this study, a strength was the
opportunity to work directly with the original researcher in planning and conducting this study.

Another strength of secondary data analysis is that secondary analysts may have objectivity due to not being too close to the data, which may affect conclusions of original research (Burstein, 1978). Another strength of secondary data analysis is that secondary analysts can validate the reliability found by the original investigator.

Perhaps the greatest weakness of secondary data analysis is that variables that secondary analysts can use are restricted to those on which original data were collected. It is important for secondary analysts to assure that variables validly operationalize concepts of the theoretical model in the secondary research (Herron, 1989). Secondary data analysis will have measurement problems if instruments do not measure what secondary analysts purport them to measure. Invalidity is of concern to the extent that items imprecisely measure concepts that secondary analysts have in mind, or that variables have been poorly operationalized (Kiecolt & Nathan, 1985). Secondary analysts need to decide whether concept definitions and measures for existing data sets are appropriate for their purpose by matching their conceptual definitions of variables and measurement to original research (Brown & Semradek, 1992).
A major weakness of secondary data analysis is lack of control over how the data were conceived, generated, or recorded. Lack of involvement during the data collection stage may limit investigators' insight into hidden factors that may have affected the research's results. Therefore, secondary investigators may be at greater risk for drawing invalid conclusions arising from misinterpreting results (Jacobson, Hamilton, & Galloway, 1993).

Another weakness of secondary data analysis is the possible inhibition of creativity. Scientific progress would be thwarted to some extent if investigators repeatedly use same data sets and are restricted by variables contained therein. The scope of social science research might be limited if many researchers continually to use same instruments and data sets (Kiecolt & Nathan, 1985).

Another weakness of secondary data analysis is that it may be a lonely type of research to perform. If investigators need peer interaction and feedback, they must initiate such contact if they work alone. Informal dialogue will not naturally occur as it would when several investigators and research assistants work together on data collection (Herron, 1989). The author's work with the original researcher facilitated interaction and feedback that the author needed.
An additional weakness of secondary data analysis is that secondary study is restricted to the time frame of the original data. An ongoing, longitudinal study cannot be performed with data that were collected in the past. It is important to consider the age of original data because studies performed upon outdated data might not be significant unless viewed in a historical perspective (Herron, 1989). The data for this study were collected within 6 years of this study, providing relatively current data for analysis.

Strengths of secondary data analysis outweigh its weaknesses (Kiecolt & Nathan, 1985), especially when potential limitations are addressed by the secondary analyst. Therefore, secondary data analysis was selected for this study because further information could be gained from the original study data in the area of help-seeking and quality of life in women with breast cancer.

Instruments

The instruments used in the SHIP study and also in this study were: Arizona Social Support Interview Schedule (ASSIS), Demographic Data Form (DEM), Symptom Pattern/Symptom Transition Scale (SP/STS), Self-Control Schedule (SCS), Mastery Scale (MS), Self-Care Inventory (SCI), Inventory of Adult Self-Care (IASC), Health Care Orientation (HCO), Dyadic Adjustment Scale (DAS), Sources of
Information (SI), Access to Cancer Therapy (ACT), Index of Well-Being (IWB), and Cantril's Ladder (CL) (Appendix C). A description of each instrument follows.

**Arizona Social Support Interview Schedule (ASSIS)**

The Arizona Social Support Interview Schedule (ASSIS) was originally a 31 item questionnaire developed by Barrera (1980) that measured several aspects of support, including perceived network size, actual utilized network, satisfaction with support, and need for support (Barrera, 1981). The ASSIS covers six categories of social support: material aid, physical assistance, intimate interaction, guidance, feedback, and social participation. The ASSIS was adapted for use in the SHIP study and contained 42 questions.

In support of instrument validity, Barrera (1981) supported construct validity of the ASSIS by establishing the relationship between social support and life events. Barrera (1981) also supported validity of the ASSIS by establishing the relationship of social support with total symptoms, depression, and anxiety.

In support of instrument reliability, Barrera (1981) reported a test-retest reliability of .88 for the network size index and .80 for the support need index, respectively, for a college sample (N = 45). Barrera (1981) reported an internal consistency reliability of .70 for the support need
index of the ASSIS for a sample (N = 86) of pregnant adolescents.

Items A1, B1, C1, D1, E1, and F1 of the ASSIS were used as indicators of number of persons in the social network for this study. Items A4i, B4i, C4i, D4i, E4i, and F4i of the ASSIS were used as indicators of social support need for this study. Items A3i, B3i, C3i, D3i, E3i, and F3i of the ASSIS were used as indicators of satisfaction with social support for this study. Items A2, B2, C2, D2, E2, and F2 of the ASSIS were used as indicators of help-seeking for this study.

Demographic Data Form (DEM)

Items from the Demographic Data Form address age, marital status, working/school status, education, family income, breast cancer history (diagnosis date, surgery data, treatment data, family history, and discovery experience), living together, ethnicity, chronic comorbidity, and health insurance coverage. The age item was used as the indicator of age for this study. Education, family income, and working/school status were used as indicators of socioeconomic status for this study.

Symptom Pattern/Symptom Transition Scale (SP/STS)

The Symptom Pattern/Symptom Transition Scale (SP/STS) is a two part scale that measures the pattern and intensity
level of symptoms experienced as a result of breast cancer or its treatment and the degree to which these symptoms were perceived to be a state of transition. The SP section of the scale was adapted from the Symptom Pattern Scale (Mishel & Braden, 1988) to specifically address symptoms common to breast cancer and was used in the SHIP study. Subjects are asked to mark their symptoms from a checklist of 16 symptoms and to rank their five most bothersome symptoms.

The STS section of the scale is a 12 item scale developed by De Groot (1989) that was designed to assess the degree to which illness symptoms were perceived to be in a state of change. Symptom transition is assessed on a five-point Likert type response format ranging from "strongly disagree" to "strongly agree" according to symptom characteristics such as overall change and change in the number, type, frequency, severity, duration, novelty, visibility, or intrusiveness of symptoms. The STS used in the SHIP study includes two subscales: the Symptom Extension Subscale and the Symptom Retraction Subscale. The Symptom Retraction Subscale consists of five positively stated items (item 1, 3, 5, 11, and 12). The Symptom Extension Subscale consists of seven negatively stated items (item 2, 4, and 6-10).

In support of instrument validity, Morris (1991) supported construct validity of the SP by the negative
relationship between the number of symptoms experienced and current quality of life. Morris (1991) supported construct validity of the STS by the positive relationship between perceived symptom distress and six month predicted quality of life.

In support of instrument reliability, De Groot (1989) reported the STS's standardized coefficient alpha of .93 for a predominately female population of clients with chronic fatigue immune dysfunction syndrome. Morris (1991) reported the STS's standardized Cronbach's alpha as .81 and .90 at two data collection times. The SP section of the SP/STS was used as the indicator of number of symptoms for this study. The Symptom Extension Subscale of the STS section of the SP/STS was used as the indicator of severity of symptom for this study.

Self-Control Schedule (SCS)

The Self-Control Schedule (SCS) was originally a 36 item scale developed by Rosenbaum (1980) as a measure of learned resourcefulness. Braden (1986) adapted the original SCS to a 100 millimeter horizontal visual analogue response format. Endpoints of the 10 cm unmarked response line are "true about me" and "not true about me". The scale is scored in a positive direction for enabling skill, a higher score indicating a higher level of enabling skills.
The SCS used in the SHIP study is a 32 item scale including three subscales: problem solving, cognitive reframing, and belief in self. Problem solving deals with the ability to apply problem solving strategies such as planning, problem definition, evaluating alternatives, and anticipation of consequences. Cognitive reframing is the use of cognition and self-instruction to cope with emotional and physiological responses. Belief in self involves a general belief in one's ability to self-regulate internal events.

In support of instrument validity, Rosenbaum (1980) supported construct validity of the SCS by reporting the SCS having distinguished different performance outcomes tied to high and low scores on the SCS. For example, persons with high self-control perceive having greater control over painful feeling and are able to tolerate pain better than persons with low self-control. Weisenberg, Wolf, Mittwoch, and Mikulincer (1990) reported the SCS having construct validity. Braden (1986) also supported strong construct validity of the SCS with an arthritis sample.

In support of instrument reliability, Rosenbaum (1980) reported the SCS's alpha coefficients calculated on five different samples ranged from .78 to .84, indicating high internal consistency among items. Braden (1986) reported internal consistency reliability for the SCS as .89. Braden
(1990a) and Chiang (1995) reported standardized Cronbach's alphas of .85 and .88 for the SCS. The internal consistency reliability of the three subscales: problem solving, cognitive reframing, and belief in self were reported as .71, .65, and .59 respectively (Richards, 1985). The SCS was used as the indicator of enabling skill for this study.

**Mastery Scale (MS)**

The Mastery Scale (MS) is a seven item scale developed by Pearlin and Schooler (1978) that measures efficacy or belief in one's capability of overcoming life's adversities. The MS was adapted to a 100 millimeter horizontal visual analogue response format in the SHIP study. Endpoints of the 10 cm unmarked response line are "strongly agree" and "strongly disagree". The scale is scored in a positive direction for mastery, a higher score indicating a greater sense of mastery.

In support of instrument validity, Pearlin and Schooler (1978) supported construct validity of the MS by the positive relationship between mastery and self-esteem. Folkman, Lazarus, Gruen, and DeLongis (1986) also supported construct validity of the MS by the negative relationship between mastery and psychological symptoms.

In support of instrument reliability, Folkman et al. (1986) reported internal consistency reliability for the MS as .75. Hobfoll and Walfisch (1986) reported a test-retest
reliability of .84 for the MS. Padilla et al. (1992) reported the MS's Cronbach's coefficient alpha of .72 for a sample (N = 100) of women with gynecological cancer. The MS was used as the indicator of mastery for this study.

**Self-Care Inventory (SCI)**

The Self-Care Inventory (SCI) was originally a 40 item scale developed by Pardine, Napoli, and Dytell (1983) that assesses the frequency of engaging in health-related behaviors (Wiebe & McCallum, 1986). The SCI used in the SHIP study is a 30 item scale adapted to be relevant to the needs of breast cancer clients. Anchors for the four-point Likert response format are: rarely or never, some of the time, quite often, and nearly all the time. A higher score indicates more involvement in self-care behavior. The SCI used in the SHIP study has a potential score range from 0 to 120 (McHenry, Allen, Mishel, & Braden, 1993).

Items from the SCI address diet/eating, sleep/relaxation, exercise, psychological functioning, safety, communication with health care providers, and preventive self-care. The SCI includes two subscales: the Self-Care Inventory-Wellness Promotion Subscale (SCIWPR) and the Self-Care Inventory-Prevention Promotion Subscale (SCIPPR). The SCIWPR consists of 15 items (item 1-4, 7, 9-15, 18, 20, and 30). The SCIPPR consists of 10 items (item 6, 16, 17, and 21-27).
In support of instrument validity, Longman et al. (1996) supported construct validity of the SCIWPR by significant relationships with other variables. In support of instrument reliability, Longman et al. (1996) reported the SCIWPR's standardized coefficient alpha of .82. The SCIWPR and SCIPPR were used as indicators of self-care for this study.

**Inventory of Adult Self-Care (IASC)**

The Inventory of Adult Self-Care (IASC) was originally a 19 item scale developed by Braden (1986) as a measure of adult self-care actions. The IASC is scaled according to a 100 millimeter horizontal visual analogue response format. The unmarked 10 cm line provides for the rater's response has designated endpoints "true about me" and "not true about me". The scale is scored in a positive direction for self-care, a higher score indicating more involvement in self-care behavior.

The IASC as used in the SHIP study is an eight item scale that assesses the degree to which subjects practice eight specific self-care behaviors devoted to enhancing or maintaining health. These behaviors include monitoring treatment response and body feelings, resource utilization, spending time keeping well, adjusting medications to personal needs, and keeping up to date on ways to stay well.
The IASC used in the SHIP study has a potential score range from 0 to 800 (McHenry et al., 1993).

In support of instrument validity, Braden (1986) supported construct validity of the IASC for a sample of persons with arthritis by significant relationships with enabling skill ($r = .49, p<.001$), a predictor of self-care, and quality of life ($r = .42, p<.001$), an outcome of self-care. In support of instrument reliability, Chiang (1995) reported the IASC’s standardized Cronbach’s alpha of .85. The IASC was used as an indicator of self-care for this study.

Health Care Orientation (HCO)

The Health Care Orientation instrument (HCO) is an eight item subscale of the Psychosocial Adjustment to Illness Scale (PAIS) that assesses attitudes about health care in general, perceptions of health care professionals, quality of health information received, and expectations regarding their illness and its treatment (Derogatis, 1986). The HCO used in the SHIP study is a four-point scale from 1 to 4. A higher score indicates more positive attitude. Five of the eight HCO items (item 3, 4, 6, 7, and 8) form a scale indexing trust in health care provider. These five items are positively coded and summed for a total possible score of 20.
In support of instrument validity, Derogatis (1986) supported the construct validity of the HCO by its relative independence from the other six PAIS subscales, its statistically significant contribution to the total scale score, and its positive relationships with items assessing level of satisfaction with health care and expectancies about quality of care.

In support of instrument reliability, Derogatis (1986) reported reliability coefficients for the HCO of .63 with a kidney dialysis sample and .83 with a lung cancer sample. Derogatis (1986) also reported interrater reliability for the HCO of .74 with a breast cancer sample and .70 with a sample (N = 37) of clients with Hodgkin's disease. Five items of the HCO were used as indicators of trust in health care provider for this study.

**Dyadic Adjustment Scale (DAS)**

The Dyadic Adjustment Scale (DAS) is a 32 item scale developed by Spanier (1976) that was designed to assess quality of marriage and other similar dyads. A higher score indicates better marital adjustment. The DAS includes four subscales: the Dyadic Satisfaction Subscale, the Dyadic Cohesion Subscale, the Dyadic Consensus Subscale, and the Affectional Expression Subscale. The Dyadic Satisfaction Subscale consists of 10 items (item 16-23, 31, and 22). The Dyadic Cohesion Subscale consists of five items (item 24-
The Dyadic Consensus Subscale consists of 13 items (item 1-3, 5, and 7-15). The Affectional Expression Subscale consists of four items (item 4, 6, 29, and 30).

In support of instrument validity, Spanier (1976) supported construct validity of the DAS by relationships ($r = .86, p<.001; r = .88, p<.001$) with the Locke-Wallace Marital Adjustment Scale, which was the most frequently used instrument at that time, for a married ($n = 218$) and divorced ($n = 94$) sample. Spanier (1976) supported criterion-related validity of the DAS by every item on the scale in a divorced subsample significantly differed from a married subsample.

In support of instrument reliability, Spanier (1976) reported the DAS's Cronbach's coefficient alphas of .96 for the total scale, of .94 for the Dyadic Satisfaction Subscale, of .86 for the Dyadic Cohesion Subscale, of .90 for the Dyadic Consensus Subscale, and of .73 for the Affectional Expression Subscale with a married and divorced sample. Primomo, Yates, and Woods (1990) reported the internal consistency reliability for the DAS of .94 with a sample ($N = 125$) of chronically ill women. The DAS was used as the indicator of dyadic adjustment for this study.

Sources of Information (SI)

Sources of Information (SI) is a 17 item checklist developed by Braden (1988) to indicate the use of
informational sources for breast cancer and its treatment since the diagnosis. The specified informational sources are characteristic of modes of help available within a person's natural setting or readily accessible to the public. The listed informational sources includes health care professionals, family members, friends, cancer organizations, cancer information and support groups, books from library or bookstore, audiotapes or videotapes, and media. The items of SI are based on qualitative data obtained from the SHIP pilot phase. The SI was used as an indicator of help-seeking for this study.

Access to Cancer Therapy (ACT)

The Access to Cancer Therapy (ACT) is a questionnaire based on a survey of access to the health care system in 1975 to 1976 (Aday, Andersen, & Fleming, 1980) and modified by SHIP investigator Burns to be relevant to the breast cancer experience (Burns & Kreulen, 1992). The ACT used in the SHIP study is a 33 item questionnaire that includes items addressed structural, process, and economic indicators of access. Sites of care are structural indicators of access. Duration of care, satisfaction with care, and time spent obtaining care are process indicators of access. Direct utilization costs and indirect time costs to clients and family of managing illness and accessing care are economic indicators of access. Additional items address the
amount of time in self-care activities specifically related to the management of one’s illness and the side effects of medical therapy.

Items 21a-i and 22h address the amount of time, described as hours and minutes spent doing specific activities involved with accessing and utilizing health and support systems. The specific activities include making appointments to see and talking over the phone with medical therapy providers, going to see and talking over the phone with other physicians, visiting other non-medical practitioners, talking to psychologists, counselors, and friends/family, and attending support groups. Items 26 and 28 address non-routine health care utilization by calling and visiting of medical therapy providers. Items 29 and 30 address supplemental health care utilization for psychologists or counselors and support groups.

No report was found to support validity of the ACT. In support of instrument reliability, coefficient alphas greater than .85 for six access indices were reported, based on the SHIP pilot study (Kreulen, 1994). Coefficient alphas greater than .74 for four indices related to indirect cost measures were also reported, based on the SHIP pilot study. Items 21a-i, 22h, 26, 28, 29, and 30 of the ACT were used as indicators of help-seeking for this study.
Index of Well-Being (IWB)

The Index of Well-Being (IWB) is a ten item semantic differential scale developed by Campbell, Converse, and Rodgers (1976) as a measure of quality of life perceived by subjects. Braden (1986) adapted the original IWB to a 100 millimeter horizontal visual analogue response format. The scale is scored in a positive direction for well-being, a higher score indicating a greater perception of overall well-being.

The subject rates present life status according to eight paired adjectives: bored/interesting, miserable/enjoyable, useless/worthwhile, lonely/friendly, empty/full, discouraging/hopeful, disappointing/rewarding, and doesn’t give me much chance/brings out the best in me. The ninth item is a single item used to measure global quality of life. It asks the rater to think about life as a whole and reply completely dissatisfied/completely satisfied. The last item is a single item used to measure present quality of life. It asks the subject to rate present life from the worst it could possibly be to the best it could possibly be.

In support of instrument validity, Campbell et al. (1976) supported construct validity of the IWB by the positive relationship between well-being and income. In support of instrument reliability, both Braden (1990a) and
Chiang (1995) reported the IWB’s standardized Cronbach’s alpha as .95. The IWB was used as an indicator of quality of life for this study.

**Cantril’s Ladder (CL)**

Cantril’s Ladder (CL) is a 10 rung self-anchoring ladder that measures one’s perceived quality of life at various projected times. The top rung is the best possible life and the bottom rung is the worst possible life (Kilpatrick & Cantril, 1960). Cantril’s Ladder used in the SHIP study is a four item scale with three Likert type items and one open-ended question. The first, third, and fourth items measure quality of life at current, six months from present, and five years from present respectively. A higher score indicates greater quality of life.

In support of instrument validity, Longman et al. (1996) supported validity of the first item of the CL by significant relationships with other variables. In support of instrument reliability, Morris (1991) reported the CL’s standardized Cronbach’s alpha as .78. The first, third, and fourth items of the CL were used as indicators of quality of life for this study.

**Instrument Reliability**

The instruments measuring the variables of interest in this study were tested for internal consistency reliability using Cronbach’s alpha coefficient, following Nunnally’s
(1978) suggested criteria for acceptability. For newly developed instruments, a reliability of .70 is considered the lowest acceptable coefficient. For well-developed instruments, a reliability of .80 is considered acceptable (Nunnally, 1978).

The standardized Cronbach’s alpha for the Arizona Social Support Interview Schedule (ASSIS) was .89. For the Symptom Extension Subscale, the standardized Cronbach’s alpha was .90. The standardized Cronbach’s alpha for the Self-Control Schedule (SCS) was .87. For the Mastery Scale (MS), the standardized Cronbach’s alpha was .81. The standardized Cronbach’s alpha for the Self-Care Inventory-Wellness Promotion Subscale (SCIWPR) was .83. For the Self-Care Inventory-Prevention Promotion Subscale (SCIPPR), the standardized Cronbach’s alpha was .82. The internal consistency reliability of all above instruments was considered acceptable for well-developed instruments.

The standardized Cronbach’s alpha for the Inventory of Adult Self-Care (IASC) was .77. The reliability of IASC was unacceptable for a well-developed instrument. Therefore, item 3 and 7 were dropped to form the Modified Inventory of Adult Self-Care (MIASC). The standardized Cronbach’s alpha for the Modified Inventory of Adult Self-Care (MIASC) was .83. For the Trust in Health Care Provider Index, the standardized Cronbach’s alpha was .75. Because the Trust in
Health Care Provider Index was a newly developed instrument, the internal consistency reliability was considered acceptable.

The standardized Cronbach's alpha for the Dyadic Adjustment Scale (DAS) was .94. The internal consistency reliability of DAS was considered acceptable for a well-developed instrument. For the Access to Cancer Therapy (ACT), the standardized Cronbach's alpha was .70. Because the Access to Cancer Therapy was a newly developed instrument to measure help-seeking, the internal consistency reliability was considered acceptable. The standardized Cronbach's alpha for the Index of Well-Being (IWB) was .92. The internal consistency reliability of IWB was considered acceptable for a well-developed instrument.

For the Cantril's Ladder (CL), the standardized Cronbach's alpha was .71. Because the Cantril's Ladder was a newly developed instrument to measure quality of life, the internal consistency reliability was considered acceptable. After modification of one instrument, the internal consistency reliability of all instruments was considered acceptable. The internal consistency reliability for instruments is shown in Table 1.

Construction of Measures

Given the purpose of the secondary analysis study it was necessary to construct measures for variables not
<table>
<thead>
<tr>
<th>Instrument</th>
<th>N</th>
<th>Number of items</th>
<th>Standardized Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona Social Support Interview Schedule (ASSIS)</td>
<td>99</td>
<td>34</td>
<td>.89</td>
</tr>
<tr>
<td>Symptom Extension Subscale of the Symptom Transition Scale (STS)</td>
<td>98</td>
<td>7</td>
<td>.90</td>
</tr>
<tr>
<td>Self-Control Schedule (SCS)</td>
<td>91</td>
<td>32</td>
<td>.87</td>
</tr>
<tr>
<td>Mastery Scale (MS)</td>
<td>100</td>
<td>7</td>
<td>.81</td>
</tr>
<tr>
<td>Wellness Promotion Subscale (WPR) of the Self-Care Inventory (SCI)</td>
<td>88</td>
<td>15</td>
<td>.83</td>
</tr>
<tr>
<td>Prevention Promotion Subscale (PPR) of the Self-Care Inventory (SCI)</td>
<td>77</td>
<td>10</td>
<td>.82</td>
</tr>
<tr>
<td>Modified Inventory of Adult Self-Care (MIASC)</td>
<td>100</td>
<td>6</td>
<td>.83</td>
</tr>
</tbody>
</table>

Continued...
Table 1

**Internal Consistency Reliability for Instruments (continued)**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>N</th>
<th>Number of items</th>
<th>Standardized Cronbach's α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust in Health Care Provider Index of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the Health Care Orientation (HCO)</td>
<td>98</td>
<td>5</td>
<td>.75</td>
</tr>
<tr>
<td>Dyadic Adjustment Scale (DAS)</td>
<td>102</td>
<td>32</td>
<td>.94</td>
</tr>
<tr>
<td>Access to Cancer Therapy (ACT)</td>
<td>95</td>
<td>14</td>
<td>.70</td>
</tr>
<tr>
<td>Index of Well-Being (IWB)</td>
<td>101</td>
<td>10</td>
<td>.92</td>
</tr>
<tr>
<td>Cantril's Ladder (CL)</td>
<td>94</td>
<td>3</td>
<td>.71</td>
</tr>
</tbody>
</table>
addressed in the original study. Consequently the indices from measures from the original study were restructured to form factors for this study to simplify the data analysis. Factor analysis was used to construct indices for variables having multiple measure. Factor analysis can summarize the interrelationships among the multiple measures and provide a more concise index for the concept (Gorsuch, 1983). Factor analysis as a method used to construct indices for variables results in factor scores that are considered more reliable than the conventional technique of summing variable scores across the multiple measures (Sidani & Jones, 1994, 1995).

Because the interrelationships among multiple measures for the variable were unknown, exploratory factor analysis was used to explore the underlying factor structure (Kim & Mueller, 1978). The principal components method of factor analysis, with a varimax rotation and factor score, were used. The principal components method of factor analysis is based on assessment of all variance rather than just common factor variance in the observed variables (Polit, 1996). The variables that had multiple measures were socioeconomic status, self-care, help-seeking, and quality of life.

The steps for factor analysis of multiple measures for these variables were as follows: (a) identification of items or measures to be analyzed for the variable; (b) use of the principal components method of factor analysis to determine
what the factor structure was, and, if only one factor was formed, the procedure for factor analysis of multiple measures for the variable was complete; (c) if more than one factor was formed, repeat of the second step to analyze these factors; and (d) if still more than one factor was formed, continuous repeat of the third step until one factor was formed. If varimax rotation failed to converge in 25 iterations, items or measures having the same pattern were identified for another convergence of factor analysis.

**Socioeconomic Status**

Socioeconomic status was indexed by education, family income, and working/school status. Because family income had more than 5% missing cases, family income as an indicator was dropped as an index of socioeconomic status. Although education and working/school status were factor analyzed into one factor, the reliability (N = 101) was only .33. Therefore, the factor score was not used to index socioeconomic status. Education and working/school status were used separately to index socioeconomic status.

**Self-Care**

Self-care was indexed by the Self-Care Inventory-Wellness Promotion Subscale, Self-Care Inventory-Prevention Promotion Subscale, and Modified Inventory of Adult Self-Care. The total score on the Wellness Promotion Subscale and Prevention Promotion Subscale formed the Modified Self-
The Modified Self-Care Inventory and Modified Inventory of Adult Self-Care were factor analyzed into one factor. The reliability \((N = 101)\) was .67, which was considered acceptable because this newly developed instrument had only two items. This newly constructed measure was called the Self-Care Index.

Help-Seeking

Help-seeking was indexed by the Sources of Information (SI), items A2, B2, C2, D2, E2, and F2 of the Arizona Social Support Interview Schedule (ASSIS), and items 21a-i, 22h, 26, 28, 29, and 30 of the Access to Cancer Therapy (ACT). The content of help-seeking items of the ASSIS and ACT is presented in Table 2. The total score on items A2, B2, C2, D2, E2, and F2 of the Arizona Social Support Interview Schedule formed the Use Index of ASSIS.

Items 21a-i and 22h of the ACT consisted of a total of 10 items, each of which had both an Hour and a Minute answer. All together these formed 20 subitems. Because data from all responding subjects \((N = 99)\) had no reported value on the Hour answer for items 21b and 21c, these two subitems were dropped. Therefore, 18 subitems were retained. The Number of Times answer for item 26 of the ACT formed two subitems, which were 26 MD and 26 RN. They were created by recoding values 1 and higher into 1, and values 0 and missing into 0. The No/Yes answer for items 28, 29, and
<table>
<thead>
<tr>
<th>Item of Instrument</th>
<th>Content of Help-seeking</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2 of ASSIS</td>
<td>Intimate interaction</td>
</tr>
<tr>
<td>B2 of ASSIS</td>
<td>Material aid</td>
</tr>
<tr>
<td>C2 of ASSIS</td>
<td>Guidance (Advice)</td>
</tr>
<tr>
<td>D2 of ASSIS</td>
<td>(Positive) Feedback</td>
</tr>
<tr>
<td>E2 of ASSIS</td>
<td>Physical assistance</td>
</tr>
<tr>
<td>F2 of ASSIS</td>
<td>Social participation</td>
</tr>
<tr>
<td>21a of ACT</td>
<td>Appointment with the physician</td>
</tr>
<tr>
<td>21b of ACT</td>
<td>Appointment with nurses/other staff</td>
</tr>
<tr>
<td>21c of ACT</td>
<td>Phone talk with the physician</td>
</tr>
<tr>
<td>21d of ACT</td>
<td>Phone talk with nurses/staff</td>
</tr>
<tr>
<td>21e of ACT</td>
<td>Seeing other physicians</td>
</tr>
<tr>
<td>21f of ACT</td>
<td>Phone talk with other physicians</td>
</tr>
<tr>
<td>21g of ACT</td>
<td>Visiting non-medical practitioners</td>
</tr>
<tr>
<td>21h of ACT</td>
<td>Talking to psychologists/counselors</td>
</tr>
<tr>
<td>21i of ACT</td>
<td>Attending support groups</td>
</tr>
<tr>
<td>22h of ACT</td>
<td>Talking to friends/family</td>
</tr>
<tr>
<td>26 of ACT</td>
<td>Calling physicians or nurses/staff</td>
</tr>
<tr>
<td>28 of ACT</td>
<td>Visiting physicians or nurses/staff</td>
</tr>
<tr>
<td>29 of ACT</td>
<td>Visiting a psychologist/counselor</td>
</tr>
<tr>
<td>30 of ACT</td>
<td>Attending a support group</td>
</tr>
</tbody>
</table>
30 of the ACT formed three subitems. Therefore, a total of 23 subitems formed the modified ACT.

These 23 subitems of the ACT were factor analyzed. However, varimax rotation failed to produce convergence in 25 iterations. Because items 21a-i and 22h of the ACT had the Hour and Minute answers that formed 18 subitems, these 18 subitems were factor analyzed and became 8 factors. These 8 factors were called Factor 1 through 8. The results of factor analysis of items 21a-i and 22h of the ACT are shown in Table 3. The remaining 5 subitems for items 26, 28, 29, and 30 of the ACT were factor analyzed into one factor. This factor was called Factor 9. The results of factor analysis of items 26, 28, 29, and 30 of the ACT are presented in Table 4.

Factor 1 to Factor 9 were factor analyzed and became four factors, named Factor A through D. The results of factor analysis of Factor 1 to Factor 9 of the ACT are shown in Table 5. Factor A to Factor D were factor analyzed and became two factors, named Factor a and Factor b. The results of factor analysis of Factor A to Factor D of the ACT are presented in Table 6.

Factor a and Factor b were factor analyzed into one factor. The reliability ($N = 95$) of the 23 subitems of the ACT was .70, which was considered acceptable for a newly developed instrument (Nunnally, 1978). This newly
Table 3

Factor Analysis of Items 21a-i and 22h of the ACT (N = 98)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor1</th>
<th>Factor2</th>
<th>Factor3</th>
<th>Factor4</th>
<th>Factor5</th>
<th>Factor6</th>
<th>Factor7</th>
<th>Factor8</th>
</tr>
</thead>
<tbody>
<tr>
<td>21a Hour</td>
<td>----</td>
<td>----</td>
<td>.85</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21a Min</td>
<td>----</td>
<td>.67</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21b Min</td>
<td>----</td>
<td>.63</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21c Min</td>
<td>----</td>
<td>----</td>
<td>.76</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21d Hour</td>
<td>.87</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21d Min</td>
<td>----</td>
<td>----</td>
<td>.69</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21e Hour</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>-.91</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21e Min</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21f Hour</td>
<td>.74</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21f Min</td>
<td>----</td>
<td>.64</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21g Hour</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>.87</td>
</tr>
</tbody>
</table>

Continued...
Table 3

Factor Analysis of Items 21a-i and 22h of the ACT (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor1</th>
<th>Factor2</th>
<th>Factor3</th>
<th>Factor4</th>
<th>Factor5</th>
<th>Factor6</th>
<th>Factor7</th>
<th>Factor8</th>
</tr>
</thead>
<tbody>
<tr>
<td>21g Min</td>
<td>----</td>
<td>.82</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21h Hour</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>.65</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21h Min</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>.94</td>
</tr>
<tr>
<td>21i Hour</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>.63</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>21i Min</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>.88</td>
</tr>
<tr>
<td>22h Hour</td>
<td>.72</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>22h Min</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>.47</td>
</tr>
</tbody>
</table>

Eigenvalue: 1.91 2.23 1.88 1.29 1.26

* 4 missing data
Table 4

Factor Analysis of Items 26, 28, 29 and 30 of the ACT

(N = 97)

<table>
<thead>
<tr>
<th>ACT Item</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 MD</td>
<td>.73</td>
</tr>
<tr>
<td>26 RN</td>
<td>.41</td>
</tr>
<tr>
<td>28</td>
<td>.73</td>
</tr>
<tr>
<td>29</td>
<td>.45</td>
</tr>
<tr>
<td>30</td>
<td>.61</td>
</tr>
</tbody>
</table>

Eigenvalue 1.82

* 5 missing data
Table 5

**Factor Analysis of Factor 1 to Factor 9 of the ACT (N = 95)**

<table>
<thead>
<tr>
<th>ACT</th>
<th>Factor A</th>
<th>Factor B</th>
<th>Factor C</th>
<th>Factor D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>-------</td>
<td>.60</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Factor 2</td>
<td>-------</td>
<td>.81</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Factor 3</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>.61</td>
</tr>
<tr>
<td>Factor 4</td>
<td>.77</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Factor 5</td>
<td>-------</td>
<td>.47</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Factor 6</td>
<td>-------</td>
<td>-------</td>
<td>.71</td>
<td>-------</td>
</tr>
<tr>
<td>Factor 7</td>
<td>-------</td>
<td>-------</td>
<td>.59</td>
<td>-------</td>
</tr>
<tr>
<td>Factor 8</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>.82</td>
</tr>
<tr>
<td>Factor 9</td>
<td>.81</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
</tbody>
</table>

Eigenvalue 1.43 1.30 1.10 1.14

* 7 missing data
### Table 6

**Factor Analysis of Factor A to Factor D of the ACT (N = 95)**

<table>
<thead>
<tr>
<th>ACT</th>
<th>Factor a</th>
<th>Factor b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>.73</td>
<td>--------</td>
</tr>
<tr>
<td>Factor B</td>
<td>.78</td>
<td>--------</td>
</tr>
<tr>
<td>Factor C</td>
<td>--------</td>
<td>.82</td>
</tr>
<tr>
<td>Factor D</td>
<td>--------</td>
<td>.55</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>1.24</td>
<td>1.07</td>
</tr>
</tbody>
</table>

* 7 missing data
constructed measure was called the ACT Help-Seeking Index. The factor analysis process of the ACT is shown in Figure 3.

The Sources of Information, Use Index of ASSIS, and ACT Help-Seeking Index were factor analyzed into one factor. The reliability ($N = 95$) was .72, which was considered acceptable for a newly developed instrument. This newly constructed measure was called the Total Help-Seeking Index.

**Quality of Life**

Quality of life was indexed by the Index of Well-Being and first, third, and fourth items of the Cantril's Ladder. The Index of Well-Being and first, third, and fourth items of the Cantril's Ladder were factor analyzed into one factor. The reliability ($N = 94$) was .76, which was considered acceptable for a newly developed instrument. This newly constructed measure was called the Quality of Life Index.

After definition of terms and construction of measures were addressed, the revised constructs, concepts, and operational terms are presented in Figure 4. In this study, characteristics of social network refers to number of persons in social network. Symptom refers to number of symptoms. Socioeconomic status refers to education and working/school status. Self-care is measured by the Self-Care Index. Help-seeking is measured by the Total Help-
Figure 3. Factor Analysis Process of the ACT

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor</th>
<th>Factor</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>21a Hour</td>
<td>Factor 1</td>
<td>Factor A</td>
<td>Factor a</td>
</tr>
<tr>
<td>21a Min</td>
<td>Factor 2</td>
<td>Factor B</td>
<td></td>
</tr>
<tr>
<td>21b Min</td>
<td>Factor 3</td>
<td>Factor C</td>
<td></td>
</tr>
<tr>
<td>21c Min</td>
<td>Factor 4</td>
<td>Factor D</td>
<td></td>
</tr>
<tr>
<td>21d Hour</td>
<td>Factor 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21d Min</td>
<td>Factor 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21e Hour</td>
<td>Factor 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21e Min</td>
<td>Factor 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21f Hour</td>
<td>Factor 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21f Min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21g Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21g Min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21h Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21h Min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21i Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21i Min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22h Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22h Min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 MD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 RN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Figure 4. Revised Construct, Concept, and Operational Levels**

<table>
<thead>
<tr>
<th>Construct Level</th>
<th>Stressors</th>
<th>Coping Mechanisms</th>
<th>Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>External Stimuli &amp; Internal Stimuli</td>
<td>Adaptive Modes</td>
<td>Help-seeking &amp; Quality of Life</td>
</tr>
<tr>
<td>Operational Level</td>
<td>Number of Persons in Social Network</td>
<td>Enabling Skill</td>
<td>Resources Access &amp; Well-Being</td>
</tr>
<tr>
<td></td>
<td>Social Support Need</td>
<td>Mastery</td>
<td>measured by scores on:</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>Education</td>
<td>Total Help-Seeking Index</td>
</tr>
<tr>
<td></td>
<td>Number of Symptoms</td>
<td>Working/School Status</td>
<td>Quality of Life Index</td>
</tr>
<tr>
<td></td>
<td>Severity of Symptom</td>
<td>Self-Care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Satisfaction with Social Support</td>
<td>Trust in Health Care Provider</td>
<td></td>
</tr>
<tr>
<td></td>
<td>measured by scores on:</td>
<td>Dyadic Adjustment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arizona Social Support Interview Schedule</td>
<td>measured by scores on:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demographic Data Form</td>
<td>Self-Control Schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Symptom Pattern/Transition Scale</td>
<td>Mastery Scale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arizona Social Support Interview Schedule</td>
<td>Demographic Data Form</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-Care Index</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health Care Orientation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dyadic Adjustment Scale</td>
<td></td>
</tr>
</tbody>
</table>
Seeking Index. Quality of life is measured by the Quality of Life Index.

Plan for Secondary Data Analysis by Research Hypothesis

Secondary analysis of the data was completed using the Statistical Packages for the Social Sciences (SPSS) (Norusis/SPSS Inc., 1993). The data analysis plan began with a description of demographic data, followed by the plan for testing the research hypothesis. Descriptive statistics were used to describe the demographic characteristics of the sample. The sample was described on age, ethnicity, marital status, education, income, and work/school status.

Stepwise multiple regression analysis was used to test the research hypothesis. For stepwise multiple regression analysis, independent variables are entered in an order determined by degree of statistical significance (Knapp, 1994). Independent variables can be entered by using forward, backward, or stepwise solution. The stepwise solution was chosen because it can overcome difficulties related to the other two solutions (Munro & Page, 1993). The research hypothesis was:

(a) The external stimuli of number of persons in the social network and social support need from the environment and internal stimuli of age, number of symptoms, severity of symptom, and satisfaction with social support from the self will have direct effects on responses; (b) The adaptive
modes of enabling skill, mastery, education, working/school status, self-care, trust in health care provider, and dyadic adjustment will have direct effects on responses; and (c) The external stimuli of number of persons in the social network and social support need from the environment and internal stimuli of age, number of symptoms, severity of symptom, and satisfaction with social support from the self will have interactive effects with adaptive modes of enabling skill, mastery, education, working/school status, self-care, trust in health care provider, and dyadic adjustment on responses, which are help-seeking and quality of life.

The following abbreviations were used to help address the regression equation used to answer the research hypothesis.

Y1 = Help-Seeking
Y2 = Quality of Life
X1 = Number of Persons in the Social Network
X2 = Social Support Need
X3 = Age
X4 = Number of Symptoms
X5 = Severity of Symptom
X6 = Satisfaction with Social Support
X7 = Enabling Skill
X8 = Mastery
X9 = Education
X10 = Working/school Status
X11 = Self-Care
X12 = Trust in Health Care Provider
X13 = Dyadic Adjustment

The dependent variables were help-seeking and quality of life. Interactive effects were tested by creating interaction terms such as X1X7. The independent variables were number of persons in the social network, social support need, age, number of symptoms, severity of symptom, satisfaction with social support, enabling skill, mastery, education, working/school status, self-care, trust in health care provider, dyadic adjustment, and 42 interaction terms.

The following regression equation was used to answer the research hypothesis.

\[ Y = X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7 + X_8 + X_9 + X_{10} + X_{11} + X_{12} + X_{13} + X_{1}X_{7} + X_{2}X_{7} + X_{3}X_{7} + X_{4}X_{7} + X_{5}X_{7} + X_{6}X_{7} + X_{1}X_{8} + X_{2}X_{8} + X_{3}X_{8} + X_{4}X_{8} + X_{5}X_{8} + X_{6}X_{8} + X_{1}X_{9} + X_{2}X_{9} + X_{3}X_{9} + X_{4}X_{9} + X_{5}X_{9} + X_{6}X_{9} + X_{1}X_{10} + X_{2}X_{10} + X_{3}X_{10} + X_{4}X_{10} + X_{5}X_{10} + X_{6}X_{10} + X_{1}X_{11} + X_{2}X_{11} + X_{3}X_{11} + X_{4}X_{11} + X_{5}X_{11} + X_{6}X_{11} + X_{1}X_{12} + X_{2}X_{12} + X_{3}X_{12} + X_{4}X_{12} + X_{5}X_{12} + X_{6}X_{12} + X_{1}X_{13} + X_{2}X_{13} + X_{3}X_{13} + X_{4}X_{13} + X_{5}X_{13} + X_{6}X_{13} \]
Summary

A description of the research design, setting, sample, and data collection procedure for the original study was presented. An experimental, randomized block, repeated measures design was used in the original study. The sample for this study consisted of 102 women with breast cancer. The human subjects approval and protection of human subjects were described. Definition, strengths, and weaknesses of secondary data analysis were presented.

Thirteen instruments, which were the Arizona Social Support Interview Schedule, Demographic Data Form, Symptom Pattern/Symptom Transition Scale, Self-Control Schedule, Mastery Scale, Self-Care Inventory, Inventory of Adult Self-Care, Health Care Orientation, Dyadic Adjustment Scale, Sources of Information, Access to Cancer Therapy, Index of Well-Being, and Cantril's Ladder, were used to measure the variables studied in this research. Support for instrument reliability and validity in the literature was addressed.

All twelve instruments showed acceptable internal consistency reliability. Factor analysis was used to construct indices for four variables having multiple measures: socioeconomic status, self-care, help-seeking, and quality of life. Stepwise multiple regression analysis was used to test the research hypothesis.
CHAPTER IV
RESULTS

The results of the secondary data analysis are presented in this chapter. Characteristics of the sample are described. Stepwise multiple regression analysis was used to test the research hypothesis: (a) the direct effects of external stimuli from the environment and internal stimuli from the self on responses, (b) the direct effects of adaptive modes on responses, and (c) the interactive effects of external stimuli from the environment and internal stimuli from the self with adaptive modes on responses relative to help-seeking and quality of life. The results of the data analysis in response to the direct effects of stimuli, direct effects of adaptive modes, and interactive effects of stimuli and adaptive modes are presented.

Sample Characteristics

The sample consisted of 102 married or cohabitating women with breast cancer. Women ranged in age from 25 to 76 years old ($M = 52$, $SD = 11.8$). Age of the sample is shown in Table 7. Ethnicity of the women included White (87.3%), Hispanic (9.8%), Black (1.9%), and Oriental (1.0%). A majority (94%) of the women were married. Marital status of the sample is presented in Table 8. A majority (82%) of the
<table>
<thead>
<tr>
<th>Years of Age</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>30-39</td>
<td>8</td>
<td>7.9</td>
</tr>
<tr>
<td>40-49</td>
<td>39</td>
<td>38.2</td>
</tr>
<tr>
<td>50-59</td>
<td>21</td>
<td>20.6</td>
</tr>
<tr>
<td>60-69</td>
<td>22</td>
<td>21.6</td>
</tr>
<tr>
<td>70 or over</td>
<td>9</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>102</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*M* = 52.20  
*SD* = 11.83  
Median = 50.00  
Mode = 47.00
Table 8

**Marital Status of Sample**

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>96</td>
<td>94.1</td>
</tr>
<tr>
<td>Cohabitating</td>
<td>5</td>
<td>4.9</td>
</tr>
<tr>
<td>Divorced*</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>102</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* living with former husband
women had completed post high school education. Two percent had less than a high school education and 27 percent were college graduates. Educational level of the sample is shown in Table 9.

The average income was $1250 to $1499 every two weeks. The median income was in the range of $1000 - $1249 every two weeks. Income of the sample is presented in Table 10. Thirty-six percent of the women were working or attending school either full or part time and another 12 percent were on medical leave from full time jobs. The remaining 50% were divided between the retired (27%) and homemaker (23%) categories. Working/school status of the sample is shown in Table 11.

**Results Related to Research Hypothesis**

Stepwise multiple regression analysis was used to test the research hypothesis. Standardized regression coefficients (Beta weights) were used to indicate the amount of change in the dependent variable associated with a unit change in the independent variable, while holding other variables constant (Pedhazur, 1982). Standardized regression coefficients are population specific and can be compared across different variables because they adjust for the different scales measuring the variables (Asher, 1983). The $R^2$ (coefficient of determination) was used to indicate
### Educational Level of Sample

<table>
<thead>
<tr>
<th>Highest Level of Education</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some high school</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>High school graduate</td>
<td>16</td>
<td>15.7</td>
</tr>
<tr>
<td>Trade/Business school</td>
<td>9</td>
<td>8.8</td>
</tr>
<tr>
<td>Some college</td>
<td>34</td>
<td>33.3</td>
</tr>
<tr>
<td>College graduate</td>
<td>27</td>
<td>26.5</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>14</td>
<td>13.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>102</td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Value</td>
<td>Income</td>
<td>Number</td>
</tr>
<tr>
<td>-------</td>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td>(every two weeks)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>&lt; $250</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>$ 250 - $ 499</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>$ 500 - $ 749</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>$ 750 - $ 999</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>$1000 - $1249</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>$1250 - $1499</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>$1500 - $1749</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>$1750 - $1999</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>$2000 - $2249</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>$2250 - $2499</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>$2500 - $2749</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>$2750 - $2999</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>≥ $3000</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>80**</td>
</tr>
</tbody>
</table>

\[ M = 6.51 \] \[ \text{Median} = 5.00 \]
\[ SD = 3.64 \] \[ \text{Mode} = 4.00 \]

**22 missing data**
Table 11

Working/School Status of Sample

<table>
<thead>
<tr>
<th>Working/School Status</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>On medical leave from</td>
<td></td>
<td></td>
</tr>
<tr>
<td>full time job/school</td>
<td>12</td>
<td>11.9</td>
</tr>
<tr>
<td>Retired</td>
<td>27</td>
<td>26.7</td>
</tr>
<tr>
<td>Homemaker</td>
<td>23</td>
<td>22.8</td>
</tr>
<tr>
<td>Part time job/school</td>
<td>14</td>
<td>13.8</td>
</tr>
<tr>
<td>Full time job/school</td>
<td>22</td>
<td>21.8</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>101</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

* 1 missing data
the proportion of variance in the dependent variable explained by the independent variables (Polit, 1996). The adjusted $R^2$ is adjusted for the number of independent variables and sample size and is a more conservative estimate than the $R^2$ (Munro & Page, 1993). The $R^2$ change represents the percentage change in the dependent variable explained at each point of independent variable entry into analysis. The level of significance was set at $p < .05$ in this study.

Direct Effects of Stimuli: The external stimuli of number of persons in the social network and social support need from the environment and internal stimuli of age, number of symptoms, severity of symptom, and satisfaction with social support from the self will have direct effects on responses, which are help-seeking and quality of life.

Help-seeking. Social support need had a statistically significant direct positive effect ($\beta = .35, p=.0001$) on help-seeking. Number of persons in the social network, age, number of symptoms, severity of symptom, and satisfaction with social support did not have statistically significant direct effects on help-seeking.

Quality of life. The external stimuli of number of persons in the social network and social support need from the environment and internal stimuli of age, number of
symptoms, severity of symptom, and satisfaction with social support from the self did not have statistically significant direct effects on quality of life.

**Direct Effects of Adaptive Modes:** The adaptive modes of enabling skill, mastery, education, working/school status, self-care, trust in health care provider, and dyadic adjustment will have direct effects on responses, which are help-seeking and quality of life.

**Help-seeking.** The adaptive modes of enabling skill, mastery, education, working/school status, self-care, trust in health care provider, and dyadic adjustment did not have statistically significant direct effects on help-seeking.

**Quality of life.** Self-care had a statistically significant direct negative effect ($\beta = -.02, p=.0102$) on quality of life. Enabling skill, mastery, education, working/school status, trust in health care provider, and dyadic adjustment did not have statistically significant direct effects on quality of life.

**Interactive Effects of Stimuli and Adaptive Modes:** The external stimuli of number of persons in the social network and social support need from the environment and internal stimuli of age, number of symptoms, severity of symptom, and satisfaction with social support from the self will have interactive effects with adaptive modes of enabling skill, mastery, education, working/school status, self-care, trust
in health care provider, and dyadic adjustment on responses, which are help-seeking and quality of life.

**Help-seeking.** Number of persons in the social network had an interactive positive effect ($\beta = .46, p=.0000$) with education on help-seeking. Number of symptoms had an interactive positive effect ($\beta = .24, p=.0064$) with mastery on help-seeking. No other statistically significant interactive effects on help-seeking were found.

The multiple regression analysis of Help-seeking is shown in Table 12. The interaction between number of persons in the social network and education, social support need, and the interaction between number of symptoms and mastery explained 48 percent of the variance in help-seeking (adjusted $R^2 = .48$). Direct and interactive effects on help-seeking are shown in Figure 5.

**Quality of life.** Satisfaction with social support had an interactive positive effect ($\beta = .63, p=.0000$) with self-care on quality of life. Number of symptoms had an interactive positive effect ($\beta = .12, p=.0000$) with self-care on quality of life. Age had an interactive positive effect ($\beta = .24, p=.0000$) with self-care on quality of life. Age had an interactive negative effect ($\beta = -.04, p=.0000$) with trust in health care provider on quality of life. Severity of symptom had an interactive positive effect ($\beta =$
Table 12

Multiple Regression Analysis of Help-Seeking

<table>
<thead>
<tr>
<th>Variable Entered</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>$R^2$ Change</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Persons in the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Network * Education</td>
<td>.46</td>
<td>.28</td>
<td>.27</td>
<td>.28</td>
<td>30.96</td>
<td>.0000</td>
</tr>
<tr>
<td>Social Support Need</td>
<td>.45</td>
<td>.45</td>
<td>.44</td>
<td>.17</td>
<td>32.48</td>
<td>.0000</td>
</tr>
<tr>
<td>Number of Symptoms *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastery</td>
<td>.24</td>
<td>.50</td>
<td>.48</td>
<td>.05</td>
<td>26.14</td>
<td>.0064</td>
</tr>
</tbody>
</table>

* interaction
**Figure 5. Direct and Interactive Effects on Help-Seeking**

Number of Persons in the Social Network * Education  
$\beta = .46$

Social Support Need  
$\beta = .35$

Help-Seeking  
Adj. $R^2 = .48$

Number of Symptoms * Mastery  
$\beta = .24$

* interaction
.02, p=.0011) with mastery on quality of life. Number of persons in the social network had an interactive positive effect (β = .04, p=.0380) with self-care on quality of life. No other statistically significant interactive effects on quality of life were found.

The multiple regression analysis of quality of life is presented in Table 13. The interaction between satisfaction with social support and self-care, the interaction between number of symptoms and self-care, the interaction between age and self-care, the interaction between age and trust in health care provider, the interaction between severity of symptom and mastery, self-care, and the interaction between number of persons in the social network and self-care explained 99.59 percent of the variance in quality of life (adjusted R² = .99.59). Direct and interactive effects on quality of life are presented in Figure 6.

Summary

The results of the secondary data analysis were presented in this chapter. The sample characteristics of age, ethnicity, marital status, education, income, and work/school status were described. Statistical analysis for the research hypothesis was presented in relation to the direct effects of stimuli, direct effects of adaptive modes, and interactive effects of stimuli and adaptive modes.
Table 13

**Multiple Regression Analysis of Quality of Life**

<table>
<thead>
<tr>
<th>Variable Entered</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Satisfaction with Social Support * Self-care</strong></td>
<td>.63</td>
<td>.9887</td>
<td>.9886</td>
<td>7428</td>
<td>.0000</td>
</tr>
<tr>
<td><strong>Number of Symptoms * Self-care</strong></td>
<td>.12</td>
<td>.9909</td>
<td>.9907</td>
<td>.0022</td>
<td>.0000</td>
</tr>
<tr>
<td><strong>Age * Self-care</strong></td>
<td>.24</td>
<td>.9936</td>
<td>.9934</td>
<td>.0027</td>
<td>.0000</td>
</tr>
<tr>
<td><strong>Age * Trust in Health Care Provider</strong></td>
<td>-.04</td>
<td>.9953</td>
<td>.9951</td>
<td>.0017</td>
<td>.0000</td>
</tr>
</tbody>
</table>

Continued...
Table 13

Multiple Regression Analysis of Quality of Life (continued)

<table>
<thead>
<tr>
<th>Variable Entered</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>$R^2$ Change</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of Symptom *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastery</td>
<td>.02</td>
<td>.9956</td>
<td>.9954</td>
<td>.0003</td>
<td>3709</td>
<td>.0011</td>
</tr>
<tr>
<td>Self-care</td>
<td>-.02</td>
<td>.9960</td>
<td>.9957</td>
<td>.0004</td>
<td>3350</td>
<td>.0102</td>
</tr>
<tr>
<td>Number of Persons in the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Network * Self-care</td>
<td>.04</td>
<td>.9962</td>
<td>.9959</td>
<td>.0002</td>
<td>2996</td>
<td>.0380</td>
</tr>
</tbody>
</table>

* interaction
Figure 6. Direct and Interactive Effects on Quality of Life

Satisfaction with Social Support * Self-care

Number of Symptoms * Self-care

Age * Self-care

Age * Trust in Health Care Provider

Severity of Symptom * Mastery

Self-care

Number of Persons in the Social Network * Self-care

Quality of Life

Adj. $R^2 = .9959$

* interaction
Social support need had a direct positive effect on help-seeking. Self-care had a direct negative effect on quality of life.

Number of persons in the social network had an interactive positive effect with education on help-seeking. Number of symptoms had an interactive positive effect with mastery on help-seeking. Satisfaction with social support had an interactive positive effect with self-care on quality of life. Number of symptoms had an interactive positive effect with self-care on quality of life. Number of persons in the social network had an interactive positive effect with self-care on quality of life. Age had an interactive positive effect with self-care on quality of life. Age had an interactive negative effect with trust in health care provider on quality of life. Severity of symptom had an interactive positive effect with mastery on quality of life. Number of persons in the social network had an interactive positive effect with self-care on quality of life.
CHAPTER V
CONCLUSIONS AND IMPLICATIONS

In this chapter, the findings of the study are reviewed and discussed in relation to the literature and the conceptual framework. In discussing the findings, first evaluation of newly constructed measures is addressed. Following discussion of the measures, results for the research hypothesis are discussed in relation to help-seeking and quality of life. Limitations of the study, implications for nursing, and recommendations for further research are presented.

Discussion of Findings
Evaluation of Newly Constructed Measures

The Self-Care Index was a two item scale with the reliability of .67, which was below considered acceptable for a newly developed instrument. Although, according to guidelines in scale development, at least three or four items are needed to form a scale (DeVellis, 1991), these two items were composite scores which were attained by separate total scores of two instruments, the Modified Self-Care Inventory and Modified Inventory of Adult Self-Care. Therefore, the Self-Care Index, with a reliability close to .70, the lowest acceptable coefficient for a newly developed instrument, was used to index self-care in this study.
After four steps of factor analysis, items 21a-i, 22h, 26, 28, 29, and 30 of the Access to Cancer Therapy (ACT) formed the ACT Help-Seeking Index. The ACT Help-Seeking Index was a 23 subitem scale with a reliability of .70, which was considered acceptable for a newly developed instrument. Therefore, the ACT Help-Seeking Index was an acceptable measure to index help-seeking for the Access to Cancer Therapy in this study.

The Total Help-Seeking Index was a 25 (sub)item scale with a reliability of .72, which was above the .70 considered acceptable for a newly developed instrument. Therefore, the Total Help-Seeking Index was an acceptable measure to index help-seeking in this study.

The Quality of Life Index was a four item scale with a reliability of .76, which was above the .70 considered acceptable for a newly developed instrument. Therefore, the Quality of Life Index was an acceptable measure to index quality of life in this study.

Help-Seeking

Standards used to estimate the magnitude of regression coefficients are as follows: a weak effect is a $\beta$ of below .20; a moderate effect is a $\beta$ of .20 to .39; and a strong effect is a $\beta$ of .40 and above (Cohen & Cohen, 1983). An $R^2$ change of $\geq .02$ in the presence of a significant difference
from the zero regression coefficient was the criterion used to determining the statistical relevance of an independent variable to the dependent variable.

The following subsections include discussion of the direct effects of stimuli, direct effects of adaptive modes, and interactive effects of stimuli and adaptive modes in relation to help-seeking and quality of life.

**Direct effects of stimuli.** The number of persons in the social network did not have a direct effect on help-seeking. This finding was inconsistent with previous research in which the number of people in a social network was a predictor of help-seeking (Reif et al., 1995). Perhaps a reason why this result contrasts with the literature is that the interaction between number of persons in the social network and education outweighs the direct effect of number of persons in the social network on help-seeking. Perhaps another reason why this finding contrasts with the literature is that other characteristics of social network, such as duration of relationship, frequency of interaction, geographic dispersion, and network density, also need to be considered because they might affect the predictive ability of number in network on help-seeking.

Social support need had a direct moderate positive effect ($\beta = .35$) on help-seeking. This result indicates that women with more social support need are more likely to
seek help. Therefore, social support need can be a facilitator of help-seeking. This result is consistent with the findings of Tellen (1990), who reported that help-seeking mothers reported more need for social support. The addition of social support need resulted in a 17% increase in explained variance in help-seeking ($R^2$ change = .17), which indicates that social support need makes an important contribution to help-seeking.

Age did not have a direct effect on help-seeking. This finding differed from that of Rodriguez and O'Donnell (1995), who reported that older age was associated with lower levels of help-seeking. Perhaps a reason why this finding contrasts with the literature is that the age of this sample was younger, with only 30 percent of the women 60 years of age or older in this study.

Number of symptoms did not have a direct effect on help-seeking. This result was inconsistent with a previously reported finding that the number of symptoms is a predictor of help-seeking (Hourani & Khlat, 1986). Perhaps a reason why this result contrasts with the literature is that the interaction between number of symptoms and mastery outweighs the direct effect of number of symptoms on help-seeking.
Severity of symptom did not have a direct effect on help-seeking. This finding was inconsistent with the results of Solomon (1989), who reported that the severity of symptoms was a decisive factor in professional help-seeking. Perhaps a reason why this finding contrasts with the literature is that overall help-seeking rather than only professional help-seeking was investigated in this study.

Satisfaction with social support did not have a direct effect on help-seeking. This result differed from a previous finding showing a direct effect of social support on professional help-seeking (Rickwood & Braithwaite, 1994). Perhaps a reason why this result differed from the literature is that the literature on social support and help-seeking cannot be generalized to satisfaction with social support and help-seeking.

Direct effects of adaptive modes. Enabling skill did not have a direct effect on help-seeking. This finding differed from previous research in which enabling skill was a predictor of self-help (Braden, 1990a). Perhaps a reason why this finding contrasts with the literature is that help-seeking instead of self-help was investigated in this study.

Mastery did not have a direct effect on help-seeking. This result differed from the findings of Menaghan (1978), who reported that persons with a high sense of mastery were more likely to seek help. Perhaps a reason why this result
contrasts with the literature is that the interaction between mastery and number of symptoms outweighs the direct effect of mastery on help-seeking.

Education did not have a direct effect on help-seeking. This finding was inconsistent with previously reported results that a higher level of education was a predictor of help-seeking (Hourani & Khlat, 1986). Perhaps a reason why this finding contrasts with the literature is that the sample’s level of education was high, with 82 percent of the women having completed post high school education in this study.

Working/school status did not have a direct effect on help-seeking. No other studies were found to support the direct effect of working/school status on help-seeking.

Self-care did not have a direct effect on help-seeking. This result differed from a previous finding that perceived problem solving was positively related to self-care (Spitzer et al., 1996). Perhaps a reason why this result contrasts with the literature is that help-seeking instead of perceived problem solving was investigated in this study.

Trust in health care provider did not have a direct effect on help-seeking. This finding differed from that of Rickwood and Braithwaite (1994), who reported that less trust in health care providers was associated with more professional help-seeking. Perhaps a reason why this
finding contrasts with the literature is that overall help-seeking rather than only professional help-seeking was investigated in this study.

Dyadic adjustment did not have a direct effect on help-seeking. This result indicates that no matter how negative or positive women's marriages were, their help-seeking, as measured in this study, did not differ. This result differed from a previously reported finding that unsatisfactory marriages may partly motivate psychiatric help-seeking (Chamberlaine et al., 1989). Perhaps a reason why this result contrasts with the literature is that overall help-seeking rather than specifically psychiatric help-seeking was investigated in this study.

Interactive effects of stimuli and adaptive modes.
Number of persons in the social network had an interactive strong positive effect ($\beta = .46$) with education on help-seeking. This result indicates that women with a greater number of persons in the social network and a higher level of education are more likely to seek help. Therefore, the interaction between number of persons in the social network and education can be a facilitator of help-seeking. The addition of interaction between number of persons in the social network and education resulted in a 28% increase in explained variance in help-seeking ($R^2$ change = .28), which
indicates that the interaction between number of persons in the social network and education makes an important contribution to help-seeking.

Number of symptoms had an interactive moderate positive effect ($\beta = .24$) with mastery on help-seeking. This finding indicates that women with more symptoms and a high sense of mastery are more likely to seek help. Therefore, the interaction between number of symptoms and mastery can be a facilitator of help-seeking. The addition of interaction between number of symptoms and mastery resulted in a 5% increase in explained variance in help-seeking ($R^2$ change = .05), which indicates that the interaction between number of symptoms and mastery contributes to help-seeking.

Except for the above two interactions, the remaining 40 interactions between number of persons in the social network, social support need, age, number of symptoms, severity of symptom, satisfaction with social support, and enabling skill, mastery, education, working/school status, self-care, trust in health care provider, dyadic adjustment on help-seeking were not statistically significant.

The interaction between number of persons in the social network and education is the strongest predictor of help-seeking. Social support need is a moderate predictor of help-seeking. The interaction between number of symptoms
and mastery is also a fairly moderate predictor of help-seeking. The interaction between number of persons in the social network and education, social support need, and the interaction between number of symptoms and mastery explained almost 50 percent of the variance in help-seeking. In summary, the interaction between number of persons in the social network and education, social support need, and the interaction between number of symptoms and mastery make a positive contribution to help-seeking.

Quality of Life

Direct effects of stimuli. The number of persons in the social network did not have a direct effect on quality of life. This finding differed from previous research in which a larger social network was related to better quality of life (Tell et al., 1995). Perhaps a reason why this result contrasts with the literature is that the interaction between number of persons in the social network and self-care outweighs the direct effect of number of persons in the social network on quality of life. Perhaps another reason why this finding contrasts with the literature is that other characteristics of social network, such as duration of relationship, frequency of interaction, geographic dispersion, and network density also need to be considered because they might influence effect of number in the network on quality of life.
Social support need did not have a direct effect on quality of life. This result differed from previously reported findings that social support need had an effect on well-being (Koomen et al., 1990). Perhaps a reason why this result contrasts with the literature is that quality of life instead of well-being was investigated in this study. Perhaps conceptualization of well-being differed somewhat from the conceptualization of quality of life in this study.

Age did not have a direct effect on quality of life. This finding differed from previous results indicating that increased age was associated with lower quality of life (Conn et al., 1991). Perhaps a reason why this finding contrasts with the literature is that the age of this sample was younger, with only 30 percent of the women 60 years of age or older in this study.

Number of symptoms did not have a direct effect on quality of life. This result differed from previous research in which a greater number of symptoms was associated with poorer quality of life (Hann et al., 1997). Perhaps a reason why this result contrasts with the literature is that the interaction between number of symptoms and self-care outweighs the direct effect of number of symptoms on quality of life.

Severity of symptom did not have a direct effect on quality of life. This finding differed from previously
reported results that the severity of symptoms was negatively related to quality of life (Hann et al., 1997). Perhaps a reason why this finding contrasts with the literature is that the interaction between severity of symptom and mastery outweighs the direct effect of severity of symptom on quality of life.

Satisfaction with social support did not have a direct effect on quality of life. This result differed from the findings of Lamping (1994), who reported that satisfaction with social support was positively associated with quality of life. Perhaps a reason why this result contrasts with the literature is that the interaction between satisfaction with social support and self-care outweighs the direct effect of satisfaction with social support on quality of life.

Direct effects of adaptive modes. Enabling skill did not have a direct effect on quality of life. This finding differed from that of Chiang (1995), who reported that enabling skill had a positive relationship with quality of life. No other studies were found to support the direct effect of enabling skill on quality of life.

Mastery did not have a direct effect on quality of life. This result was inconsistent with previously reported findings that mastery was a predictor of quality of life (Chiverton et al., 1996; Padilla et al., 1992). Perhaps a
reason why this result contrasts with the literature is that the interaction between mastery and severity of symptom outweighs the direct effect of mastery on quality of life.

Education did not have a direct effect on quality of life. This finding differed from the results of Chiang (1995), who reported that education had a positive relationship with quality of life. Perhaps a reason why this finding contrasts with the literature is that the sample's level of education was high, with 82 percent of the women having completed post high school education in this study.

Working/school status did not have a direct effect on quality of life. This result was inconsistent with previous research in which employment had a direct effect on quality of life (Webb et al., 1995). Perhaps a reason why this result contrasts with the literature is that working/school status was examined together in the original study rather than the separate measure of working status to index employment in this study.

Self-care had a direct weak negative effect ($\beta = -.02$) on quality of life. This finding indicates that women with more self-care have a perception of lower quality of life. Therefore, self-care can be a barrier to perception of high quality of life. This finding is similar to the findings of Aller and Van Ess Coeling (1995), who reported that self-
care was an element affecting quality of life. However, the direct effect of self-care on quality of life had an $R^2$ change of $< .02$ ($R^2$ change = .0004), which indicates that self-care does not make an important contribution to perception of lower quality of life.

Trust in health care provider did not have a direct effect on quality of life. This result differed from previously reported results that trust in health care provider was positively associated with quality of life (Longman et al., 1996). Perhaps a reason why this result contrasts with the literature is that the interaction between trust in health care provider and age outweighs the direct effect of trust in health care provider on quality of life.

Dyadic adjustment did not have a direct effect on quality of life. This finding indicates that no matter how negative or positive women’s marriages were, their quality of life, as measured in this study, did not differ. This finding was inconsistent with previous research in which marital adjustment was a predictor of spouse’s quality of life (Dunn et al., 1994). Perhaps a reason why this finding contrasts with the literature is that subjects’ quality of life instead of spouses’ quality of life was investigated in this study.
**Interactive effects of stimuli and adaptive modes.**

Satisfaction with social support had an interactive strong positive effect ($\beta = .63$) with self-care on quality of life. This finding indicates that women with more satisfaction with social support and more self-care have a higher quality of life. Therefore, the interaction between satisfaction with social support and self-care can be a facilitator of quality of life. The addition of interaction between satisfaction with social support and self-care resulted in a 98.87% increase in explained variance in quality of life ($R^2$ change = .9887), which indicates that the interaction between satisfaction with social support and self-care makes an extremely important contribution to quality of life. Therefore, it is very important for nurses to improve women’s perception of social support, which should help contribute to increased level of satisfaction with social support, which, along with performance of self-care activities, can promote their quality of life.

Number of symptoms had an interactive weak positive effect ($\beta = .12$) with self-care on quality of life. This result indicates that women with more symptoms and more self-care have a higher quality of life. Therefore, the interaction between number of symptoms and self-care can be a facilitator of quality of life. However, the interactive
effect of number of symptoms and self-care on quality of life had an $R^2$ change of < .02 ($R^2$ change = .0022), which indicates that the interaction between number of symptoms and self-care does not make an important contribution to quality of life.

Age had an interactive moderate positive effect ($\beta = .24$) with self-care on quality of life. This finding indicates that women with older age and more self-care have a higher quality of life. Therefore, the interaction between age and self-care can be a facilitator of quality of life. However, the interactive effect of age and self-care on quality of life had an $R^2$ change of < .02 ($R^2$ change = .0027), which indicates that the interaction between age and self-care does not make an important contribution to quality of life.

Age had an interactive weak negative effect ($\beta = -.04$) with trust in health care provider on quality of life. This result indicates that women with older age and more trust in their health care providers have a lower quality of life. Therefore, the interaction between age and trust in health care provider can be a barrier to quality of life. However, the interactive effect of age and trust in health care provider on quality of life had an $R^2$ change of < .02 ($R^2$ change = .0017), which indicates that the interaction
between age and trust in health care provider does not make an important contribution to quality of life.

Severity of symptom had an interactive weak positive effect ($\beta = .02$) with mastery on quality of life. This finding indicates that women with more severity of symptoms and a high sense of mastery have a higher quality of life. Therefore, the interaction between severity of symptom and mastery can be a facilitator of quality of life. However, the interactive effect of severity of symptom and mastery on quality of life had an $R^2$ change of $<.02$ ($R^2$ change = .0003), which indicates that the interaction between severity of symptom and mastery does not make an important contribution to quality of life.

Number of persons in the social network had an interactive weak positive effect ($\beta = .04$) with self-care on quality of life. This result indicates that women with a greater number of persons in the social network and more self-care have a higher quality of life. Therefore, the interaction between number of persons in the social network and self-care can be a facilitator of quality of life. However, the interactive effect of number of persons in the social network and self-care on quality of life had an $R^2$ change of $<.02$ ($R^2$ change = .0002), which indicates that the interaction between number of persons in the social
network and self-care does not make an important contribution to quality of life.

Except for the above six interactions, the remaining 36 interactions between number of persons in the social network, social support need, age, number of symptoms, severity of symptom, satisfaction with social support, and enabling skill, mastery, education, working/school status, self-care, trust in health care provider, dyadic adjustment on quality of life were not statistically significant.

The interaction between satisfaction with social support and self-care is the strongest predictor of quality of life. The interaction between satisfaction with social support and self-care explained more than 98 percent of the variance in quality of life. Given the use of factor analysis of multiple measures for self-care and quality of life, there might be a possibility to increase the power of the interaction between satisfaction with social support and self-care in explaining quality of life. Although the variables entered after satisfaction with social support and self-care were statistically significant, they may not have clinical importance.

In summary, the interaction between satisfaction with social support and self-care makes an important contribution to quality of life. The interaction between number of symptoms and self-care, the interaction between age and
self-care, the interaction between age and trust in health care provider, the interaction between severity of symptom and mastery, self-care, and the interaction between number of persons in the social network and self-care do not make an important contribution to quality of life.

**Interpretation in Relation to Conceptual Framework**

In this section the results of the study are explained in relation to the conceptual framework. A revised conceptual framework reflects results of the study. The revised conceptual framework is presented in Figure 7.

The external stimuli of number of persons in the social network and social support need from the environment and internal stimuli of age, number of symptoms, severity of symptom, and satisfaction with social support from the self comprise inputs as stressors for women with breast cancer. Help-seeking and quality of life reflect responses showing how women adapt to breast cancer. The external stimulus of social support need from the environment had a direct effect on the response, help-seeking.

Enabling skill, working/school status, and dyadic adjustment did not have significant direct effects on help-seeking and quality of life. Enabling skill, working/school status, and dyadic adjustment also did not have significant interactive effects with external stimuli from the environment and internal stimuli from the self on help-
Figure 7. Revised Conceptual Framework

**INPUTS** (Stressors)

- **External stimuli from the environment:**
  - Number of persons in social network
  - Social support need

- **Internal stimuli from the self:**
  - Age
  - Number of symptoms
  - Severity of symptom
  - Satisfaction with social support

**COPING MECHANISMS**

- **Physiologic Function**
- **Self-Concept:**
- **Role Function:**
- **Interdependence:**
  - Education
  - Self-care
  - Trust in health care provider

**OUTPUTS** (Adaptation)

- **Responses:** (Adaptive/Ineffective)
- Help-seeking and Quality of Life
seeking and quality of life. Therefore, enabling skill, working/school status, and dyadic adjustment, which were classified under adaptive modes, were dropped from the revised conceptual framework. The adaptive modes of mastery, education, self-care, and trust in health care provider constitute coping mechanisms that women use to cope with breast cancer. The adaptive mode of self-care had a direct effect on the response, quality of life.

The external stimulus of number of persons in the social network, from the environment, had an interactive effect with the adaptive mode of education on the response, help-seeking. The internal stimulus of number of symptoms, from the self, had an interactive effect with the adaptive mode of mastery on the response, help-seeking.

External stimuli account for two of the three effects on help-seeking. This finding indicates that external stimuli more than internal stimuli, as defined in this study, seem to affect help-seeking. Perhaps a reason why external stimuli play important roles in help-seeking is that help-seeking is operationalized as resources access, which can be considered as an external element.

The internal stimulus of satisfaction with social support, from the self, had an interactive effect with the adaptive mode of self-care on the response, quality of life. The internal stimulus of number of symptoms, from the self,
had an interactive effect with the adaptive mode of self-care on the response, quality of life. The internal stimulus of age, from the self, had an interactive effect with the adaptive modes of (a) self-care on the response, quality of life; and (b) trust in health care provider on the response, quality of life. The internal stimulus of severity of symptom, from the self, had an interactive effect with the adaptive mode of mastery on the response, quality of life. The external stimulus of number of persons in the social network, from the environment, had an interactive effect with the adaptive mode of self-care on the response, quality of life.

Internal stimuli account for five of the seven effects on quality of life. This finding indicates that internal stimuli more than external stimuli, as defined in this study, seem to affect quality of life. Perhaps a reason why internal stimuli play important roles in quality of life is that quality of life is operationalized as physical, psychological, and social well-being, with physical and psychological well-being as an internal element. Self-care accounts for five of the seven effects on quality of life. This finding indicates that self-care seems to affect quality of life. Perhaps a reason why self-care plays an important role in quality of life is that self-care can also be considered as an internal element.
The results of this study indicate that the external stimuli from the environment, internal stimuli from the self, and adaptive modes had direct and interactive effects on responses and these effects reflect the components of the conceptual framework. The external stimuli from the environment can have direct effects on responses. The adaptive modes can have direct effects on responses. The external stimuli from the environment and internal stimuli from the self can have interactive effects with the adaptive modes on the responses, which are help-seeking and quality of life.

Two statistically significant direct effects and eight statistically significant interactive effects were found in this study. The strongest predictor of both help-seeking and quality of life is the interactive effect. Therefore, the interactive effect plays an important role. The specification of relationships is too simple in Roy’s Adaptation Model because Roy’s Adaptation Model specifies only direct effects. Based on a review of literature on help-seeking models, no reported help-seeking models present interactive effects. If revised, Roy’s Adaptation Model can represent the more complex interactive effects of stimuli and adaptive modes, which more effectively reflect the complexities of factors affecting women’s responses to breast cancer.
Limitations of the Study

This study is a secondary analysis of data from the Self-Help Intervention Project (SHIP). The nature of a secondary data analysis imposes some limitations. Limitations of this study reflect those inherent in use of secondary data analysis. One limitation in use of secondary data analysis is that only variables in the original study could be chosen for this study. Additional variable(s) of interest could not be included. Another limitation in use of secondary data analysis is the inability to change the operationalization of concepts, such as by using different instruments to measure variables. There are also some missing data that might have diminished precision in the results. For example, income could have been included to test the research hypotheses if there had not been too much missing data.

Another limitation of this study is selection bias for the sample. Women with breast cancer receiving treatment were recruited for the SHIP study. The fact that there was no recruitment of women with breast cancer who were not receiving treatment might have affected the study of help-seeking and quality of life, which were the foci of this study. Because subjects were invited to voluntarily participate in the SHIP study, individuals who refused to participate in the study might have differed from
participants in interest in learning about cancer, degree of being busy, or sickness. The bias in self-selection can limit generalizability of the findings of this study to the target population, women with breast cancer.

Implications for Nursing

Number of persons in the social network had an interactive positive effect with education on help-seeking. The interaction between number of persons in the social network and education contributed to help-seeking. Therefore, to promote women's help-seeking, nurses should assess number of persons in women's social networks and women's level of education. Nurses can help women increase the number of people in their social networks by connecting women to resources that would be potentially helpful so that women can seek help from them. Nurses need to be alert to less educated women, who might not seek help when they need help.

Social support need had a direct positive effect on help-seeking. Social support need contributed to help-seeking. Therefore, to promote women's help-seeking, nurses need to be aware of women's level of social support need. Nurses can discuss with women how they feel about their need for social support. Nurses should assess women's perception of social support from spouse, other family members, friends, and formal sources, including nurses themselves.
Nurses can work with women in recognizing their level of need for social support and then facilitate their help-seeking. If women's social support is poor, nurses should assist women in identifying ways to improve their social support, such as involving potential support sources, including support groups, self-help groups, and social workers.

Number of symptoms had an interactive positive effect with mastery on help-seeking. The interaction between number of symptoms and mastery contributed to help-seeking. Therefore, to promote women's help-seeking, nurses need to recognize women's symptoms and enhance women's sense of mastery. Nurses need to thoroughly assess women's symptoms and help them develop their own ability to assess their symptoms. Nurses can then encourage women to deal with symptoms by help-seeking. Nurses also need to develop nursing interventions to manage women's symptoms. Nursing interventions should aim at increasing women's sense of mastery because a low sense of mastery can inhibit help-seeking. Nurses can promote women's sense of mastery by developing nursing interventions to enhance it, such as promoting women's skills in care and increasing their knowledge about breast cancer and care of breast cancer.

Satisfaction with social support had an interactive positive effect with self-care on quality of life. The
interaction between satisfaction with social support and self-care contributed to quality of life. Therefore, to promote women’s quality of life, nurses should assist women in improving their support system, which should enhance their perception of social support and satisfaction with social support. Nurses need to assess the strength and helpfulness of women’s social support system, including spouse, other family members, friends, and formal sources. Nurses can assist women to strengthen their social support system by developing nursing interventions to enhance it, such as involving support members in women’s care or altering the responses of support members in order to increase the available support. Nurses themselves also need to provide social support to women by offering themselves as a source of support, such as providing constant caring, admiring what women have accomplished, or listening to them.

To promote women’s quality of life, nurses should also encourage women to perform self-care activities. Nurses can enhance women’s skills in self-care by involving women in nursing care to have them practicing their own care.

If women can recognize the external stimuli from the environment and internal stimuli from the self and develop the adaptive modes, women may be more likely to adapt successfully to living with breast cancer. Therefore, to help women adapt well to breast cancer, nurses can assist
and encourage women to assess the status and effects of number of persons in their social networks, social support need, age, number of symptoms, severity of symptom, and satisfaction with social support. Nurses can plan interventions in the areas of mastery, education, self-care, and trust in health care provider. For example, nurses can discuss with women their options for enhancing mastery, obtaining further education, and taking care of themselves. Nurses can develop their own capacity for relating in a supportive way, to enhance trust in health care professionals. Through coordinating services with others, nurses can also promote women’s trust in health care professionals.

**Recommendations for Further Research**

Further study is needed to reexamine direct effects of characteristics of social network and their interactive effects with the adaptive modes on help-seeking and quality of life by including all of the following characteristics: number of persons in the network, duration of relationship, frequency of interaction, geographic dispersion, and network density.

Because enabling skill and dyadic adjustment did not have significant direct effects and interactive effects with other variables on help-seeking and quality of life, further research using subscales of the Self-Control Schedule and
Dyadic Adjustment Scale is needed to reexamine the direct effects and interactive effects.

Except for the interactive effect of satisfaction with social support and self-care, all other direct and interactive effects on quality of life had $R^2$ changes of less than .02. Therefore, further research is needed to clarify influences of interaction between number of symptoms and self-care, interaction between age and self-care, interaction between age and trust in health care provider, interaction between severity of symptom and mastery, direct effect of self-care, and interaction between number of persons in the social network and self-care on quality of life.

The reliability of the Self-care Index was below the lowest acceptable coefficient for a newly developed instrument. Therefore, further refinement or development of this newly constructed measure is needed to establish a well-developed instrument. To clarify the power of the interaction between satisfaction with social support and self-care in explaining quality of life, future study using the Modified Self-Care Inventory and Modified Inventory of Adult Self-Care separately to index self-care can provide a comparison of results.
To facilitate understanding of help-seeking, further research is needed to investigate the difference in having and not having the need to seek help by analyzing item 26 of the Access to Cancer Therapy (ACT). Future study can also examine the difference between help-seeking from physicians and help-seeking from nurses by analyzing item 28 of the ACT. Further research is also necessary to explore similarities and differences between women who seek help and women who do not seek help by analyzing items 26, 28, 29, and 30 of the ACT.

To clarify the power of the interaction between satisfaction with social support and self-care in explaining quality of life, future research using the Index of Well-Being and Cantril’s Ladder separately to index quality of life can provide a comparison of results. The first, third, and fourth items of Cantril’s Ladder measure present, near future, and long-term future quality of life respectively. Therefore, additional studies can use these three items separately to index current, near future, and long-term future quality of life.

The sample for this study was women with breast cancer who responded to Dyadic Adjustment Scale. Because dyadic adjustment did not have significant direct effects and interactive effects with other variables on help-seeking and quality of life, further research could investigate women
with breast cancer without a partner. Women without partners as a study sample may yield results that expand on current findings, such as other variables having direct effects on help-seeking and quality of life or other interactive effects between variables.

Further study is needed to test the revised conceptual framework by replication of this study using a larger sample size representative of the target population: women with breast cancer. A larger sample size improves statistical power for simultaneously examining direct and interactive effects of external stimuli from the environment, internal stimuli from the self, and adaptive modes on responses, which, in this study, were help-seeking and quality of life. Research on help-seeking and quality of life in women with breast cancer is critical to facilitate understanding women's adaptation to breast cancer. Additional variables in external stimuli from the environment, internal stimuli from the self, and adaptive modes need to be identified and included in future studies.

In summary, following are specific recommendations for further research, based on results of this study: (a) reexamine direct and interactive effects of characteristics of social network by including five characteristics; (b) reexamine the direct effects and interactive effects of enabling skill and dyadic adjustment by using subscales of
the Self-Control Schedule and Dyadic Adjustment Scale; (c) clarify influences of interactive effects for $R^2$ changes of less than .02; (d) further develop the Self-care Index to produce a more reliable instrument; (e) compare results of this study with those of another study using the Modified Self-Care Inventory and Modified Inventory of Adult Self-Care separately to measure self-care; (f) further investigate differences in help-seeking by using items 26, 28, 29, and 30 of the Access to Cancer Therapy; (g) compare results of this study with those of another study using the Index of Well-Being and Cantril’s Ladder separately to measure quality of life; (h) use three single items of Cantril’s Ladder to measure different time-frame of quality of life; (i) study women without partners as samples; (j) use a larger sample to test the revised conceptual framework; and (k) identify and include additional variables.

Summary

The findings of the research were discussed in relation to the literature and the conceptual framework. Four newly constructed measures were evaluated. Results for the research hypothesis were discussed in relation to help-seeking and quality of life. Some results of this study are consistent with or similar to findings reported in the
literature. The interaction between number of persons in the social network and education, social support need, and the interaction between number of symptoms and mastery significantly contributed to help-seeking. The interaction between satisfaction with social support and self-care significantly contributed to quality of life. The revised conceptual framework was presented.

Limitations of the study, implications for nursing, and recommendations for further research were presented. Limitations of this study reflected those inherent in use of secondary data analysis. To promote women's help-seeking, nurses should assess number of persons in women's social networks and their level of education. Nurses need to be aware of women's level of social support need. Nurses also need to recognize women's symptoms and enhance women's sense of mastery. To promote women's quality of life, nurses should assist women in improving perception of social support, which should increase their level of satisfaction with social support, and encourage women to perform self-care activities. Recommendations for further research were suggested related to direct and interactive effects, measures, help-seeking, quality of life, samples, and variables.
APPENDIX A

HUMAN SUBJECTS APPROVAL LETTERS
Carrie Jo Braden, Ph.D., R.N.
College of Nursing, 109A
Arizona Health Sciences Center

RE:  BSEC #A90.27 NURSE INTERVENTIONS PROMOTING SELF HELP RESPONSE TO CANCER

Dear Dr. Braden:

We received your 26 February 1990 memorandum, revised consent form, and poster for your above referenced project. The procedures to be followed in this study pose no more than minimal risk to participating subjects. Regulations issued by the U.S. Department of Health and Human Services (45 CFR Part 46.110(b)) authorize approval of this type project through the expedited review procedures, with the condition(s) that subjects' anonymity be maintained. Although full Committee review is not required, a brief summary of the project procedures is submitted to the Committee for their endorsement and/or comment, if any, after administrative approval is granted. This project is approved for one year effective 26 February 1990.

The Human Subjects Committee (Institutional Review Board) of the University of Arizona has a current assurance of compliance, number M-1233, which is on file with the Department of Health and Human Services and covers this activity.

Approval is granted with the understanding that no changes or additions will be made in study personnel, to the procedures followed or to the consent form(s) used (copies of which we have on file) without the knowledge and approval of the Human Subjects Committee and your College or Departmental Review Committee. Any research related physical or psychological harm to any subject must also be reported to each committee.

A university policy requires that all signed subject consent forms be kept in a permanent file in an area designated for that purpose by the Department Head or comparable authority. This will assure their accessibility in the event that university officials require the information and the principal investigator is unavailable for some reason.

Sincerely yours,

Milan Novak, M.D., Ph.D.
Chairman
Human Subjects Committee

cc: Departmental/College Review Committee
September 22, 1997

Ms. Hui-Ling Chiang  
The University of Arizona  
College of Nursing  
Tucson, AZ 85721

Dear Hui Ling:

Your request to complete a secondary analysis of data originally collected by Dr. Carrie Braden has been approved by the Office of Nursing Research. It is understood that this data will be used for your doctoral dissertation.

We wish you success with your research.

Sincerely,

Jean Davis, PhD, RN  
Director of Biobehavioral Research  

cc: Carrie Braden
September 18, 1997

Hui-Ling Chiang
College of Nursing
The University of Arizona
Tucson, AZ 85721-0203

Dear Hui-Ling:

I am delighted to give permission for you to use data from the Self-Help Intervention Project (SHIP) for your dissertation. You may have access to data for any of the variables measured in SHIP. I am looking forward to the completion of your dissertation study that will pose and test a theory-based intervention model.

Sincerely,

Carrie Jo Braden, PhD. FAAN
Principal Investigator, SHIP
APPENDIX B

SUBJECT CONSENT FORM
Self-Help Intervention Project: Breast Cancer Treatment
Participant Consent Form

You are being asked to participate in a project that will determine which self-help promoting nurse interventions best help women with breast cancer avoid preventable complications of cancer treatment. The purpose of this project is to identify effective nurse interventions that can then become a routine part of cancer treatment, improving services offered to patients. Your participation will involve the completion of 347 items in several questionnaires about disease course, symptom pattern, event familiarity, event congruence, credible authority, social support, uncertainty, enabling skill, uncertainty appraisal, self-help, self-care, life quality, and marital adjustment (in married women). You may ask questions at any time. Someone will be available to help you complete the questionnaires. This will take approximately two hours. You are asked to complete these questionnaires at the beginning of your participation, six weeks later, three months, six months, and nine months later, and every six months after that. Your medical chart will also be used to provide information about the medical treatment you are receiving. Information about your medical fees incurred during your participation in this project will also be provided to the research team.

Participants are randomly assigned to groups. Some participants will attend a series of six self-help classes, some will work independently with materials provided for individual learning, and other participants will talk weekly (by phone) with a nurse case manager. Some participants will be assigned to a combination of the above-mentioned interventions. Other participants will only be completing the questionnaires.

There are no hazards or costs to you beyond the time involvement as a result of participation in this project. Please feel free to ask questions regarding the project, and know that you are able to withdraw from the project at any time without incurring ill will.

You are asked to voluntarily participate in this project by answering the items on the questionnaires. All questionnaires will be treated with anonymity and confidentiality. You may choose not to answer some or all of the questions if you so desire. Whatever your decision there is no risk involved. The results of the project may be published at a later date.
In giving my consent by signing this form, I agree that the methods, inconveniences, risks, and benefits have been explained to me and my questions have been answered. I understand that I may ask questions at any time and that I am free to withdraw from the project at any time without causing bad feelings or affecting my medical care. My participation in this project may be ended by the investigator or by the sponsor for reasons that would be explained. New information developed during the course of this study which may affect my willingness to continue in this research project will be given to me as it becomes available. I understand that this consent form will be filed in an area designated by the human subjects committee with access restricted to the principal investigator, Carrie Jo Braden, Ph.D., R.N., or authorized representative of the Self-Help Intervention: Breast Cancer Treatment project. I understand that I do not give up any of my legal rights by signing this form. A copy of this signed consent form will be given to me.

Subject’s Signature ___________________________ Date _______________

Investigator’s Affidavit

I have carefully explained to the subject the nature of the above project. I hereby certify that to the best of my knowledge the person who is signing this consent form understands clearly the nature, demands, benefits, and risks involved in her participation and her signature is legally valid. A medical problem or language or educational barrier has not precluded this understanding.

Signature of Investigator ___________________________ Date _______________

July 1, 1991
APPENDIX C
STUDY INSTRUMENTS

Arizona Social Support Interview Schedule (ASSIS)
Demographic Data Form (DEM)
Symptom Pattern/Symptom Transition Scale (SP/STS)
Self-Control Schedule (SCS)
Mastery Scale (MS)
Self-Care Inventory (SCI)
Inventory of Adult Self-Care (IASC)
Health Care Orientation (HCO)
Dyadic Adjustment Scale (DAS)
Sources of Information (SI)
Access to Cancer Therapy (ACT)
Index of Well-Being (IWB)
Cantril's Ladder (CL)
Note: Interviewer instructions are enclosed within parentheses. Response should be recorded on ASSIS answer sheet(s).

(READ TO SUBJECT):

In the next few minutes I would like to get an idea of the people who are important to you in a number of different ways. I will be reading descriptions of ways that people are often important to us. After I read each description I will be asking you to give me the first names, initials, or nicknames of the people who fit the description. These people might be friends, family members, teachers, priests, ministers, doctors, or other people who you might know.

If you have any questions about the descriptions after I read each one, please ask me to try to make it more clear.

A. (INTIMATE INTERACTION)

A1. If you wanted to talk to someone about things that are very personal and private, who would you talk to? Give me the first names, initials, or nicknames of people who you would talk to about things that are very personal and private.

(IF THE SUBJECT IS UNABLE TO NAME A SINGLE PERSON, GO TO A4.)

(IF THE SUBJECT NAMES ONE OR MORE PEOPLE, PROBE FOR ANY ADDITIONAL NAMES BY ASKING): Is there anyone else who you can think of?

A2. During the last month, which of these people did you actually talk to about things that were personal and private?

(CHECK ABOUT PEOPLE WHO WERE LISTED IS RESPONSE TO A1 BUT WHO WERE NOT LISTED IN RESPONSE TO A2)
A3. How would you rate your satisfaction or dissatisfaction with the times you talked to people about your personal and private feelings during the past month?

Look at this card (SHOW SATISFACTION CARD) and tell me which number best describes your rating. (RECORD A NUMBER 1-7 ON ANSWER SHEET).

A3. (If married or with partner, and if the subject named partner in A1 and A2, also ask) How would you rate your satisfaction or dissatisfaction with the times you talked to your husband/partner about your personal and private feelings during the past month?

Look at this card (SHOW SATISFACTION CARD) and tell me which number best describes your rating. (RECORD A NUMBER 1-7 ON ANSWER SHEET).

A4. During the past month, how much do you think you needed people to talk to about things that were very personal and private?

Look at this card (SHOW NEED CARD) and tell me which number best describes your need. (RECORD A NUMBER 1-5 ON ANSWER SHEET).

A4. (If married or with partner, also ask) During the past month, how much do you think you needed your husband/partner to talk to about things that were very personal and private?

Look at this card (SHOW NEED CARD) and tell me which number best describes your need. (RECORD A NUMBER 1-5 ON ANSWER SHEET).

B. (MATERIAL AID)

B1. If you needed to borrow $25 or something valuable, who are the people you know who would lend or give you $25 or more, or would lend or give you something (a physical object) that was valuable?

You can name some of the same people that you named before if they fit this description, too, or you can name some other people.

(IF THE SUBJECT IS UNABLE TO NAME A SINGLE PERSON, GO TO B4.)

(IF THE SUBJECT NAMES ONE OR MORE PEOPLE, PROBE FOR ANY ADDITIONAL NAMES BY ASKING): Is there anyone else who you can think of?

B2. During the past month, which of these people actually loaned or gave you some money over $25 or gave or loaned you some valuable object that you needed?

(CHECK ABOUT PEOPLE WHO WERE LISTED IN RESPONSE TO B1 BUT WHO WERE NOT LISTED IN RESPONSE TO B2)
B3. During the past month, how satisfied or dissatisfied were you with the things that people loaned or gave?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

B3. (IF MARRIED OR WITH PARTNER, AND IF THE SUBJECT NAMED PARTNER IN B1 AND B2, ALSO ASK) During the past month, how satisfied or dissatisfied were you with the things your husband/partner loaned or gave?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

B4. During the past month, how much do you think you needed people who could lend or give you things that you needed?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)

B4. (IF MARRIED OR WITH PARTNER, ALSO ASK) During the past month, how much do you think you needed your husband/partner to lend or give you things that you needed?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)

C. (ADVICE)

C1. Who would you go to if a situation came up when you needed some advice?

Remember, you can name some of the same people that you mentioned before, or you can name some new people.

(IF THE SUBJECT IN UNABLE TO NAME A SINGLE PERSON, GO TO C4.)

(IF THE SUBJECT NAMES ONE OR MORE PEOPLE, PROBE FOR ANY ADDITIONAL NAMES BY ASKING): Is there anyone else who you can think of?

C2. During the past month, which of these people actually gave you some important advice?

(CHECK ABOUT PEOPLE WHO WERE LISTED IN RESPONSE TO C1 BUT WHO WERE NOT LISTED IN RESPONSE TO C2)

C3. During the past month, how satisfied or dissatisfied were you with the advice that you were given?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)
C3. (IF MARRIED OR WITH PARTNER, AND IF THE SUBJECT NAMED PARTNER IN C1 AND C2, ALSO ASK) During the past month, how satisfied or dissatisfied were you with the advice your husband/partner gave you?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

C4. During the past month, how much do you think you needed to get advice?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)

C4. (IF MARRIED OR WITH PARTNER, ALSO ASK) During the past month, how much do you think you needed to get advice from your husband/partner?

(SHOW NEED CARD; RECORD RESPONSE ON ANSWER SHEET)

D. (POSITIVE FEEDBACK)

D1. Who are the people who like or accept your advice? They might be people you mentioned before or new people.

(IF THE SUBJECT IS UNABLE TO NAME A SINGLE PERSON, GO TO D4.)

(IF THE SUBJECT NAMES ONE OR MORE PEOPLE, PROBE FOR ANY ADDITIONAL NAMES BY ASKING): Is there anyone else you can think about?

D2. During the past month, which of these people accepted your ideas or opinions?

(CHECK ABOUT PEOPLE WHO WERE LISTED IN RESPONSE TO D1 BUT WHO WERE NOT LISTED IN RESPONSE TO D2)

D3. During the past month, how satisfied or dissatisfied were you with the times that people told you that they like your ideas or the things that you did?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

D3. (IF MARRIED OR WITH PARTNER, AND IF THE SUBJECT NAMED PARTNER IN D1 AND D2, ALSO ASK) During the past month, how satisfied or dissatisfied were you with the times that your husband/partner told you that he liked your ideas or the things that you did?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

D4. During the past month, how much do you think you needed to have people let you know when they liked your ideas or things that you did?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)
D4. (IF MARRIED OR WITH PARTNER, ALSO ASK) During the past month, how much do you think you needed to have your husband/partner let you know when he liked your ideas or things that you did?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)

E. (PHYSICAL ASSISTANCE)

E1. Who are the people who you could call on to help you take care of something that you need to do — things like driving you someplace you need to go, helping you do some work around the house, going to the store for you, and things like that? Remember, you might have listed these people before or they could be new names.

(IF THE SUBJECT IS UNABLE TO NAME A SINGLE PERSON, GO TO E4.)

(IF THE SUBJECT NAMES ONE OR MORE PEOPLE, PROBE FOR ANY ADDITIONAL NAMES BY ASKING): Is there anyone else who you can think about?

E2. During the past month, which of these people actually pitched in to help you do things that you needed some help with?

(CHECK ABOUT PEOPLE WHO WERE LISTED IN RESPONSE TO E1 BUT WHO WERE NOT LISTED IN RESPONSE TO E2)

E3. During the past month, how satisfied or dissatisfied were you with the help you received in doing these things that you needed to do?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

E3. (IF MARRIED OR WITH PARTNER, AND IF THE SUBJECT NAMED PARTNER IN E1 AND E2, ALSO ASK) During the past month, how satisfied or dissatisfied were you with the help you received from your husband/partner in doing these things that you needed to do?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

E4. During the past month, how much do you feel you needed people who would pitch in to help you do things?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)

E4. (IF MARRIED OR WITH PARTNER, ALSO ASK) During the past month, how much do you feel you needed your husband/partner to help you do things?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)
F. (SOCIAL PARTICIPATION)

F1. Who are the people who you get together with to have fun or to relax? These could be new names or ones you listed before.

(IF THE SUBJECT IS UNABLE TO NAME A SINGLE PERSON, GO TO F4.)

(IF THE SUBJECT NAMES ONE OR MORE PEOPLE, PROBE FOR ANY ADDITIONAL NAMES BY ASKING): Is there anyone else who you can think about?

F2. During the past month, which of these people did you actually get together with to have fun or to relax?

(CHECK ABOUT PEOPLE WHO WERE LISTED IN RESPONSE TO F1 BUT WHO WERE NOT LISTED IN RESPONSE TO F2)

F3. During the past month, how satisfied or dissatisfied were you with the times that you got together with people just to have fun and relax?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

F3. (IF MARRIED OR WITH PARTNER, AND IF THE SUBJECT NAMED PARTNER IN F1 AND F2, ALSO ASK) During the past month, how satisfied or dissatisfied were you with the times you got together with your husband/partner just to have fun and relax?

(SHOW SATISFACTION CARD, RECORD RESPONSE ON ANSWER SHEET)

F4. How much do you think that you needed to get together with other people for fun and relaxation during the past month?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)

F4. (IF MARRIED OR WITH PARTNER, ALSO ASK) How much do you think that you needed to get together with your husband/partner for fun and relaxation during the past month?

(SHOW NEED CARD, RECORD RESPONSE ON ANSWER SHEET)

G. (NEGATIVE INTERACTIONS)

G1. Who are the people who you argue with or who make you angry and upset? These could be new names or names you listed before.

(IF NO ONE IS IDENTIFIED, GO TO H)
G2. During the past month, which of these people have you had arguments with or have made you angry and upset?

(CHECK ABOUT PEOPLE WHO WERE LISTED IN RESPONSE TO G1 BUT WHO WERE NOT LISTED IN RESPONSE TO G2)

II. (PERSONAL CHARACTERISTICS OF NETWORK MEMBERS)

Now I would like to get some information about the people you have just listed. (FOR EACH PERSON ON THE LIST) Could you tell me:

Ha. What is this person's relationship to you?

Hb. How old is this person?

Hc. What is this person's sex?

Hd. What is this person's ethnicity? (SHOW RACE/ETHNICITY CARD)

1 = Black
2 = non-Hispanic Caucasian
3 = Mexican, Chicano, Latino, Hispanic
4 = American Indian
5 = Asian
6 = other
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Self Help Intervention Project: Breast Cancer Treatment

Demographic Data

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**Marital Status** (check one)

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<td>Married</td>
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<td>5</td>
<td>Cohabiting (living with partner more than 6 months)</td>
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<tr>
<td>4</td>
<td>Separated</td>
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<tr>
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<td>Divorced</td>
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<td>Widowed</td>
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**Working/School** (check one)

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<td>On medical leave from F/T job/school</td>
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<td>3</td>
<td>Retired</td>
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<td>Homemaker</td>
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<td>On medical leave from F/T job/school</td>
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<td>3</td>
<td>Retired</td>
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<td>4</td>
<td>Homemaker</td>
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**Date of first Diagnosis of Breast Cancer:**

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<th>Date of first Diagnosis of Breast Cancer:</th>
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**Type of Surgery(s):** (check all that apply)

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**Type of Treatment(s):** (check all that apply)

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<th>Date Treatment Began</th>
<th>Date Treatment Completed</th>
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<td>Month-Day-Year</td>
<td>Month-Day-Year</td>
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**Who lives at home with you?** (check all that apply)

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<tr>
<td>Live Alone</td>
<td>Friends</td>
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<tr>
<td>Husband</td>
<td>Other</td>
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<tr>
<td>Children</td>
<td>(ages)</td>
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<tr>
<td>Other family</td>
<td></td>
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Family History of breast cancer (check all that apply)

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<th>Mother</th>
<th>Sister(s)</th>
<th>Paternal Grandmother</th>
<th>Paternal Aunt(s)</th>
<th>Paternal Uncle(s)</th>
<th>Cousins</th>
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Ethnic origin:
(1) White (2) Hispanic (3) Black (4) Native American (5) Oriental (6) Other (please indicate)  

List of other chronic illnesses/diseases:  

Insurance coverage (check all that apply)
(1) Blue Cross/Blue Shield (5) AHCCCS  
(2) Commercial Insurance - e.g. Aetna (6) Self pay  
(3) HMO e.g. Intergroup, Cigna (7) Other (Specify ____________)  
(4) Medicare  

How did you discover that you had breast cancer? (check one)

1. I discovered a lump or some change in breast (swelling, discoloration, pain) during self exam.  
2. A routine mammogram revealed a problem or tumor.  
3. My doctor discovered lump or problem during a regular checkup.  

What happened after the lump or change was discovered? (check all that apply)

a) I sought prompt follow-up for diagnosis and treatment.  
b) I delayed prompt follow-up for diagnosis and treatment.  
c) Doctor directed prompt follow-up for diagnosis and treatment.  
d) Doctor ignored, delayed or misdiagnosed the problem, causing delayed treatment.  
e) Treatment was delayed due to other circumstances.
Please check the symptoms which you have had as a result of your breast cancer or its treatment:

- skin irritation
- swelling
- nausea
- change in appetite
- constipation
- difficulty concentrating
- tiredness
- pain
- difficulty sleeping
- diarrhea
- depression
- sore arms
- anxiety
- sore mouth
- other (please indicate)

Now, think about the symptoms which you have had during the PAST WEEK. Indicate the 5 which have been the most trouble for you by putting a "1" next to the most bothersome symptom over the past week, a "2" next to the next most bothersome symptom, etc.

Think about these 5 symptoms that have bothered you the most during this past week and compare them to symptoms you had before this week. Then indicate how much you agree or disagree with the following statements. Circle the one number which most closely fits your experience over the PAST WEEK.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Overall, my symptoms are getting better.</td>
<td></td>
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<tr>
<td>I have more types/kinds of symptoms than I did before.</td>
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<tr>
<td>I am free of symptoms more often now.</td>
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<tr>
<td>I notice my symptoms more often now.</td>
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<tr>
<td>My symptoms are not as bad/severe as they have been.</td>
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<tr>
<td>My symptoms interfere with my life more now.</td>
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<tr>
<td>My symptoms seem to last for a longer time now.</td>
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<tr>
<td>I have a greater number of symptoms now.</td>
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<tr>
<td>I have new symptoms that I have not felt before.</td>
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<tr>
<td>My symptoms are more visible to others than they have been.</td>
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<tr>
<td>My symptoms don’t bother me any more than they usually do.</td>
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<tr>
<td>I experience my symptoms less often now.</td>
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</tbody>
</table>
Read the following statements and place a mark at the point on the corresponding line that best fits you TODAY.

1. When I do a boring job, I think about the less boring parts of the job and the reward I will receive once I am finished.

   Not true ________ True about me ________

2. When I have to do something that is anxiety arousing for me, I try to visualize how I will overcome my anxieties while doing it.

   Not true ________ True about me ________

3. Often by changing my way of thinking I am able to change my feelings about almost anything.

   Not true ________ True about me ________

4. I often find it difficult to overcome my feelings of nervousness and tension without any outside help.

   True about me ________ Not true about me ________

5. When I am feeling depressed I try to think about pleasant events.

   Not true ________ True about me ________

6. I cannot avoid thinking about mistakes I have made in the past.

   True about me ________ Not true about me ________

7. When I am faced with a difficult problem, I try to approach its solution in a systematic way.

   Not true ________ True about me ________

8. I usually do my duties quicker when somebody is pressuring me.

   True about me ________ Not true about me ________

---

DATE ___________  194  
T ___________
9. When I find that I have difficulties in concentrating on my reading, I look for ways to increase my concentration.

Not true: ________________________________ True about me

10. When I try to get rid of a bad habit, I first try to find out all the factors that maintain this habit.

Not true: ________________________________ True about me

11. When an unpleasant thought is bothering me, I try to think about something pleasant.

Not true: ________________________________ True about me

12. If I smoked two packages of cigarettes a day, I probably would need outside help to stop smoking.

True about me: ____________________________ Not true about me

13. When I am in a low mood, I try to act cheerful so my mood will change.

Not true: ________________________________ True about me

14. If I had the pills with me, I would take a tranquilizer whenever I felt tense and nervous.

True about me: ____________________________ Not true about me

15. When I am depressed, I try to keep myself busy with things that I like.

Not true: ________________________________ True about me

16. I tend to postpone unpleasant duties even if I could perform them immediately.

Not true: ________________________________ True about me

17. When I find it difficult to settle down and do a certain job, I look for ways to help me settle down.

Not true: ________________________________ True about me
18. Although it makes me feel bad, I cannot avoid thinking about all kinds of possible catastrophes in the future.

True about me

19. First of all I prefer to finish a job that I have to do and then start doing the things I really like.

True about me

20. When I feel discomfort in a certain part of my body, I try not to think about it.

True about me

21. My self-esteem increases once I am able to overcome a bad habit.

True about me

22. In order to overcome bad feelings that accompany failure, I often tell myself that it is not so catastrophic and that I can do something about it.

True about me

23. When I feel that I am too impulsive, I tell myself stop and think before you do anything.

True about me

24. Even when I am terribly angry at somebody, I consider my actions very carefully.

True about me

25. Facing the need to make a decision, I usually find out all the possible alternatives instead of deciding spontaneously without thought.

True about me

26. Usually I first do the things I really like to do even if there are more urgent things to do.

True about me
27. When I realize that I cannot help but be late for an important meeting, I tell myself to keep calm.

<table>
<thead>
<tr>
<th>Not true about me</th>
<th>True about me</th>
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</table>

28. I usually plan my work when faced with a number of things to do.

<table>
<thead>
<tr>
<th>Not true about me</th>
<th>True about me</th>
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</table>

29. When I am short of money, I decide to record all my expenses in order to plan more carefully in the future.

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<tr>
<th>Not true about me</th>
<th>True about me</th>
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</table>

30. If I find it difficult to concentrate on a certain job, I divide the job into smaller segments.

<table>
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<tr>
<th>Not true about me</th>
<th>True about me</th>
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31. Quite often I cannot overcome unpleasant thoughts that bother me.

<table>
<thead>
<tr>
<th>True about me</th>
<th>Not true about me</th>
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</table>

32. Once I am hungry and unable to eat, I try to divert my thoughts away from my stomach or try to imagine that I am satisfied.

<table>
<thead>
<tr>
<th>Not true about me</th>
<th>True about me</th>
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</thead>
</table>
Read the following statements and make a mark on the straight line that best describes the judgment that you make about the questions TODAY.

1. There is really no way I can solve some of the problems I have.
   Strongly disagree
2. Sometimes I feel that I'm being pushed around in life.
   Strongly disagree
3. I have little control over things that happen to me.
   Strongly disagree
4. I can do just about anything I really set my mind to do.
   Strongly disagree
5. I often feel helpless in dealing with the problems in life.
   Strongly disagree
6. What happens to me in the future depends on me.
   Strongly disagree
7. There is little I can do to change many important things in my life.
   Strongly disagree
INSTRUCTIONS

This questionnaire deals with a variety of health practices that may affect an individual's physical well being. The items in the questionnaire relate both to positive and negative-health behaviors and health patterns.

Each item in the questionnaire asks about your health practices during the past week. Read each item and report how frequently you engaged in the behavior during the past week. Indicate how often you engaged in the behavior by circling "RARELY OR NEVER," "SOME OF THE TIME," "QUITE OFTEN" or "NEARLY ALL OF THE TIME."

The value of this questionnaire depends upon your frankness in reporting the occurrence of particular behaviors. Your answers will be kept strictly confidential and the information gathered from this questionnaire will be used solely for research purposes.

Please read each item and try to answer it as accurately as you can. BE SURE TO ANSWER EVERY ITEM IN THE QUESTIONNAIRE.

Please circle the answer which best describes your behavior during the past week.

**DURING THE PAST WEEK DID YOU:**

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
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<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>1. Find times to eat so that you get the right amount of important things during a day's time?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
</tr>
<tr>
<td>2. Find foods and/or recipes that provide you with the basics for good nutrition?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
</tr>
<tr>
<td>3. Substitute junk food (candy, potato chips, soda) for a regular meal?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
</tr>
<tr>
<td>Question</td>
<td>Rarely or Never</td>
<td>Some of the Time</td>
<td>Quite Often</td>
<td>Nearly All of the Time</td>
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<tr>
<td>1. Snack on junk foods?</td>
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<td>5. Eat foods that give you trouble with digestion?</td>
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<td>6. Follow suggestions to reduce or avoid nausea or vomiting</td>
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<td>7. Follow suggestions to maintain appetite and adequate nutrition?</td>
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<td>8. Not get enough sleep?</td>
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<tr>
<td>9. Pace yourself at work or at play to avoid getting over tired?</td>
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<tr>
<td>10. Make time for activities which normally relax you (such as watching TV, pleasure reading, regular social activities)?</td>
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<td>11. Take time to practice relaxation skills daily?</td>
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<tr>
<td>Question</td>
<td>Rarely OR Never</td>
<td>Some of the Time</td>
<td>Quite OFTEN</td>
<td>Nearly ALL OF THE TIME</td>
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<tr>
<td>13. Take time (15 to 30 minutes) a day to exercise within a suitable program of activity?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
</tr>
<tr>
<td>15. Spend part of your leisure time in activities that involve some form of a physical work out (e.g., golf, swimming, horseback riding, gardening, walking, housework)?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
</tr>
<tr>
<td>16. Use a variety of approaches to reduce depression?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
</tr>
<tr>
<td>17. Make arrangements to have someone else drive a car when you are feeling very sick or weak?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
</tr>
<tr>
<td>18. Pay attention to increasing positive self talk everyday?</td>
<td>RARELY OR NEVER</td>
<td>SOME OF THE TIME</td>
<td>QUITE OFTEN</td>
<td>NEARLY ALL OF THE TIME</td>
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</table>
19. Drive a vehicle or operate electrical appliances while being preoccupied with other thoughts?

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<tr>
<th></th>
<th>Rarely or Never</th>
<th>Some of the Time</th>
<th>Quite Often</th>
<th>Nearly All of the Time</th>
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20. Carefully look where you are going or what you are doing (e.g., being careful not to bump into things or touch hot surfaces)?

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<thead>
<tr>
<th></th>
<th>Rarely or Never</th>
<th>Some of the Time</th>
<th>Quite Often</th>
<th>Nearly All of the Time</th>
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21. Talk with your health care provider about things that happen to you during or after treatment (e.g., pain along arm during chemo IV, sore, hot, peeling skin after radiation)?

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<tr>
<th></th>
<th>Rarely or Never</th>
<th>Some of the Time</th>
<th>Quite Often</th>
<th>Nearly All of the Time</th>
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22. Protect yourself from heat or desert sun?

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<th>Rarely or Never</th>
<th>Some of the Time</th>
<th>Quite Often</th>
<th>Nearly All of the Time</th>
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23. Ask for help when you need it to do things you have usually done for yourself?

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<th></th>
<th>Rarely or Never</th>
<th>Some of the Time</th>
<th>Quite Often</th>
<th>Nearly All of the Time</th>
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</table>
21. Take precautions while in contact with someone who is ill (e.g., avoid being coughed on or sneezed on or being confined in a small enclosed space for a length of time, e.g., car, waiting room, etc.)?

[1] RARELY OR NEVER
[3] QUITE OFTEN

25. Practice suggested oral hygiene care for gums (e.g., use of soft toothbrush, non-irritating mouthwash, avoiding hot spicy foods)?

[1] RARELY OR NEVER
[3] QUITE OFTEN

26. Practice suggested skin care to prevent skin breaks or infection?

[1] RARELY OR NEVER
[3] QUITE OFTEN

27. Consistently follow directions for skin care of treatment site (e.g., care of skin redness/heat, peeling from radiation, chemo related irritation at IV site)?

[1] RARELY OR NEVER
[3] QUITE OFTEN
28. Take a break during prolonged periods of work (e.g., taking short rests when driving or working)?

1 RARELY  2 SOME  3 QUITE  4 NEARLY
OR NEVER OF THE OFTEN ALL OF THE TIME TIME

29. Drink more than two caffeinated beverages (e.g., coffee, cola) in one day?

4 RARELY  3 SOME  2 QUITE  1 NEARLY
OR NEVER OF THE OFTEN ALL OF THE TIME TIME

30. Spend a part of each day using a suggested relaxation method?

1 RARELY  2 SOME  3 QUITE  4 NEARLY
OR NEVER OF THE OFTEN ALL OF THE TIME TIME
Read the following statements and place a mark at the point on the line that best fits you TODAY.

1. I keep track of how well a treatment works for me.
   Not true ___________________________ True about me ___________________________

2. I make use of a number of resources besides my doctor to keep myself well (for example, books, classes, sharing with others)
   Not true ___________________________ True about me ___________________________

3. I have told each of my doctors (including my dentist) about each of the medications I am currently taking.
   Not true ___________________________ True about me ___________________________

4. I don't read about what to do to stay well.
   True about me ___________________________ Not true about me ___________________________

5. I pay attention to how my body feels.
   Not true ___________________________ True about me ___________________________

6. I spend time keeping myself well.
   Not true ___________________________ True about me ___________________________

7. I make some of my own adjustments in some of the medications I take; for example, taking my medicine at the time of day that is best for me.
   Not true ___________________________ True about me ___________________________

8. I keep up to date on ways to stay well.
   Not true ___________________________ True about me ___________________________
Instructions: The following set of questions concerns your recent experiences with breast cancer. 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. Keep this 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.

1. Which of the following statements best describes your usual attitude about taking care of your health?

   [ ] a) I am very concerned and pay close attention to my personal health. (4)
   [ ] b) Most of the time I pay attention to my health care needs. (3)
   [ ] c) Usually, I try to take care of health matters but sometimes I just don't get around to it. (2)
   [ ] d) Health care is something that I just don't worry too much about. (1)

2. Your present illness probably requires some special attention and care on your part. Would you please select the statement below that best describes your reaction.

   [ ] a) I do things pretty much the way I always have done them and I don't worry or take any special considerations for my illness. (1)
   [ ] b) I try to do all the things I am supposed to do to take care of myself, but lots of times I forget or I am too tired or busy. (2)
   [ ] c) I do a pretty good job taking care of my present illness. (3)
   [ ] d) I pay close attention to all the needs of my present illness and do everything I can to take care of myself. (4)
3. In general, how do you feel about the quality of medical care available today and the doctors who provide it?

[  ] a) Medical care has never been better, and the doctors who give it are doing an excellent job. (4)
[  ] b) The quality of medical care available is very good, but there are some areas that could stand improvement. (3)
[  ] c) Medical care and doctors are just not of the same quality they once were. (2)
[  ] d) I don't have much faith in doctors and medical care today. (1)

4. During your present illness you have received treatment from both doctors and medical staff. How do you feel about them and the treatment you have received from them?

[  ] a) I am very unhappy with the treatment I have received and don't think the staff has done all they could have for me. (1)
[  ] b) I have not been impressed with the treatment. (2)
[  ] c) The treatment has been pretty good on the whole, although there have been a few problems. (3)
[  ] d) The treatment and the treatment staff have been excellent. (4)

5. When they are ill, different people expect different things about their illness, and have different attitudes about being ill. Could you please check the statement below which comes closest to describing your feelings.

[  ] a) I am sure that I am going to overcome the illness and its problems quickly and get back to being my old self. (4)
[  ] b) My illness has caused some problems for me, but I feel I will overcome them fairly soon, and get back to the way I was before. (3)
[  ] c) My illness has really put a great strain on me, both physically and mentally, but I am trying very hard to overcome it, and feel sure that I will be back to my old self one of these days. (2)
[  ] d) I feel worn out and very weak from my illness and there are times when I don't know if I am really ever going to be able to overcome it. (1)
5. Being ill can be a confusing experience, and some patients feel that they do not receive enough information and detail from their doctors and the health care staff about their illness. Please select a statement below which best describes your feelings about this matter.

[ ] a) My doctor and the health care staff have told me very little about my illness even though I have asked more than once. (1)
[ ] b) I do have some information about my illness but I feel I would like to know more. (2)
[ ] c) I have a pretty fair understanding about my illness and feel that if I want to know more I can always get the information. (3)
[ ] d) I have been given a very complete picture of my illness and my doctor and the medical staff have given me all the details I wish to have. (4)

7. In an illness such as yours, people have different ideas about their treatment and what to expect from it. Please select one of the statements below which best describes what you expect about your treatment.

[ ] a) I believe my doctors and health care staff are quite able to direct my treatment and feel it is the best treatment I could receive. (4)
[ ] b) I have trust in my doctor's direction of my treatment; however, sometimes I have doubts about it. (3)
[ ] c) I don't like certain parts of my treatment which are very unpleasant, but my doctors tell me I should go through it anyway. (2)
[ ] d) In many ways I think my treatment is worse than the illness, and I am not sure it is worth going through it. (1)

8. In an illness such as yours patients are given different amounts of information about their treatment. Please select a statement from those below which best describes information you have been given about your treatment.

[ ] a) I have been told almost nothing about my treatment and feel left out about it. (1)
[ ] b) I have some information about my treatment but not as much as I would like to have. (2)
[ ] c) My information concerning treatment is pretty complete, but there are one or two things I still want to know. (3)
[ ] d) I feel my information concerning treatment is very complete and up-to-date. (4)
Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement during the PAST FEW WEEKS between you and your spouse for each item on the following list:

<table>
<thead>
<tr>
<th>Item</th>
<th>Always Agree</th>
<th>Almost Agree</th>
<th>Occasionally Agree</th>
<th>Frequently Agree</th>
<th>Almost Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Handling family finances</td>
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<tr>
<td>2. Matters of recreation</td>
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<td>3. Religious matters</td>
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<td>4. Demonstrations of affection</td>
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<td>5. Friends</td>
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<td>6. Sex relations</td>
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<td>7. Conventionality (correct or proper behavior)</td>
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<td>8. Philosophy of life</td>
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<td>9. Ways of dealing with parents or in-laws</td>
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<td>10. Aims, goals, and things believed important</td>
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<td>11. Amount of time spent together</td>
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<td></td>
</tr>
<tr>
<td>12. Making major decisions</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>13. Household tasks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Leisure time interests and activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Career decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

During the PAST FEW WEEKS:

<table>
<thead>
<tr>
<th>Item</th>
<th>All the time</th>
<th>Most of the time</th>
<th>More often than not</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. How often do you discuss or have you considered divorce, separation or terminating your relationship?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. How often do you or your mate leave the house after a fight?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. In general, how often do you think that things between you and your partner are going well?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Do you confide in your mate?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Do you ever regret that you married? (or lived together)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. How often do you and your partner quarrel?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. How often do you and your mate &quot;get on each other's nerves?&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
23. Do you kiss your mate?  

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Every Day</th>
<th>Almost Every Day</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>All of them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some of them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very few of them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None of them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

24. Do you and your mate engage in outside interests together?  

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Every Day</th>
<th>Almost Every Day</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

During the PAST FEW WEEKS, how often would you say the following events have occurred between you and your mate?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Less than Once or</th>
<th>Once or Twice</th>
<th>Once or Twice</th>
<th>Once a Month</th>
<th>Once a Week</th>
<th>More Cften</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

25. Have a stimulating exchange of ideas

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

26. Laugh together

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27. Calmly discuss something

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

28. Work together on a project

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These are some things about which couples sometimes agree and sometime disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the PAST FEW WEEKS. (Check yes or no).

- Yes
- No

29. Being too tired for sex.

30. Not showing love.

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered of your relationship during the PAST FEW WEEKS.

<table>
<thead>
<tr>
<th>Degree of Happiness</th>
<th>Extremely Unhappy</th>
<th>Fairly Unhappy</th>
<th>A Little Unhappy</th>
<th>Happy</th>
<th>Very Happy</th>
<th>Extremely Happy</th>
<th>Perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

32. Which of the following statements best describes how you have felt about the future of your relationship during the PAST FEW WEEKS.

- I want desperately for my relationship to succeed, and would go to almost any length to see that it does.
- I want very much for my relationship to succeed, and will do all I can to see that it does.
- I want very much for my relationship to succeed, and will do my fair share to see that it does.
- It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.
- It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.
- My relationship can never succeed, and there is no more than I can do to keep the relationship going.
Seif Help Intervention Project:
Breast Cancer Treatment

Sources of Information

Code # ____________
Date ____________

Since your diagnosis of breast cancer, from which of the following sources have you received information about breast cancer and its treatment? (check all that apply)

- Your Surgeon
- Your Chemotherapy doctor/nurses
- Your Radiation doctor/nurses
- Therapist or counselor
- Family members
- Friends
- American Cancer Society
- National Cancer Institute
- Arizona Cancer Center
- Cancer Information Groups (eg. I Can Cope)
- Cancer Support Groups (eg. Can Surmount or Reach To Recovery)
- Books from Public or Medical School Library or Bookstore
- Audiotapes or Videotapes
- Television/Radio
- Newspaper
- Magazines
- Other

1/90
ACCESS TO CANCER THERAPY
PATIENT QUESTIONNAIRE

INSTRUCTIONS: Please consider your experience in receiving cancer therapy over the last two weeks when responding to the questions below. If you have not received any therapy during the PAST TWO WEEKS, consider your experience over the LAST THREE WEEKS.

Background Questions

01. Type of Cancer Therapy currently received (circle all that apply):
   1) chemotherapy
   2) radiation therapy
   3) other: ____________________________

02. Site(s) where Cancer Therapy is currently received: (circle all that apply)
   1) Oncology and Hematology Assoc.-Country Club
   2) Oncology and Hematology Assoc.-St. Mary's
   3) Southwest Radiation Oncology - East side
   4) Southwest Radiation Oncology - West side
   5) Arizona Cancer Center: Hematology Oncology
   6) Arizona Cancer Center: Radiation Oncology
   7) Arizona Cancer Center: Breast Clinic

03. Personal take-home pay every two weeks: (Circle one)
   (If only monthly income is known, circle the number corresponding to the monthly income and write in 'monthly' next to it.)
   1) Less than $250
   2) $250 - 499
   3) $500 - 749
   4) $750 - 999
   5) $1000 - 1249
   6) $1250 - 1499
   7) $1500 - 1749
   8) $1750 - 1999
   9) $2000 - 2249
   10) $2250 - 2499
   11) $2500 - 2749
   12) $2750 - 2999
   13) $3000 or more
   14) quit work due to illness
   15) no personal income
Access to Clinic(s) where Therapy is Currently Received during PAST TWO WEEKS

04. On the average, how long does it take to travel to the clinic(s) where you currently receive your therapy:

   Travel time: _______ hour(s)
   _______ minutes

05. Do you usually have to take time off from work when you go to the clinic(s)? (Circle one)

   0) No
   1) Yes . . . . If 'Yes', How much time is involved?
      _______ hours
      _______ minutes

06. Do you usually have to get a babysitter or caregiver for a family member in order to go to the clinic(s)? (Circle one)

   0) No
   1) Yes . . . . If 'Yes', How much does the babysitter or caregiver cost you for each visit?
      $_______

07. Do you usually have to stay in a hotel in order to go to the clinic(s)? (Circle one)

   0) No
   1) Yes . . . . If 'Yes', how much does the hotel cost you for each visit?
      $_______

[NOTE: If you spend several nights in a hotel in order to make several therapy visits, estimate the hotel cost for each therapy visit: e.g. divide the total hotel cost by the total number of therapy visits.]
Assistance Provided by Family Members and/or Friends to Enable You to Go to the Clinic(s) (PAST TWO WEEKS)

08. When you go to the clinic(s) where you receive therapy, does your family at home and/or other family/friends:

<table>
<thead>
<tr>
<th>Family At home (Circle one)</th>
<th>Other Family/Friend (Circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) usually drive you to/from the clinic? No -- Yes 0 1 No -- Yes 0 1</td>
<td></td>
</tr>
<tr>
<td>b) usually wait for you or run errands? No -- Yes 0 1 No -- Yes 0 1</td>
<td></td>
</tr>
<tr>
<td>c) usually accompany you during therapy? No -- Yes 0 1 No -- Yes 0 1</td>
<td></td>
</tr>
<tr>
<td>d) usually have to take time off from work to help you? No -- Yes 0 1 No -- Yes 0 1</td>
<td></td>
</tr>
</tbody>
</table>

If someone has to take time off from work, how much time is involved?

<table>
<thead>
<tr>
<th># hours</th>
<th>hrs</th>
<th># minutes</th>
<th>min</th>
</tr>
</thead>
</table>

Appointments and Visits to the Clinic(s) during PAST TWO WEEKS

09. When do you usually set up your next therapy appointment?

1) set up at earlier clinic visit
2) call for appointment at a later time
3) sometimes call, sometimes set up at earlier visit

10. If health problems arise before your next scheduled appointment for therapy, who do you usually call for help? (circle all that apply)

a) physician at clinic(s)
b) nurses and other treatment staff at clinic
c) another physician
d) other:
e) no problems experienced [skip to Q. 12]

11. If you have called the clinic(s) for an earlier appointment to see someone about these problems, how many days do you usually have to wait before you actually visit the clinic?

_____ days
12. Once you arrive at the clinic(s), how long do you usually have to wait to receive therapy?
   _____ hours
   _____ minutes

13. During a typical visit, how much time does the physician usually spend with you during each visit to the clinic(s)?
   _____ hours
   _____ minutes

14. During a typical visit, how much time do the nurses and other treatment staff usually spend with you during each visit to the clinic(s)?
   _____ hours
   _____ minutes

15. During a typical visit, how much does the physician usually tell you about your condition and what he/she is doing to treat it?
   1) a great deal
   2) a moderate amount
   3) a little
   4) almost nothing
   5) nothing at all

16. During a typical visit, how much do the nurses and other treatment staff usually tell you about your condition and what they are doing to treat it?
   1) a great deal
   2) a moderate amount
   3) a little
   4) almost nothing
   5) nothing at all

17. During a typical visit, how much do you usually inform the physician about problems you might be having with the treatment program?
   1) a great deal
   2) a moderate amount
   3) a little
   4) almost nothing
   5) nothing at all

18. During a typical visit, how much do you usually inform the nurses and treatment staff about problems you might be having with the treatment program?
   1) a great deal
   2) a moderate amount
   3) a little
   4) almost nothing
   5) nothing at all

19. During a typical visit, how much do you usually participate in the planning of your treatment?
   1) a great deal
   2) a moderate amount
   3) a little
   4) almost nothing
   5) nothing at all
20. During the PAST TWO WEEKS, how satisfied were you with the following aspects of your visits to the clinic(s) to receive therapy?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Not Satisfied</th>
<th>Only Slightly Satisfied</th>
<th>Slightly Satisfied</th>
<th>Very Satisfied</th>
<th>Extremely Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Amount of time it took you to get to the clinic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>b. Cost of getting to the clinic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>c. Overall convenience of getting to the clinic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>d. Time spent waiting for appointment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>e. Time spent waiting in clinic to see the physician</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>f. Time spent waiting in clinic to see the nurses and treatment staff</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>g. Amount of time spent with the physician</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>h. Amount of time spent with the nurses</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>i. Verbal information provided by the physician</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>j. Verbal information provided by the nurses</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>k. Additional reading material supplied by the physician or nurses</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>l. Out-of-pocket cost of care received</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>m. Quality of care received</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>n. Improvement in your understanding of your condition</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>o. Improvement in your ability to manage your condition</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
21. During the PAST TWO WEEKS, how much time have you spent doing the following activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. making appointments to see the physician</td>
<td>___ : ___</td>
</tr>
<tr>
<td>b. making appointments to see the nurses and other treatment staff</td>
<td>___ : ___</td>
</tr>
<tr>
<td>c. talking over the phone with the physician about your condition</td>
<td>___ : ___</td>
</tr>
<tr>
<td>d. talking over the phone with the nurses and treatment staff about your condition</td>
<td>___ : ___</td>
</tr>
<tr>
<td>e. going to see other physicians about your condition</td>
<td>___ : ___</td>
</tr>
<tr>
<td>f. talking over the phone with other physicians about your condition</td>
<td>___ : ___</td>
</tr>
<tr>
<td>g. visiting other non-medical practitioners about how to treat your condition (specify whom: __________)</td>
<td>___ : ___</td>
</tr>
<tr>
<td>h. talking to psychologists, counselors, etc. about how to cope with your condition</td>
<td>___ : ___</td>
</tr>
<tr>
<td>i. attending support groups for women with similar conditions</td>
<td>___ : ___</td>
</tr>
<tr>
<td>j. going to libraries, bookstores, and other community agencies (e.g. Cancer Society) in search of more information</td>
<td>___ : ___</td>
</tr>
<tr>
<td>k. reading at home on your condition and how to manage it</td>
<td>___ : ___</td>
</tr>
</tbody>
</table>
22. During the PAST TWO WEEKS, how much time have you spent each day on average managing the side effects of your cancer treatment by doing the following activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time Spent Each Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) additional rest/sleep</td>
<td></td>
</tr>
<tr>
<td>b) additional personal hygiene (washing, cleansing)</td>
<td></td>
</tr>
<tr>
<td>c) additional spiritual activities (e.g. meditation, prayer)</td>
<td></td>
</tr>
<tr>
<td>d) relaxation/ stress reduction techniques</td>
<td></td>
</tr>
<tr>
<td>e) special exercises</td>
<td></td>
</tr>
<tr>
<td>f) buying and taking special vitamins or other medications</td>
<td></td>
</tr>
<tr>
<td>g) buying and preparing special foods or home remedies</td>
<td></td>
</tr>
<tr>
<td>h) talking to friends/family for support</td>
<td></td>
</tr>
<tr>
<td>i) other:</td>
<td></td>
</tr>
</tbody>
</table>
23. During the PAST TWO WEEKS, has your husband or other family member assisted you in the following activities? If 'yes', how much time have they spent helping you?

<table>
<thead>
<tr>
<th>Provided Assistance?</th>
<th>Total Time Hours:Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Circle one)</td>
<td></td>
</tr>
</tbody>
</table>

| a. making appointments to see the physician | no -- yes | 0 1 |
| b. making appointments to see the nurses and other treatment staff | no -- yes | 0 1 |
| c. talking over the phone with the physician about your condition | no -- yes | 0 1 |
| d. talking over the phone with the nurses and treatment staff about your condition | no -- yes | 0 1 |
| e. going to see other physicians about your condition | no -- yes | 0 1 |
| f. talking to psychologists, counselors, etc. about how to cope with your condition | no -- yes | 0 1 |
| g. attending support groups for women with similar conditions | no -- yes | 0 1 |
| h. going to libraries, bookstores, and other community agencies (e.g. Cancer Society) in search of more information | no -- yes | 0 1 |
| i. reading at home on your condition and how to manage it | no -- yes | 0 1 |

24. During the PAST TWO WEEKS, has your husband or other family member assisted you in managing the side effects of your cancer treatment by doing the following activities? If 'yes', how much time did they spend?

<table>
<thead>
<tr>
<th>Provided Assistance?</th>
<th>Total Time Hours:Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Circle one)</td>
<td></td>
</tr>
</tbody>
</table>

| a) buying special vitamins or other medications not prescribed by your physician | no -- yes |                         |
| b) buying and preparing special foods or home remedies not prescribed by your physician | no -- yes |                         |
25. During the PAST TWO WEEKS, how much have you or your family paid for any of the services/remedies listed below in treating your illness? Does your insurance cover any of the medical services?

<table>
<thead>
<tr>
<th></th>
<th>$ Amount Paid</th>
<th>Insurance Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. medications/remedies prescribed by physician</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>b. doctors’ services (incl. tests in doctor’s office)</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>c. hospital services (incl. tests in hospital)</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>d. tests outside of doctor’s office and hospital</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>e. psychologists, counselors, etc.</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>f. other non-medical practitioners</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>g. medications/remedies not prescribed by your physician (e.g. over the counter drugs: aspirins, analgesics, antacids, etc.)</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>h. special herbs, teas, other home remedies</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>i. special foods</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>j. vitamins, supplements</td>
<td>$___</td>
<td>___</td>
</tr>
<tr>
<td>k. books, periodicals on your condition</td>
<td>$___</td>
<td>___</td>
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</tbody>
</table>

Non-Routine Contacts with Clinic(s) During Past Two Weeks

26. During the PAST TWO WEEKS, did you feel the need to telephone any clinic physicians or nurses/treatment staff about some special problem or concern in managing your condition (excluding routine contacts)?

0) No . . . . . [Skip to Q. 28]
1) Yes . . . . How many times did you telephone . physicians? _____ times . nurses/staff? _____ times
27. If you decided you needed to talk with clinic physicians or nurses over the telephone, how long did you wait to call after you first noticed the problem?

______ # minutes (skip to Q. 28);
______ # hours (skip to Q. 28);
______ # days
______ did not call at all

If you did not call or you waited one or more days before calling, please indicate which of the following reasons listed below explains why (check all that apply).

a. was afraid there would not be any Spanish-speaking health personnel at the clinic
b. just didn’t get around to calling the clinic
c. thought there would be a long wait for an appointment
d. thought the visit would cost too much
e. thought it would take too long or cost too much to get to the clinic
f. had to make special arrangements in order to go to clinic (e.g. find a babysitter)
g. thought there would be a long wait at the clinic
h. felt someone other than a physician might help
i. felt I could manage/treat the problem myself
j. didn’t think the problem was serious enough
k. thought the physician/nurses couldn’t do anything for the problem
l. feel uncomfortable with the physician/nurses
m. have a fear of physicians
n. didn’t want to bother the physician/nurses
o. was afraid to find out something was wrong
p. other reasons (specify: ________________________)  

IF YOU HAVE INDICATED MORE THAN ONE REASON, which of these reasons would you say was the main reason for not calling for an appointment sooner?  

Reason #_____  

28. During the PAST TWO WEEKS, did you actually visit clinic physicians/nurses for some problem in managing your condition (excluding routine visits)?

0) No
1) Yes . . . . . How many times did you visit
   . physicians? _______ times
   . nurses? _______ times
29. During the PAST TWO WEEKS, did you visit a psychologist or counselor for help in dealing with your condition?
   0) No
   1) Yes . . . . . . How many times did you visit them?

30. During the PAST TWO WEEKS, did you attend a support group for women with the same condition?
   0) No
   1) Yes . . . . . . How many times did you attend?

31. During the PAST TWO WEEKS, did you stay in bed several additional hours on account of your condition?
   0) No
   1) Yes . . . . . . How many days did you spend additional time in bed?

32. During the PAST TWO WEEKS, did your condition require you to cut down on the activities you usually do, apart from any days you had to spend additional time in bed (q. 33)?
   0) No
   1) Yes . . . . . . How many days did you have to restrict your activity?

33. During the PAST TWO WEEKS, did you have to be hospitalized for a problem related to your condition?
   0) No
   1) Yes . . . . . . How many days did you spend in the hospital?

Name of Hospital: ____________________________
DATE: ________________  (DIARY)

TODAY

Here are some words and phrases which I would like you to use to describe how you feel about your present life. Put a mark on the line that best describes how you feel TODAY about your life.

1. My present life is
   Boring ______________________________ Interesting

2. My present life is
   Miserable ___________________________ Enjoyable

3. My present life is
   Useless ______________________________ Worthwhile

4. My present life is
   Lonely ______________________________ Friendly

5. My present life is
   Empty ______________________________ Full

6. My present life is
   Discouraging _________________________ Hopeful

7. My present life is
   Disappointing _________________________ Rewarding

8. My present life
   Doesn’t give me much chance ____________________________ Brings out the best in me

9. In thinking about my life as a whole, I am
   Completely dissatisfied ___________________________ Completely satisfied

10. My present life is
    The worst it could possibly be ___________________________ The best it could possibly be

1/30
INSTRUCTIONS

Here is a picture of a ladder. Suppose we say that the top of the ladder represents the best possible life for you and the bottom represents the worst possible life for you.

1) Where on the ladder do you feel you personally stand at the present time?
   Step number ____________

2) Why did you select that number? _______________________________________

3) Where on the ladder would you say you will stand six months from now?
   Step number ____________

4) Where do you think you will be on the ladder five years from now?
   Step number ____________
REFERENCES


applicants to social services and a nonapplicant sample.  
Journal of Gerontology. 45, S112-S119.


