Social support and the woman with breast cancer: Issues of measurement

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Social support and the woman with breast cancer: Issues of measurement

Ivey, Bonnie Margaret, M.S.N.
University of Nevada, Las Vegas, 1993
SOCIAL SUPPORT AND THE WOMAN WITH BREAST CANCER:

ISSUES OF MEASUREMENT

by

Bonnie M. Ivey

A thesis submitted in partial fulfillment
of the requirements for the degree of

Master of Science

in

Nursing

Department of Nursing
University of Nevada, Las Vegas
December, 1993
Approval Page

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Abstract

The ability of the nurse to accurately and consistently measure the social support variable is invaluable to assessing the client’s well being. This methodological study, based on Neuman’s holistic view of the client, proposed to substantiate the reliability and validity of the PRQ85 as a measure of perceived social support with women experiencing breast cancer.

A sample of 82 women with breast cancer responded to a composite questionnaire consisting of two social support measures (Personal Resource Questionnaire [PRQ85]), Norbeck Social Support Questionnaire [NSSQ]), two instruments to measure the mental health constructs depression (Beck Depression Inventory [BDI]) and anxiety (Spielberger Trait Anxiety Inventory), and a demographic measure. The reliability (short-term stability and internal consistency) was assessed by test/retest method and Cronbach’s alpha coefficient. Construct validity was evaluated by assessing relationships of the PRQ85, Part 2 with the BDI and the Trait Anxiety Scale. Criterion validity was determined with concurrent testing the PRQ85, Part 1 and 2 with the more established measure of social support the NSSQ with women experiencing the stressor of breast cancer.

The results indicated that the PRQ85 does have reliability, both short-term stability and internal consistency. Criterion validity and construct validity were supported with low to moderate, but significant relationships with the NSSQ, and inverse moderately significant relationships with BDI and the Trait Anxiety Inventory. The findings were supported with this sample in clinical settings.
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Chapter I

Introduction to Study Problem

Introduction

The concept of social support has emerged as a major psychosocial variable in health-related research (Cassell, 1970, 1974, 1979; Dean, Lin, 1977; Kaplan, 1974, 1977; Bloom, Ross, Burnell, 1978; Caplan, 1976, 1980; Earp, 1979; Berkman, Syme, 1979; Lindsey, Norbeck, Carrieri, Perry, 1981; Wortman, 1984; Gates, 1988). Social support research has been increasing at a rapid rate since the late 1970's. The literature suggests that the quality and availability of social support may play an important role in the recovery process following major illness and/or surgery. In addition, current findings suggest that social support has a protective function and serves a stress buffering or moderating role in health outcomes (Cassell, 1974; Kaplan, Cassell, Gore, 1977; House, 1981; Northouse, 1989; Feather, Wainstock, 1989).

In women's health issues, social support has been identified as an important factor in the adjustment and adaptation by women with breast cancer (Wortman, 1989; Northouse, 1981, 1988; Northouse and Swain, 1987; Baeder and Kaplan, 1984). Breast cancer is an illness that affects not only the woman and her family, but also other persons in her social network (Dunkel-Schetter, Wortman, 1989; Lewis,
Ellison, and Woods, 1985; Wright, and Dyck, 1984). Related to this, one hypothesis commonly appearing in the clinical literature is that social support is related to the level of coping and eventual outcome for women who experience mastectomy (Wortman, 1984; Gottlieb, 1981; Bloom, 1982).

To determine the role that social support may play relative to health outcomes for the client experiencing breast cancer, specific information is needed about the construct of social support and about how it functions. Funch, Marshall, and Gibhardt (1986) in an effort to develop a short scale to measure social support found: a wide range of measures were utilized to represent social support, it was unusual to find a measuring tool employed more than once, and that information on tool reliability and validity is scarce. Recent reviews and commentaries reiterate these facts and suggest conceptualization and measurement of social support are still key issues (Sarason, Shearin, Pierce, and Sarason, 1987; Stewart, 1989; Barrera, 1986; Cohen and Syme, 1985; House and Kahn, 1985). The concept of social support is generally regarded as multidimensional, with two major dimensions of social support implied by the measures that are employed: structural and perceptual (Broadhead, Kaplan, and James, 1983; Norbeck, Lindsey, and Carrieri, 1981, 1985, 1988; Brandt and Weinert, 1985, 1987, 1990; Stewart, 1989). Structural measures focus on variables defining componential aspects of the client's environment (marital status, number of family members, friends, social contacts, and frequency of contacts). Perceived support measures are based on the client's evaluation of the relationships in their support system. Studies comparing both types of support, have generally found
that perceived social support is a stronger predictor of health outcomes and positive well-being than the structure of the social support network (Funch and Melltin, 1982; Northouse, 1988; Stewart, 1989).

Many measures of social support have been created and described in the literature (Sarason and Sarason, 1987; Tilden, 1985; Norbeck, Lindsey, and Carrieri, 1981, 1982; House and Kahn, 1985; Rock, Green, Wise, and Rock, 1984; Tardy, 1985; Pearson, 1986). Stewart (1989) reported on 52 nurse generated studies in an effort to define and operationalize social support. He noted that because these studies were derived from different conceptualizations of the social support construct, the researchers utilized 21 different instruments in 32 of the 52 studies. The other 20 studies used existing tools in their study. Norbeck (1988) reviewed 67 nurse authored research articles which revealed that only 28% of 40 studies, in which social support was directly measured, used instruments with established reliability and validity. This gamut of measures points out the need to evaluate the qualities of these instruments in order that clinicians and researchers can select the most reliable and valid for their particular purposes.

Statement of the Problem

While the social support literature is abundant in theoretical and applied studies, few researchers have generated reports dealing with extensive psychometric analysis related to the development and validation of social support instruments. In order to provide accurate descriptions of social support in the woman with breast cancer, investigators need assessment tools with known and acceptable levels of
reliability and validity. Construct validity is particularly important when there is no singular criterion accepted to define the attribute (social support) to be measured (Weinert and Tilden, 1990). The Personal Resource Questionnaire (PRQ85), one of the first generation social support instruments, has undergone extensive work toward establishing reliability and validity with populations other than women with breast cancer. In order to substantiate reliability and validity for use with women with breast cancer, further testing of the PRQ85 is warranted.

Purpose of the Study

Therefore, the purpose of this study was to examine the psychometric properties of the PRQ 85 (Brandt and Weinert, 1981; Weinert, 1985) when used with the client with breast cancer, assessing its reliability and validity; providing evidence of criterion validity from concurrent testing with the Norbeck Social Support Questionnaire (NSSQ) (Norbeck, et al, 1981, 1983, 1985), and providing construct validity to rule out mental health constructs by comparing the PRQ 85 with both the Beck Depression Inventory (Beck, 1967), (BDI) and the Spielberger State - Trait Anxiety Inventory (STAI).

Significance

The implications of this study are relevant to two areas: advancement of the social support theory and research efficiency. First by improving the psychometric quality of social support scales, researchers obtain more accurate and reliable descriptions of the phenomena under study. Inclusion of higher quality data, can in itself, improve the quality of subsequent evaluation and refinement of the theory.
Also, through the process of addressing psychometric issues, the researcher is forced to clarify and amend theory.

Second, when complete psychometric data are available research efforts become more efficient. Time and effort are minimized when researchers can evaluate and select an appropriate social support instrument from published literature. In addition, study results are more comparable when using the same or similar measuring tools and better facilitate the compilation of information related to social support theory.

The ability of the nurse to accurately assess and measure the clients’ perception of their social support and its contribution to their optimal well-being is invaluable. Psychosocial factors, such as social support, exert a protective effect which may buffer the individual from the physiological and/or psychological ramifications of stressors that impinge on the client’s flexible lines of defense (Neuman, 1989). Alteration in the client’s perception of their social support when dealing with the environmental stressor of breast cancer, whether negative or positive, can strengthen or weaken the client’s lines of defense accordingly. Research to substantiate reliability and validity of social support measures therefore seems appropriate to theory building using the Neuman model. Neuman’s Systems Model, an open model composed of two parts: stress and the reaction to stress of individuals, was chosen for the framework of this study because of its focus on the client, the nurse, and the client’s response to stressors (Neuman, 1989).
Chapter II.
Conceptual Framework and Literature Review

Conceptual Framework

Description. Neuman (1989) perceives the person, a client system, as an open system depicted graphically as a series of concentric circles surrounding a basic structure. The basic structure of the person is protected from stressors by a flexible line of defense, a normal line of defense and a line of resistance.

The person constantly interacts with the environment. If the lines of resistance are not effective energy is depleted and death can occur. Stressors can originate from intrapersonal, interpersonal, or extrapersonal sources. Internal and external forces surrounding the person constitute the environment. A reciprocal relationship exists between the person and environment.

In a healthy or well state, the individual is able to successfully adapt. Health is not necessarily the perfect state for the client system, but the best possible state at any given time. Therefore health is relative and reflects a level of wellness that is influenced by the client’s perception of the stressors and how they can react to the stressors (Neuman, 1989).

Goal of Nursing. The goal is to assist the person to attain and maintain an
optimal level of wellness by strengthening adaptive measures, decreasing stress factors, and reducing the effect of the stressors. To achieve this goal, nurses utilize primary, secondary, and tertiary prevention interventions. The goal of primary prevention intervention is to strengthen the flexible line of defense in order to protect the normal line of defense. Secondary prevention intervention is used to protect the basic structure by strengthening the lines of resistance and tertiary prevention intervention is to promote reconstitution and prevent further stress reactions.

Neuman’s model utilizes the perceptions of the client and nurse in relation to the stressor and actual or potential variance from wellness, in developing a nursing diagnosis. Data are collected about five variables (physiological, psychosocial, sociocultural, developmental, and spiritual) and interactions among the variables.

An alteration in the client system’s social support constitutes an interpersonal stressor. Stressors have potential for reaction with the client, can cause a reaction with defined symptoms, and can influence reconstitution. Likewise the ability to accurately measure the client system’s perceived social support bears the potential then to be used to strengthen the flexible line of defense and positively affect reconstitution of the client system through appropriate nursing interventions.

Summary

Neuman (1989) views the nursing process as purposeful and goal directed. The client is viewed in a holistic manner, and nursing actions must relate to the whole person. Nurses should attempt to control or manage all of the variables affecting the client (Fawcett, 1989). It is the responsibility of the professional nurse to
accurately assess and plan care collaboratively with the client to optimize the client’s well-being. The development and evaluation of a reliable and valid measure of social support are crucial to accurately assess social support, the clients’ perception of their social support, and the perceived social support’s affect on the client system experiencing the stressor of breast cancer.

**Question**

The research question becomes then, does the PRQ demonstrate reliability (short-term stability of scores and internal consistency), concurrent validity, and construct validity, (discriminate validity principle, ruling out a mental health or personality constructs), when used to assess the perceived social support of the client experiencing the stressor of breast cancer.

**Literature Review**

**Conceptual.** Social support has been described as a diffuse, multidimensional concept with little agreement in regard to actual componential definition or mechanism of action (Dean and Lin, 1977). To establish a basis for discussion, the similarities and differences of the major conceptualizations are contrasted.

Weiss (1969, 1974) has proposed six categories of "provisions" of social relationships that are provided by relationships from a number of sources with varying degrees of specialization and overlap. The provision of attachment refers to gaining a sense of security and place; social integration is provided through a network of relationships where participants share concerns, information, and ideas; opportunity for nurturance implies an adult accepting responsibility for the well-being of a child;
reassurance of worth happens when an individual is recognized for competent performance in a social role; a sense of reliable alliance is provided through familial relationships in which the individual is assured of ongoing assistance; and the obtaining of guidance is gained from a trustworthy authoritarian figure, when seeking emotional support and/or cognitive guidance during a stressful situation.

Social support is characterized by Caplan (1974) as a continuing or ongoing support achieved through enduring relationships that provide help for the individual in mobilizing psychological resources and mastering emotional burdens, sharing tasks, and providing material supplies, skills, and cognitive guidance. This is accomplished by the support system offering information, guidance and feedback to the individual and by providing a refuge or sanctuary where the individual may experience stability and comfort.

Cobb (1976, p. 76) defined social support as "information leading the person to believe that he or she is cared for and loved, esteemed and valued, and part of a network of communication and mutual obligation." In contrast to other theorists, Cobb did not consider tangible services or material aid to be a form of social support (Caplan, 1974).

In 1979, Khan proposed the term "convoy" to denote the set of significant people to whom the individual is related by giving or receiving social support. By Khan's definition, social support consists of interpersonal transactions that contain one or more of the following: expression of positive affect of one human to another, the affirmation of another's behaviors, perceptions, or expressed views, and the actual
giving of either symbolic or material aid to another. Reciprocity is implied. Both Khan (1979) and Caplan (1976) have included reciprocity as a characteristic of social support. Reciprocity is described as a recipient and supplier alternating roles to achieve mutual satisfaction needs. In addition Kahn's (1979) "convoy" metaphor describes changes over time.

Schaefer, Coyne, and Lazarus (1981) defined social support as being comprised of three subconcepts: emotional, informational, and tangible support. Emotional support was attachment, reassurance, trust in a person as a confidant and security. Informational support included both advice and evaluation of one's performance and/or behaviors. Material support consists of supplies and giving direct aid, affect, and affirmation.

House (1981) structured the definition issue as: "Who gives what to whom regarding which problems", (p. 22). House also, analyzed the existing definitions of social support in buffering stress and facilitating well-being. House proposed the composite definition of social support as follows:

1. Emotional support (esteem, affect, trust, concern, listening);
2. Appraisal support (affirmation, feedback, social comparison);
3. Information support (advice, suggestion, directives, information);
4. Instrumental support (aid in kind, money, labor, modifying environment).

According to House (1981), the relationship between objective stress and enduring health outcomes is mediated by various factors such as the characteristics of the individual or their social situations, individuals' perceptions of their situations and
the types of short-term responses that individuals make to stressful events. Stress occurs when the demands of a situation outweigh the client’s ability to deal with the social situation. House postulated that social support buffers the effect of stress by enabling the individual to perceive an event as less stressful, by facilitating the adaptive efforts of the individual, or by lessening the reaction of the stressor on the individual.

Tilden (1985) describes House’s definition as an “important contribution to the definition of social support”, (p. 201). In that House’s conceptualization of social support subsumed all subconcepts of the other aforementioned major definitions of social support and illustrates Neuman’s (1989) description of intra, inter, extrapersonal stressors on the client system, it is the definition employed in this study.

Regardless of the disparity involving the descriptions of the various aspects of the social support phenomena, there is agreement that social support may alter outcomes of clients recovering from surgery and illness; reduce pregnancy complications related to stress (Hamburg and Killiliea, 1979); affect the level of adaptation, an eventual outcome for women who experience the stressor of mastectomy (Bloom, Ross, and Burnell, 1978).

Breast Cancer Related.

There are few studies specifically designed to measure social support for the client experiencing breast cancer. Early studies conducted by Quint (1963) and Ervin (1973) were descriptive in nature, involved small samples of post-mastectomy clients
and no quantitative measures. Findings consisted of the women’s perceptions of limited support from physicians and nurses, and from family who felt impotent in dealing with the cancer. A number of studies conducted in the 1970’s reported that social support was an important factor in the adjustment of women to mastectomy (Jamison, Wellisch, and Pasnau, 1976; Wellisch, Jamison, and Pasnau, 1978; Maguire, 1976; Woods and Earp, 1978) but only in the Woods and Earp (1978) study was the concept of social support actually measured objectively. In this latter study a significant relationship was found between the number of physical symptoms related to surgery and post-mastectomy depression. Social support (helping and listening), was seen to have a mediating effect on the relationship between symptoms and depression. This was the first study to demonstrate a buffering effect from social support with mastectomy clients. The validity of the instrument to measure social support had not been tested.

The earliest report of an experimental study which included components of social support was by Bloom, Ross, and Burnell (1978). The findings suggested that breast cancer clients who participated in organized support programs involving emotional support of nurses, social workers, and Reach for Recovery volunteers had an increase or maintained positive self-concept. The quasi-experimental study used a comparison group of 18 women who had experienced mastectomies. The intervention group consisted of 21 women who experienced mastectomies during the study. The interventions were considered as a whole and the separate effects of the social support components could not be evaluated. Reliability and validity of the measures
were not cited in this study.

Bloom (1982) later repeated his study, reporting that social support was identified as the strongest predictor of three measures of adjustment: self-concept, sense of power, and psychological stress in post-mastectomy women. The instruments were the same as before.

Data were obtained from 50 mastectomy clients and their spouses at 3 and 30 days post-operatively to determine the nature of the relationship between social support and adjustment of mastectomy clients and their husbands over time in a study conducted by Northouse (1988). Clients and their spouses were found to differ significantly in the perceived levels of support over time; spouses perceived less support from friends, nurses, and physicians. Social support was measured using Norbeck’s Social Support Questionnaire (NSSQ), which had been reworded specifically for the study. Reliability alpha coefficients were .90 for clients and .94 for husbands; an indication that the NSSQ had high internal consistency.

Feather and Wainstock (1989) studied the relationships between social support and network providers in breast cancer clients. The NSSQ was used to measure social support. Results from the NSSQ indicated that women perceived greater emotional support than aid (tangible materials) from their network providers. In this study the NSSQ format was altered. No specifics were cited related to the alteration or measures of reliability or validity provided.

The work to date on social support as a moderator variable in buffering the environmental stressor of breast cancer is limited. This is related to the many
measures of social support that have been created to evaluate the gamut of different conceptualizations of the social support construct. Theoretically similar and theoretically different but relevant concepts need to be compared to the concept of interest, social support, in order to provide evidence of construct validity (Messick, 1980; Nunnally, 1978; Weinert and Tilden, 1990).

Assumptions

The following assumptions are basic to this study:

1. Accurate measurement and assessment of the client system’s perceived social support is a responsibility of the professional nurse.

2. Breast cancer or its threat, is a stressor that impacts the client.

3. Social support buffers the client system from the physiological and/or psychological stressors that impinge on the client’s flexible lines of defense.

4. Alteration in the client’s perceived social support constitutes an interpersonal stressor.

5. Questionnaires will be answered truthfully.

Definition of Terms: Conceptual and Operational

- Adult women. A woman 18 years or older.
- Professional nurse. A registered nurse with a current license.
- Social support. A conceptualized definition for this study, is the degree to which the client system perceives that her needs for understanding, acknowledgement, ventilation and acceptance have been satisfied by sources inside and outside the family network (Neuman, 1989; House, 1970).
Perceived social support. Conceptually defined, originally by Weiss (1969, 1974), as consisting of provision for intimacy/attachment; social integration; opportunity for nurturant behavior; reassurance of worth as an individual and in role accomplishments; and the availability of informational, emotional, and material help. These concepts are the basis of Weinert’s PRQ85, Part 2. Perceived social support is operationally defined for this study, as the total score from the 25 items on the 7 point Likert scale of the PRQ 85 Part 2. This summed score denotes the perceived social support of the respondent (Weinert, 1981, 1983, 1987, 1989, 1990).

Mental health constructs. Theoretically related mental health constructs selected for this study are depression and anxiety (Weinert, 1989). The construct of depression was measured by the scores obtained on the Beck Depression Inventory. The construct of anxiety was measured by the score obtained on the Spielberger State-Trait Anxiety Inventory (Trait only). Inverse correlation scores were expected when the BDI and STAI scores were compared with scores on the PRQ85, Part 2, to rule out depression or anxiety as a construct measured by the PRQ85.

Interpersonal resources. Operationally defined as the total number of resources the respondent could count on in the ten problem situations in Part 1 of the PRQ 85 (Weinert, 1990).

Validity. The degree which an instrument measures what it is supposed to measure. There are basically three classifications of validity: (1) content, (2) criterion, and (3) construct validity. This study evaluated criterion and construct validity of the PRQ85, Part 2.
- **Criterion validity.** The degree to which scores on an instrument correlate with an external criterion that is of higher status or a better established measure of the same concept. In this study, concurrent testing of the PRQ with the NSSQ was used to add to the validity of each (Nunnally, 1978). The Pearson Product by Moment Correlation was used to assess the score relationships.

- **Construct validity.** This validity classification is essential in the measurement of abstract concepts and is concerned with the extent to which a measure relates to other measures consistent with theoretically derived hypothesis concerning the concepts to be measured (Carmines and Zeller, 1979; Woods and Catanzaro, 1989). In this study, the PRQ 85 is compared with specific theoretically relevant constructs of mental health, anxiety and depression, to establish whether the PRQ 85 is measuring a concept other than social support. This is also known as discriminant validity (Nunnally, 1978). The BDI and STAI were used to measure depression and anxiety respectively. Pearson Product by Moment Correlation assessed the relationships between the mental health constructs, depression and anxiety.

- **Reliability.** This is the degree of consistency or accuracy with which an instrument measures an attribute. The higher the reliability reading, the less error present in the obtained scores. It is composed of two aspects, stability and internal consistency. Stability concerns the extent that the PRQ85, Part 2 yields the same mean scores on repeated administrations. Operationally this was measured with test/retest mean scores using a t-test. The internal consistency or homogeneity of the
PRQ85 is operationally defined as the value of the Cronbach’s alpha coefficient when administered to this sample. For the purpose of this study the following interpretation was applied to the resultant Cronbach alpha coefficients: .95 (very high), .80 (high), .70 (satisfactory) (Polit and Hungler, 1989).
Chapter III.
Methodology

Research Design

The purpose of this methodological study was to evaluate the PRQ 85 (Brandt and Weinert, 1981; Weinert, 1985) to substantiate its reliability with respect to the client experiencing the stressor of breast cancer, to provide evidence of criterion validity from concurrent testing with the NSSQ (Norbeck, et al, 1981, 1983, 1985), and to provide construct validity ruling out mental health constructs by comparing the PRQ 85 with both the BDI (Beck, 1967) and STAI (Spielberger, 1970).

Conceptual Framework: Research Question

The framework for this study was based on Neuman’s view of the client as a holistic and multidimensional composite of physiological, sociological, developmental, and spiritual variables. Psychosocial factors such as social support exert a protective effect which may buffer the individual from physiological and/or psychological ramifications of stressors that impinge on the clients lines of defense. Alteration in the clients perception of their available social support when dealing with the environmental stressor of breast cancer, whether negative or positive, can strengthen or weaken the clients lines of defense accordingly.
Research Question

Does the PRQ 85 demonstrate reliability, criterion validity, and construct validity when used to assess the perceived social support of the client experiencing breast cancer? In answering this question, a methodological research design was chosen. Methodological research is concerned with the development, validation, and assessment of instruments or strategies. The focus of the methodological study was primarily to increase knowledge with respect to the methods used in performing scientific research, in order to develop accurate and meaningful tools (Polit and Hungler, 1987). As such, this study examined the psychometric properties of the PRQ 85, a first generation social support measure, when used with women experiencing the stressor of breast cancer.

Description of the Research Setting

The study was conducted in a large metropolitan city in the southwestern United States. The subjects completed the questionnaire in settings of their own choice. No manipulation or control was intended.

Human Subjects’ Rights

The ethical principles underlying the use of Human Subjects’ Rights were observed. Consent to participate was informed and voluntary, as evidenced by the participant’s signature on the consent form after they had read the cover letter (Appendix A), that explained risks, benefits, and requirements pertinent to this study. Each questionnaire also contained the following statement: Return of this questionnaire will be considered as consent to participate in this study.
This study falls under Category I (no risk) of the federal guidelines for research with human subjects, as it is limited to the use of a confidential questionnaire administered to adults. Subjects were requested to not place their names or initials on the questionnaires, in order to maintain the anonymity of their responses.

Submission of the research proposal was made to both the University and Department of Nursing Human Subjects’ Rights committees with subsequent approval attained. The completed approval form with abstract is included in Appendix B.

Population and Sample

The accessible population for this study was adult women, 18 years or older living in the selected metropolitan area who had experienced the diagnosis of breast cancer. The expected number of women with breast cancer was determined to be 12.5% of the population in this metropolitan area (American Cancer Society, 1986). The sample consisted of all women experiencing breast cancer, 18 years or older, who were known to the major oncology clinics in the metropolitan area.

Criteria

The criteria, for inclusion was adult women aged 18 years or older, who lived in this metropolitan area, and who had a diagnosis of breast cancer. As women meeting the criteria who presented at their oncologist’s clinic were asked if they would be willing to participate in a research study. Those 82 women who agreed to participate became the sample for this study.

This sample was obtained by a convenience sampling, and not large enough to be indicative or representative of all women with breast cancer living in a large urban
area in the southwestern United States.

Pilot

A pilot study to elicit information relating to the clarity of the tools, length of administration time, pertinency of demographics to the population, and clarity of instructions was conducted prior to this study. Ten women meeting the sample criteria were given the same questionnaire packet without additional explanation. Signature on the cover letter with informed consent, constituted their agreement to participate. After completing the questionnaire packet, the participants were verbally asked to rate (1) clarity of the tools, (2) length of time to complete, (3) feelings, if any, of invasiveness in regard to the demographic sheet and, (4) overall clarity of instructions. The overall findings of the pilot study were as follows: (1) Clarity- Nine participants agreed that the questionnaire was 9 on a scale of 1-10, 10 being easily understood, print legible, and easily followed. One of the women found a great deal of repetition in the BDI. (2) Time- All of the participants finished in less than the predicted one hour. Five finished in less than 45 minutes and the other five within 30 minutes. (3) Feelings- None of the participants felt any part of the questionnaire was invasive or too painful to answer. (4) Instructions- All of the women found the instructions clear and easily followed. Of the tools, three of the women found the Norbeck tool was the most confusing, but all answered the questionnaire in its entirety. Based the pilot study no changes were made.

Data Collection

Five of the major oncology clinics in the metropolitan area were asked for
permission to approach their breast cancer clients to ask for their participation in this study. After speaking with the director of each clinic and gaining permission to use their facilities, a contact Registered Nurse was designated. The designated Registered Nurse at each facility was given an inservice related to the purpose of the study, subject criteria, the tool itself, and how the information was to be presented to the breast cancer client, before giving them the questionnaires. It was also explained, that this researcher would be in contact weekly to problem solve and restock the questionnaires.

Written consent was obtained from the participants. Participants were made aware of the purpose of the study, that their participation was voluntary, and that withdrawal from the study was possible at any time (Appendix A). The persons who met the criteria and agreed to participate were given the first of two sets of questionnaires. The questionnaires were packaged with a graphically designed cover depicting women participating in various activities in southwestern scenes to increase interest in the contents of the questionnaire (Dillman, 1978). The return address was printed on the inside of the graphic cover, in the event the return envelope would be misplaced.

The cover letter emphasized the importance of the response of the subject, as well as the usefulness of the study (Dillman, 1978). The participant was assured of anonymity. The name and phone number of the researcher was provided if the participant had questions. All information has been kept in the personal files of the investigator. No other persons have had access to this information. Each sheet in
each packet was coded for data entry ease and confidentiality.

The first set of questionnaires consisted of: (1) a cover letter with an attached consent form, (2) a demographic questionnaire, (3) the PRQ 85 with instructions, (4) the NSSQ with instructions, (5) the Beck Depression Inventory (BDI) with instructions, (6) the Spielberger Self-Evaluation Questionnaire (STAI) with instructions, and (7) a self-addressed, postage paid return envelope.

Twenty-five of the original 82 respondents provided an address as evidence of further willingness to participate in answering a second questionnaire packet. These twenty-five women were sent the second questionnaire packet. This questionnaire included: (1) a sheet for assessment of major changes that might have occurred in the 4 to 6 week time frame, (2) the PRQ 85, and (3) a self-addressed post paid return envelope. Twenty-one (84%) of the twenty-five women returned the second questionnaire. The 21 participants comprised a subset of 25% of the original sample for test-retest methodology. This second set of questionnaires was mailed out approximately one month after the first set was returned. Stability and reliability were evaluated by test/retest and a Cronbach’s alpha coefficient.

Evidence of construct validity was evaluated by correlation of the scores on the PRQ85 (perceived social support) with the scores measuring depression and anxiety from the BDI and STAI scales. Factor analysis was utilized to evaluate the multidimensionality of the PRQ 85 subscales. Though the small sample size makes interpretation this latter analysis unstable.

**Investigator’s Role**
The investigator's role, in this study, was unobtrusive, as no attempt was made to manipulate any variable, nor alter any setting. This investigator's role and responsibility was to collect, analyze, interpret, and present data as gleaned. As was explained in the cover letter, results of this study were made available upon request.

Instruments: Description/Reliability

In terms of feasibility, time involvement, and the choice of a methodological research design, four questionnaires were chosen. They are as follows: The PRQ 85 (Appendix C), the NSSQ (Appendix D), the Beck Depression Inventory (Appendix E), and the Spielberger Self-Evaluation Questionnaire (Appendix F); and a demographic questionnaire (Appendix G). Each questionnaire has a separate set of instructions. The instruments were combined into a five part instrument. The combined instrument was formatted according to suggestions by Dillman (1978), in order to increase interest in completion by the subjects. According to Glazer-Waldeman (1984), these instruments were compatible with the reading level of this study population. Instruments used in this study were purported, by their authors to be a 5th to 6th grade reading level and the lowest level of education reported in the study was 8th grade.

Demographic Questionnaire

The demographic questionnaire (Appendix G) developed by this researcher was based on literature review, Neuman's model, and suggestions offered by Jane Norbeck and Clarann Weinert, with receipt of their tools. Norbeck and Weinert's suggestions were made to enable comparison of results of this study with data from
their previous and ongoing studies. The questions included were:

1. Age in years,*
2. Marital status,*
3. Length of marital status,
4. Gender,*
5. Education (highest degree or number of years),*
6. Occupation,
7. Employment status,
8. Race/ethnic background,*
9. Religious preference/spirituality,* and
10. Year when diagnosed with breast cancer.

(* Data requested by both Weinert and Norbeck for their meta-analyses.)

Spirituality was included as part of the religious preference options. Religious preference/spirituality choices are inclusive of aspects of support other than organized religion. Neuman (1989) views spirituality as being on a continuum of development that permeates all other client system variables. The spiritual variable positively or negatively affects or is affected by the condition and the interactive effect of other variables, such as grief or loss (psychosocial states), which may arrest, decrease, initiate, or increase spirituality. The spirit controls the mind and the mind consciously or unconsciously controls the body. Through careful assessment of client needs in the spiritual area, followed by purposeful nursing interventions such as encouraging hope, and developing social support structures, optimal wellness and
stability of the client system may be achieved (Neuman, 1989).

"Year when diagnosed with breast cancer", was added as there are research findings that indicate social support resources change over time and in proportion to the duration of illness (White, Richter, Fry, 1992; Roberts, 1984; Adams and Lindemann, 1974; Feldman, 1974; Lubkin, 1986). Information describing all subjects was elicited to reflect a clearer picture of the study sample. The demographic data help to clarify potential influences that may alter outcomes in statistical analysis.

**Beck Depression Inventory (BDI)**

The BDI is a 21-item measure of symptoms characteristic of clinically depressed individuals. The variable measured is depression. The response alternatives for each item are defined by a 4-point (0-3) ordered scale. Each of the possible responses is uniquely defined by a statement describing the respondent with respect to each item. The items each correspond to a specific manifestation of depression.

The items in the BDI were primarily clinically derived. Consensus on the appropriateness of response alternatives was accomplished by having a panel of psychiatrists judge different psychiatric clients with respect to severity on the different categories.

Reliability and validity. Internal consistency was evaluated by comparing item scores and total scores for each client (N=200). All items were found to have significant correlation (Beck, 1967). Split half reliability was computed (N=97) and the Spearman-Brown coefficient of 0.93 was obtained. Concurrent and construct
validity has been established in more than 100 published studies.

Administration. The BDI is self administered and the completed BDI takes approximately 10 - 15 minutes to complete. The BDI is scored by summing the individual responses. The total score has a potential range of 0 to 63. Based on the discriminate validity principle, in this study the BDI was used to substantiate construct validity by comparing the PRQ85 with the BDI to rule out the mental health construct of depression.

Researchers have found that their measures of social support correlated with psychiatric symptomology and personality characteristics (Lin, Simeone, Ensel, and Kuo, 1979; Sarason, Levine, Basham, and Sarason, 1983; Pearson, 1986; Weinert, 1987). Social support would be expected to be related to depression, but not the same as depression. It is necessary to establish that the PRQ85 is measuring something other than mental health constructs. A moderate negative correlation was expected indicating the conceptual construct of social support, as measured by the PRQ85, Part 2, is related to but different from the mental health construct of depression.

Spielberger State - Trait Inventory (STAI)

STAI is a two-part self administered test. The self report scales measure the concepts of state anxiety and trait anxiety. Each scale consists of 20 phrases and requires only 5 - 10 minutes to complete. The STAI contains explicit directions and not subject to influence by the researcher. The state scale directs subjects to describe how they feel "right now". The trait scale directs the subjects to describe how they feel "usually". Scores can range from a minimum of 20 to a maximum of 80 for
each of the subscales.

The reliability of the STAI has been established through methods of test-retest correlation, measures of internal consistency using Cronbach modified KR-20 formula (Waltz, Strickland, and Lenz, 1984). Construct validity was established through administration of the state anxiety scale to a sample (N=977) of undergraduate college students. Both of the critical ratios and correlation coefficients (Alpha .87) were highly significant (Spielberger, 1983). This instrument was selected to rule out anxiety constructs by comparing the PRQ85 with the STAI based on the discriminate validity principle (Woods and Catanzaro, 1989). Again a negative low to moderate correlation was predicted.

**Norbeck Social Support Questionnaire (NSSQ)**

The NSSQ is a self-report questionnaire designed to measure multiple dimensions of social support. The NSSQ was based on Kahn's (1979) definition of social support, "interpersonal transactions that include one or more of the following: the expression of positive affect of one person toward another; the affirmation or endorsement of another person's behaviors, perceptions, or expressed views; the giving of symbolic or material aid to another"(p. 85). This questionnaire focuses on interpersonal transactions over time. Khan's concept of convoy - the vehicle through which social support is provided - is measured through three network properties: number in the network, duration of relationships, and frequency of contact with network members.

Scores for the three functional components and three network properties are
derived from ratings made by the respondent for each person in her personal network. For each name on the network list, the respondent completes 9 questions requiring Likert-like responses. Descriptive data regarding sources of support can be calculated for the network as a whole or for specific subscales.

Administration. The NSSQ can be self-administered to groups or through group mailings. The average time required to complete the tool is reported as 10 minutes. The NSSQ can be scored directly from the questionnaire or responses transferred to a one page scoring sheet. Norbeck (1983) reported ease of scoring and administration, and item test-retest reliabilities ranging from .71 to .92. Internal consistency based on interitem correlations is high. Construct validity was examined in correlation with measures of life change and mood states, but without significant results (Norbeck, 1981, 1983).

The NSSQ is one of the two most cited social support instruments in nursing literature (Tilden, 1985; Rock, Greene, Wise, and Rock, 1984; Pearson, 1986); the other instrument being the PRQ85. Both instruments were developed in the early 1980's by nurse researchers and have well established reliability and validity with diverse populations.

Their primary differences are in format and measurement of client perception. The PRQ85 as was discussed in depth earlier, measures the number of social support resources (Part 1) and the clients' satisfaction with assistance they received from the listed social support in Part 1. Perceived social support is evaluated by the summed score in Part 2. The NSSQ's format asks the respondent to list their social support
network members and to rate these individuals on a series of Likert-type questions related to functional properties of social support and to structural network properties. The respondents’ perception of social support is not assessed.

The principle of criterion validity involves selecting an instrument that has a higher status or is a better established measure of the same concept to correlate scores with a lesser established tool said to measure the same concept (Knapp, 1985). The NSSQ has been utilized in studies with women with breast cancer (Northouse, 1988, 1989; Feather and Wainstock, 1989). Correlation of these measures lends evidence of validity to both. A positive low moderate correlation was predicted.

**Personal Resource Questionnaire (PRQ 85)**

The PRQ 85, a first generation social support questionnaire is a norm referenced measure of social support based on the relational dimensions described by Weiss. The original PRQ was developed by Brandt and Weinert (1981). Following its initial use, a slightly modified version, the PRQ 82, was developed. A series of methodological studies were used by the authors to evaluate the psychometric properties of the PRQ 82. Strong estimates of reliability were obtained using both internal consistency and test-retest methods. Initial support of content, criterion, and construct validity was obtained (Weinert, 1987; Weinert, 1988; Weinert and Brandt, 1987). Following extensive use and testing of the PRQ 82 the current version, the PRQ 85, was developed (Weinert and Tilden, 1990).

Reliability estimates for the PRQ85 - Part 2 have been previously assessed with four varied data sets. For these four data sets, the internal consistency reliability
(coefficient alpha) for the total perceived social support scale range from .88 to .90. The range of the subscale reliability coefficients was as follows: intimacy .66 to .75; social integration .59 to .76; nurturance .68 to .80; self-worth .66 to .90; and assistance/guidance .69 to .75. Reliability is not a property of the instrument, but rather considered with each sample under specific conditions (Polit and Hungler, 1983). Therefore, each new population of clients needs to be reliability tested.

The PRQ 85 consists of two sets of measures of social support. Part 1 of the questionnaire provides descriptive information about the person’s social support resources and satisfaction with those resources. This is a descriptor of situational support that consists of 10 life situations in which the individual might be expected to need assistance.

Part 2 is a global measure of perceived social support developed from Weiss’ (1969, 1974) model of relational functions. *Perceived social support* is defined as consisting of provision for attachment/intimacy; social integration, that is being an integral part of a group; opportunity for nurturant behavior; reassurance of worth as an individual and in role accomplishments; and the availability of informational, emotional, and material assistance.

Weiss’s (1974) definition of the five major functions of social support: (1) the indication that one is valued, (2) that one is an integral part of a group, (3) the provision for attachment/intimacy, (4) the opportunity for nurturance, and (5) the availability of informational, emotional, and material help. These five major
functions parallel the functions that form Neuman’s composite view of the psychosociocultural variable. Neuman, (1989) states that the "interrelationships of variables - (physiological, psychological, sociocultural, developmental, and spiritual) - determine the nature and degree of system reaction or possible reaction to the stressor" (p. 17). It is the goal of nursing to keep the client system stable by identifying intrapersonal, interpersonal, and extrapersonal stressors and then mutually setting goals to produce optimal well-being for the client. The PRQ 85 seeks to identify the client’s perceived level of social support and provides descriptive information about their resources and their satisfaction with these resources.

The PRQ 85 provides two estimates of social support: the number of interpersonal resources (Part 1) and the person’s perceived support level (Part 2). The number of interpersonal resources is obtained by summing the total number of resources the subject could count on across the 10 problem situations in Part 1. The second support variable, perceived social support, is obtained by summing the 25 item, 7 point Likert scale scores that assessed the 5 relational functions: intimacy, nurturance, social integration, self-worth, and assistance/guidance. A high score in Part 2 indicates that the subject perceived a high level of support. The scale ranges from 25 to 175.

Administration. The PRQ 85 is a paper and pencil self-administered questionnaire, requiring about 15 minutes to complete. Clear directions appear at the beginning of each section. This tool may be administered in a group or through group mailings.
The PRQ 85 was selected for this study because of the simplicity and ease of administration, well established reliability and validity with varied populations, and the definition of social support used in developing the PRQ 85. The mechanics of the tool have been described at length, as have been the studies conducted to established the reliability and validity of this tool. Obtaining further construct validity and test-retest reliability data when administered to women experiencing breast cancer, helps to establish the credibility of this tool’s applicability to this population, and the tool’s consistency across groups.

Data Analysis

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS). Data from the demographic questionnaire were analyzed using descriptive statistics. Demographic data of the respondents were compared against census data and the National Cancer Association’s profile for women with breast cancer in the United States (1988) to determine representativeness of the sample (Polit and Hungler, 1987).

Reliability

Internal consistency. Internal consistency was evaluated through intercorrelation among items of the PRQ85, Part 2. According to Nunnally (1978), coefficient alpha’s should be obtained before other types of reliability estimates, because the most common source of measurement error is likely to be content sampling and the internal consistency of a measure considers the sampling of situational factors associated with the administration of items (p. 230). Cronbach’s
alpha, an internal consistency reliability coefficient was obtained for all instruments used in this study. Reliability is the proportion of the true variance to total variance in a measure. It is the criterion that refers to the reproducibility of the procedures and operations. Polit and Hungler (1989), suggest there is no exact standard for what a reliability coefficient should be. If a researcher is only interested in making group level decisions, then coefficients in the vicinity of .70 or even .60 are sufficient. However if measures are to be used as a basis for making critical decisions about individuals, then the alpha should be .90 or greater. Polit and Hungler (1989), suggest the following interpretation for group level measurement of internal consistency: .95 (very high), .80 (high), .70 (satisfactory). Woods and Catanzaro (1988), state that unreliability is indicated by coefficients lower than .70. For this study, internal consistency measured by Cronbach’s alpha is interpreted by the scale suggested by Polit and Hungler (1989).

**Stability.** Test-retest reliability was assessed with the administration of the PRQ 85 to a subset of 25% of the original sample, 4 to 6 weeks after the first set of questionnaires was returned. Stability, short-term, predicted the retention of the null hypothesis, that there is no significant difference in the mean scores for the two sets of questionnaires. A t-test was used for the comparison of means.

**Validity**

Several procedures were used to assess validity. Validity refers to the degree which an instrument measures what it is supposed to measure (Polit and Hungler, 1987). There are basically three classifications of validity: (1) content, (2)
criterion related, and (3) construct validity. This study evaluated criterion and construct validity of the PRQ 85.

**Criterion validity.** Criterion validity is the degree to which scores on an instrument correlate with an external criterion that is of a higher status or is a better established measure of the same concept (Knapp, 1985). In this study, concurrent testing of the PRQ with the NSSQ adds to the validity of both measures.

**Construct validity.** Construct validity is essential in the measurement of abstract concepts and is concerned with the extent to which a measure relates to other measures, consistent with theoretically derived hypothesis concerning the concepts to be measured (Carmines and Zeller, 1979; Woods and Catanzaro, 1989). In this study, the PRQ 85 is compared with specific theoretically relevant constructs of mental health, anxiety and depression, to establish whether the PRQ 85 is measuring a concept other than depression or anxiety. This is also known as discriminant validity (Nunnally, 1978). The BDI measures the depression construct and the Spielberger STAI measures the anxiety construct. These scores were compared with summed scores of part 2 of the PRQ 85, representing perceived social support. The strength and direction of the correlations indicate the construct validity of the PRQ 85.

Factor analysis of the PRQ 85 evaluated the multidimensionality of the tool. The 25 individual items were analyzed for item to item correlation. From these correlations it is be possible to determine if the five subsets are uniquely measuring aspects of social support. The small sample size, however reduced the stability of this analysis.
Chapter IV

Results

This chapter discusses the results of the data gathered for this methodological study. Data were collected through mailings as described in detail in the previous chapter entitled Methodology. Items on the Demographic Questionnaire were analyzed by descriptive statistics. Inferential statistics were used to analyze data pertinent to the research question. These results are presented in the following format: the sample is described, followed by the individual tool reliabilities, analysis of the data used to answer the research question, and lastly other pertinent findings.

Description of the Sample Characteristics

A total of 200 questionnaires were divided among the five major oncology clinics in a southwestern metropolitan area. The oncology clinics shared the following similarities: hospital settings, treatment plans, administration of chemotherapy on their premises by Registered Nurses, an openness to research, and financial resources of their clients. The criteria for inclusion was a woman experiencing breast cancer, 18 years or older, living in the metropolitan area. The sampling frame was women who met this criteria and who were clients using one of these major oncology clinics.

A total of 163 questionnaires were distributed to clients who met the study
criteria as they presented at their oncologist's clinic. Eighty-three questionnaires were returned by mail to this researcher. One of these was returned blank with a note declining participation. There was no other written explanation for declining. This resulted in an actual sample of 82 and a usable questionnaire return response rate of 50.3% of those distributed.

Description of Socioeconomic Data

The sample was older, more affluent, better educated, and more apt to be married than the general metropolitan population from which it was drawn. The median age of this sample was 65 years of age. The median age of the metropolitan population was 33.1 years of age, with 24.5% under age 18 years, and 10.5% 65 years or older (Bureau of Census, 1990). In relation to the population of women in the United States with breast cancer, the sample is more homogenous. Breast cancer incidence rates increase with age, but the rate of increase is faster after the age of 50 (Kelsey & Gammon, 1991) The American Cancer Society (1988), estimated breast cancer by age with 1992 United States Census projections. The projection was that of the 140,000 women who would be diagnosed with breast cancer, in 1992, 77.8% of these women would be over age 50, and 50.8 % would be over age 65. This sample had 75% aged 55 years and older and approximately 50% aged 65 years and older (Table 1).
Table 1

Distribution of Sample by Age (N = 82)

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>33 - 43</td>
<td>8</td>
<td>9.6</td>
</tr>
<tr>
<td>44 - 49</td>
<td>12</td>
<td>14.7</td>
</tr>
<tr>
<td>50 - 55</td>
<td>9</td>
<td>11.0</td>
</tr>
<tr>
<td>56 - 61</td>
<td>5</td>
<td>6.0</td>
</tr>
<tr>
<td>62 - 67</td>
<td>12</td>
<td>14.6</td>
</tr>
<tr>
<td>68 - 73</td>
<td>11</td>
<td>13.3</td>
</tr>
<tr>
<td>74 - 79</td>
<td>21</td>
<td>25.6</td>
</tr>
<tr>
<td>80 - 85</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td>86 - 91</td>
<td>1</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Mean Age: 61.89

Standard Deviation: 13.099

Median Age: 65.00
Data revealed 53.7% of the sample were married, 23.2% were divorced or separated (Table 2). By comparison 50% of the households polled by the Bureau of Census (1990) were married and 34.2% of the households were non-family households, those including single, widowed without children, and divorced without children. Breast cancer incidence in the United States is highest among women who have never married (Kelsey & Gammon, 1991).

The sample reflected a highly educated group with 52.4% having completed one or more years of college, of these 36.6% completed 4 years of college, 15.8% completed 5 or more years of college (Table 3). The population's educational attainment for those 24 years and older reflected 77.3% were high school graduates and 13.8% were college graduates. Educational levels for women with breast cancer have not been reported.

Breast cancer is more common among woman in upper socioeconomic classes than among those women in lower classes (Kelsey & Gammon, 1991). Income was reported with 35.4% of the sample earning more than $45,001 per year. Twenty-eight percent of the sample was in the $15,001-$30,000 range, 23.2% in the $30,001-$45,000 range, and 19.5% in the $45,001-$60,000 range (Table 4). Population income reported by the Bureau of Census was $15,109 per capita with a median family income of $30,746 (1990). Caucasians made up 75% of the general population, Blacks 9.5%, Asians 3.5%, and Hispanics 11.2% (Bureau of Census, 1990).
Table 2

Distribution of Sample by Marital Status (N = 82)

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never Married</td>
<td>8</td>
<td>9.8</td>
</tr>
<tr>
<td>Married</td>
<td>44</td>
<td>53.7</td>
</tr>
<tr>
<td>Separated</td>
<td>9</td>
<td>11.0</td>
</tr>
<tr>
<td>Widowed</td>
<td>19</td>
<td>23.2</td>
</tr>
<tr>
<td>Living with Significant Other</td>
<td>2</td>
<td>2.4</td>
</tr>
</tbody>
</table>
### Table 3

**Distribution of Sample by Highest Grade Attained (N = 82)**

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>8th - 9th</td>
<td>5</td>
<td>6.1</td>
</tr>
<tr>
<td>10th - 11th</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>30</td>
<td>36.6</td>
</tr>
<tr>
<td>Some Years of College</td>
<td>12</td>
<td>24.6</td>
</tr>
<tr>
<td>Baccalaureate Degree</td>
<td>18</td>
<td>22.0</td>
</tr>
<tr>
<td>Graduate Work</td>
<td>13</td>
<td>15.8</td>
</tr>
</tbody>
</table>
### Table 4

**Distribution of Sample by Family Income (N = 82)**

<table>
<thead>
<tr>
<th>Income</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $15,000</td>
<td>11</td>
<td>13.4</td>
</tr>
<tr>
<td>$15,001 - 30,000</td>
<td>23</td>
<td>28.0</td>
</tr>
<tr>
<td>$30,001 - 45,000</td>
<td>19</td>
<td>23.2</td>
</tr>
<tr>
<td>$45,001 - 60,000</td>
<td>16</td>
<td>19.5</td>
</tr>
<tr>
<td>$60,001 - 75,000</td>
<td>9</td>
<td>11.0</td>
</tr>
<tr>
<td>$75,001 and over</td>
<td>4</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Mean Income: $30,180  
Median Income: $37,500
Table 5

Distribution of Sample by Ethnicity (N = 82)

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td>White</td>
<td>73</td>
<td>89.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>----</td>
</tr>
<tr>
<td>American Indian</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.2</td>
</tr>
</tbody>
</table>
In comparison the sample considered itself to be 89% Caucasian, 3.7% Black, and 4.9% Hispanic (Table 5). At present the incidence of breast cancer is higher in Caucasian women than in Black women. Lower than average rates of breast cancer have been recorded for Hispanics, Japanese, American Indians, and Asians (Kelsey & Gammon, 1991).

Spirituality was included as a part of the religious preference option. Religious preference/spirituality choices are inclusive of aspects of support other than organized religion. Of the 82 women, only 6 (7.3%) reported they had no formal belief system. Almost half (46.3%) of the women were protestant, 31% Catholic, and 11% Jewish (Table 6). The Bureau of Census did not publish data related to belief systems (1990). Kelsey & Gammon in their study on the epidemiology of breast cancer (1991), found Seventh-Day Adventists and Mormans had the lower rates of breast cancer, while Jewish women had higher rates than average.

"Year when diagnosed with breast cancer" was added as there are research findings that indicate social support resources change over time and in proportion to the duration of illness (White, Richter, Fry, 1992; Roberts, 1984; Adams and Lindemann, 1974; Feldman, 1974; Lubkin, 1986). Of the sample 31 (37.8%) of the women were diagnosed with breast cancer before 1989, 15.8% in 1990, 14.6% in 1991, and 31.7% in 1992 (Table 7). The data collection for the study began November of 1992 and continued through May of 1993. None of these participants had been diagnosed less than 9 months from the onset of data collection.
Table 6

Distribution by Belief System (N = 82)

<table>
<thead>
<tr>
<th>Belief System</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
<td>26</td>
<td>31.7</td>
</tr>
<tr>
<td>Jewish</td>
<td>9</td>
<td>11.0</td>
</tr>
<tr>
<td>Protestant</td>
<td>38</td>
<td>46.3</td>
</tr>
<tr>
<td>No Preference</td>
<td>6</td>
<td>7.3</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>3.7</td>
</tr>
</tbody>
</table>
Table 7

Distribution of Sample by Year of Diagnosis (N = 82)

<table>
<thead>
<tr>
<th>Year Diagnosed</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964 - 1969</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td>1970 - 1975</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>1976 - 1981</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>1982 - 1987</td>
<td>13</td>
<td>15.7</td>
</tr>
<tr>
<td>1988*</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>1989*</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>1990*</td>
<td>13</td>
<td>15.7</td>
</tr>
<tr>
<td>1991*</td>
<td>12</td>
<td>14.5</td>
</tr>
<tr>
<td>1992*</td>
<td>26</td>
<td>31.3</td>
</tr>
</tbody>
</table>

*Last five years (1988 - 1992) are expanded separately to elucidate the distribution pattern.
Reliability

The five instruments utilized in the collection of data were administered as described in the chapter entitled Methodology under the instrument section. They were the Personal Resource Questionnaire (Appendix C), the Norbeck Social Support Questionnaire (Appendix D), the Beck Depression Inventory (Appendix E), Spielberger State-Trait Anxiety Inventory (Appendix F), and the researcher developed Demographic Information sheet (Appendix G).

The Personal Resource Questionnaire (PRQ85) consisted of two parts. Part 1 provided descriptive information about the woman's social support resources, measuring quantity and the satisfaction experienced with those resources. Part 2 is a global measure of her perceived social support. With this sample of women experiencing the stressor of breast cancer, a Cronbach's alpha of .7419 was obtained for part 1 and .8722 for part 2. These reliabilities are somewhat lower than with other population samples reported by Weinert (.87 to .90 for part 2). In three other studies using the PRQ85, the range of alphas was .87 to .91. This sample's coefficients indicate satisfactory to high internal consistency for the PRQ85, Part 2 (Polit and Hungler, 1989).

The NSSQ is a self report questionnaire that measured multiple dimensions of social support: function, structure, frequency, and duration. Scores for the three functional components (affect, affirm, aid) and three network properties (number [structure], duration, frequency) were derived from ratings made by the respondent for each member of her personal network. Scores for the total function and total
network properties were also computed for each respondent. Internal consistency for
the three scale subsets were as follows: Total Function .98, Total Network .66, Total
Loss .79. Norbeck reported alphas of .96, .92, .79 respectively which with the
exception of the Total Network scale are comparable. The lower Total Network
alpha indicates this scale is not as homogenous with this sample. The other scales
indicated satisfactory to high internal consistency. Correlation coefficients for inter-
item correlation indicated high correlation between affect, affirm, and aid items.
Subscales of the Total Function ranged from .97 to .93 indicating perhaps
redundancy or too much similarity in the items. Total Function correlated moderately
with Total Network .81 indicating they were related, but not the same. There were
no significant relationships between Total Loss items and any of the Functional or
Network properties (-.18) to (-.23). These findings correlate with Norbeck’s study

The BDI was developed to measure symptomology characteristic of clinically
depressed individuals. In this study discriminate validity principle was applied using
the BDI to measure the construct of depression. Internal consistency for the BDI with
this sample was .77. This was lower than the Spearman Brown coefficient .93 that
Beck obtained with his sample of outpatients in a psychiatric clinic (Beck and
Beamesderfer, 1974). The Spearman Brown coefficient will obtain a falsely high
coefficient if the sample is not divided appropriately (Woods and Catanzaro, 1988)
and it is not a good correlative to the Cronbach alpha. It is also of note that this
study sample was not composed of clinically depressed women, as was Beck’s
This study’s findings do compare better with Weinert’s Montana group of middleclass, non-depressed, white couples, with an average age of 61.4 years (1987). Her sample alpha was .74, indicating a satisfactory internal consistency as does this study alpha of .77 for the BDI.

The STAI is a two part self administered test used to measure anxiety, currently present (state) and that generally experienced (trait). The scores obtained on the Trait Anxiety Scale were compared with the PRQ85 Part 2 (perceived social support) to rule out anxiety constructs. The use of the Trait was the more realistic of the two anxiety scales, as this is the generally experienced measure and also the measure of anxiety used by both Norbeck (1981) and Weinert (1987) in their studies. The Cronbach alpha for Trait was .91 indicating high internal consistency with the study sample (Table 8).

Analysis of Research Question

The research question that arose from the Neuman Model was, "Does the PRQ85 demonstrate reliability (short-term stability of scores and internal consistency), criterion validity, and construct validity (discriminate validity) when used to assess the perceived social support of clients experiencing the stressor of breast cancer?" Short-term stability of the PRQ85 was measured by test/retest scores and the internal consistency measured by Cronbach alpha. Criterion validity was measured by
Table 8

**Mean Scores, Standard Deviations and Alphas Obtained**

on PRQ85, Parts 1,2, NSSQ, STAI, BDI\(N = 82\)

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Mean Score</th>
<th>S.D.</th>
<th>Possible Score Range</th>
<th>Alphas</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRQ85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part 1</td>
<td>21.08</td>
<td>7.87</td>
<td>indefinite</td>
<td>.74</td>
</tr>
<tr>
<td>Part 2</td>
<td>143.92</td>
<td>16.92</td>
<td>25 to 175</td>
<td>.87</td>
</tr>
<tr>
<td>NSSQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T. Function</td>
<td>196.34</td>
<td>10.83</td>
<td>max. 630</td>
<td>.98</td>
</tr>
<tr>
<td>T. Network</td>
<td>42.01</td>
<td>17.93</td>
<td>max. 235</td>
<td>.66</td>
</tr>
<tr>
<td>T. Loss</td>
<td>3.58</td>
<td>6.26</td>
<td>0 to indefinite</td>
<td>.79</td>
</tr>
<tr>
<td>STAI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>31.65</td>
<td>10.60</td>
<td>20 to 80</td>
<td>.94</td>
</tr>
<tr>
<td>Trait</td>
<td>31.17</td>
<td>9.04</td>
<td>20 to 80</td>
<td>.91</td>
</tr>
<tr>
<td>BDI</td>
<td>4.06</td>
<td>4.01</td>
<td>0 to 63</td>
<td>.77</td>
</tr>
</tbody>
</table>
Comparison of scores on the simultaneously administered PRQ85 and NSSQ.

Construct validity was measured by comparison of scores obtained on the PRQ85 with the BDI and Trait scale of the STAI to rule out depression and anxiety constructs (Table 8).

**Reliability.** Reliability as measured by the internal consistency of the total perceived social support (PRQ85, Part 2) and total interpersonal resources (PRQ85, Part 1) was evaluated by Cronbach's alpha coefficients. Internal consistency refers to the homogeneity of the tool. The greater the reliability coefficient, the greater the likelihood that the tool measures the attribute of interest, in this study social support. Alphas of .87 for Total Perceived Social Support and .74 for Total Interpersonal Resources were obtained. These results indicate high internal consistency for the perceived social support scale and satisfactory internal consistency for the interpersonal resource scale (Polit and Hungler, 1989).

In addition to internal consistency, the stability of the tool was assessed. Stability, a form of reliability is extremely important when the same measure is applied at two or more points in time. One way to establish stability is to administer the tool at one time and then repeat its use at another, then analyze these scores for change or difference. This is test/retest and is an estimate of short-term stability. Short-term stability was estimated for each of the two social support variables, number of interpersonal resources and perceived social support. The PRQ85 was completed by 82 women who met the study criteria and who agreed to complete the first questionnaire packet. Four to six weeks later the PRQ85 was mailed to the 25
women who had agreed to complete the second questionnaire. An assessment question, "During the interim between the first questionnaire and second questionnaire, have you lost any important relationships due to moving, a job change, divorce or separation, death, or some other reason?" was included to evaluate for actual change in social support. A yes or no response was selected. If yes, the participant then related the changes on a likert scaled response of 0 (none at all) to 4 (a great deal). It was expected that there would be little change in either composition of network or level of functional support over the 4 to 6 weeks time span. Literature had suggested that a time span of greater than 3 months could alter the support structure (Norbeck, 1981; Weinert, 1987; Berkman, & Syne, 1979). Independent t-tests were calculated for total scores and each subset, to determine if there was a significant difference between the mean scores of the initial group and retest group (Table 9). An independent t-test was chosen because of the inability to pair scores. The retest group was known to be women who had been in the initial group, but not specifically which woman had reported the initial score. To better assure the participant anonymity the address sheet was not coded, thus negating a match of participants. Only those women who wished to continue in the study and/or wanted the study results returned this sheet. This violation of the independence assumption of the t-test may alter the significance of the results.

The resultant scores were as expected. With the alpha set at .05, the null hypothesis was retained in all cases. In the retest group the mean scores were compared to the mean scores of the initial group. Table 9 presents the findings.
Table 9

**Means, Standard Deviations, and T-test Comparison**

**PRQ85, Parts 1, 2 Initial Group Scores with Retest**

**Group Scores (Initial N = 82, Retest N = 21)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>t value</th>
<th>2 - tail Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRQ85, Part 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>731.1807</td>
<td>61.85</td>
<td>1.28</td>
<td>.203</td>
</tr>
<tr>
<td>Retest</td>
<td>710.4500</td>
<td>76.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRQ85, Part 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>56.08</td>
<td>16.82</td>
<td>.59</td>
<td>.555</td>
</tr>
<tr>
<td>Retest</td>
<td>53.65</td>
<td>15.11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alpha set at 0.05
It is noted that the retest mean scores are slightly lower than those of the initial group mean scores. The unappreciable differences could be related to boredom from repetitious questions, as well as stability of the responses. The slight decrease may also indicate fewer numbers of interpersonal resources or slightly less perceived social support. This was not indicated on the self report question included in the retest questionnaire. Only one of the twenty-one respondents indicated a loss and that was rated as 1 on the scale of 0 to 4. In consideration that no significant differences in support were reported, the results support short-term stability of the PRQ85, Part 1 and Part 2.

**Criterion validity.** The principle involved with criterion validity is to compare an instrument that has a higher status or better established measure of the same concept with a lesser established tool said to measure the same concept (Knapp, 1985). The NSSQ, one of the two most cited social support instruments, has been utilized in studies with breast cancer. The PRQ 85 the second most cited social support instrument had not been used with breast cancer clients until this study. The primary difference between PRQ 85 and NSSQ are format and assessment of client perception, as has been discussed in detail in the chapter on methodology under instruments.

As a means of establishing criterion validity, the PRQ 85, Part 1 and 2 and NSSQ were administered concurrently. Pearson correlation scores were obtained between NSSQ Total Functional variable and its subscales, Total Network and Total Loss Amount and the PRQ85, part 1 and part 2 (Table 10). It was expected these
scores would show a moderate, positive relationship. Significant levels of association were noted for all relationships between the NSSQ and PRQ85, Part 2, except for Total Loss. The r's ranged from .28 to .36 with the PRQ85, Part 1; and .39 to .42 with the PRQ85, Part 2 when Total Loss Amount was excluded. The strength and direction of these correlations lend to the validity of each. The low moderate positive association suggests both measure the same construct, social support; lending evidence criterion validity for the PRQ85.

Construct Validity. Construct validity (discriminant validity), is a way of describing how scores from a measurement instrument interrelate with other variables. It is the extent to which a measure relates to other measures of similar but different concepts and is consistent with theoretically derived hypothesis concerning the concepts to be measured (Carmines and Zeller, 1979; Wood and Cantanzaro, 1989). In this study the PRQ85, part 2 is compared with specific theoretically relevant constructs of mental health, anxiety and depression, to establish whether the PRQ85, Part 2 (perceived social support) is measuring a concept other than these mental health constructs.

The BDI was used to measure the construct of depression. Scores can range from 0 to 63, with the higher scores indicating greater depression. The sample mean
Table 10

Intercorrelations Between the NSSQ Total Variables, Subscales and the PRQ85, Part 1,2 (N = 82)

<table>
<thead>
<tr>
<th>NSSQ Scales</th>
<th>PRQ85, Part 1</th>
<th>PRQ85, Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Function</td>
<td>.3398**</td>
<td>.4111**</td>
</tr>
<tr>
<td>Affect</td>
<td>.3393**</td>
<td>.4214**</td>
</tr>
<tr>
<td>Affirm</td>
<td>.3694**</td>
<td>.3905**</td>
</tr>
<tr>
<td>Aid</td>
<td>.2892**</td>
<td>.3983**</td>
</tr>
<tr>
<td>Total Network</td>
<td>.3164**</td>
<td>.3766**</td>
</tr>
<tr>
<td>Total Loss Amt.</td>
<td>-.0638</td>
<td>-.0024</td>
</tr>
</tbody>
</table>

**Significance LE .01

2 - Tailed Probability
score on the BDI of 4.061 (SD = 4.016) was lower than the mean score of Weinert’s Montana group of 6.28 (SD 4.36) (1987). It would indicate that this sample of women with breast cancer was less depressed than Weinert’s group (Table 8).

In prior research by Weinert with the Montana sample, the association between social support and the indices of negative mood states was evaluated with a subsequent $r = -0.31$ obtained. A moderately negative correlation, would be expected if the conceptual construct social support, as measured by the PRQ85, Part 2, is related to but different from the mental health construct, depression. As with the finding from earlier studies (Weinert, 1983; Weinert and Brandt, 1987; Len, Simeone, Ensle, and Kuo, 1979), the PRQ85, part 2 had the expected moderate negative correlation with Beck Depression Inventory $r = -0.4155$. The direction and strength is conceptually consistent with perceived social support being related to, but not the same as depression, as measured by the BDI (Figure 1).

The Spielberger STAI measures the construct of anxiety. The scores can range from 20 to 80, with higher scores indicating greater anxiety. For this sample mean score on the State was 31.659 (SD = 10.600), and on the Trait was 31.171 (SD 9.046). Weinert’s Montana group obtained a mean score of 34.68 (SD 7.87) and was significantly lower, $p < .001$, (Weinert, 1987) than the mean score of 42.68 (SD 13.76) noted by Spielberger for a non clinical group of adults. The findings indicate a lower anxiety level for this sample of women with breast cancer than either Weinert’s or Spielberger’s group.
Figure 1. The relationship of Perceived Social Support (PRQ85, Part 2) and depression (BDI).
Anxiety, the construct measured by the Trait scale of the STA1 was expected to have a moderate negative correlation with the PRQ85, part 2, perceived social support. In earlier studies by Weinert and Brandt (1987) the correlation between PRQ82, part 2 and Trait anxiety scale was $r = -.39$ and a similar study by Weinert (1990) indicated a correlation of $r = -.37$ with the Trait anxiety scale. With this sample the correlation between PRQ85, Part 2 and Trait was a $r = -.53$, higher than the correlation found by the earlier studies. The direction and strength of the correlation is consistent with the social support construct being related to but not the same as the anxiety construct (Figure 2).

The PRQ85, part 2 scores can range from 60 to 175 with the higher scores related to higher perceived social support. Earlier studies using the PRQ82 and 85, part 2, (Weinert, 1989) reported mean scores of 130.1 to 149.2. The mean PRQ85, part 2 score for perceived social support by this sample of women experiencing the stressor of breast cancer was 143.927 (SD 16.923), a score consistent with Weinert (1989). Conceptually, if a high score on perceived social support was found, low to moderate scores on both the BDI and Trait, should be found giving a negative correlation between the scores. These were the findings in this study and earlier studies (Weinert, 1989; Weinert and Brandt, 1987). The strength and direction of these correlations of the PRQ85, part 2 with the BDI and Trait, found in this study, support construct validity of the PRQ85, Part 2 when applied to this sample (Table 11).
Figure 2. The relationship of Perceived Social Support (PRQ85, Part 2) and anxiety (Trait Anxiety).
Other Findings

Factor analysis of the PRQ85, part 2 was calculated to evaluate the multidimensionality of the tool. Social support as measured by Part 2 of the PRQ85 is the women’s perception of her social support. Weinert (1982) viewed the social support construct as being composed of five underlying dimensions: intimacy, social integration, nurturance, worth, and assistance. The twenty five items in the PRQ85, part 2 are measures of these five dimensions of the construct of social support and are used to assess the respondent’s perceived social support.

Factor analysis involves two phases: factor extraction and factor rotation. Factor extraction consists of intercorrelating variables to identify clusters of highly correlated variables. The result of this step is an unrotated factor matrix. Principle Component Analysis was the procedure used to extract these factors. Each cluster or factor should represent a single construct. This procedure was done to identify the items that represent the five dimensions of perceived social support proposed by Weinert (1982). Seven factors were extracted with the Principle Component Analysis (Table 12). Eigenvalues were examined. Factor I had an eigenvalue of 7.80 accounting for 31.2% of the variation. Factor II had an eigenvalue of 3.06 accounting for 12.2% and Factor III had an eigenvalue of 2.00
Table 11

Pearson Product by Moment Correlation Coefficients (r) for:

Perceived Social Support (PRQ, Part 2) with

Depression (BDI), and Anxiety (Trait) for Ivey (N = 82)

and Weinert Study (1987)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Ivey</th>
<th>Weinert Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression (BDI)</td>
<td>-.4155**</td>
<td>.31**</td>
</tr>
<tr>
<td>Anxiety Trait (STAI)</td>
<td>-.5303**</td>
<td>.37**</td>
</tr>
</tbody>
</table>

**Significance ≤ .01

2 - Tailed Probability
Table 12

Eigenvalues and Percentage of Variance Explained

for Significant Factors: PRO85, Part 2

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Percentage of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>7.80802</td>
<td>31.2</td>
</tr>
<tr>
<td>II</td>
<td>3.06146</td>
<td>12.2</td>
</tr>
<tr>
<td>III</td>
<td>2.00992</td>
<td>8.0</td>
</tr>
<tr>
<td>IV</td>
<td>1.51700</td>
<td>6.1</td>
</tr>
<tr>
<td>V</td>
<td>1.44512</td>
<td>5.8</td>
</tr>
<tr>
<td>VI</td>
<td>1.25995</td>
<td>5.0</td>
</tr>
<tr>
<td>VII</td>
<td>1.04504</td>
<td>4.2</td>
</tr>
</tbody>
</table>
accounting for 8.0%. The next four factors, although each had an eigenvalue greater that 1, accounted for a total of only 21.1% additional variance. In examining the scree plot for discontinuity, there was an abrupt drop after the first three factors and again after the last four (Figure 3). In either case five factors were not evident.

The second phase, factor rotation using the Varimax component of SPSS Factor Analysis, was performed using the factor matrix obtained from the Principle Component Analysis. Varimax is orthogonal with factors uncorrelated with each other. This is usually desirable for instrument development when the researcher wants to isolate subscales that are independent of one another (Munro, Visentainer, Page, 1986). Factor rotation distinctly associates groups of items with factors, factors are then clarified by the item loadings that are clearly higher or lower.

Factor I, with 31.2% of variance, loaded 7 items: one intimacy, one worth, two nurturance, and three assistance. Stem item 14, "I have relatives that will help" is an assistance item that also loaded on factor I, but at .40901, not high enough to normally be included (Woods, R; Catanzaro, M. 1988) Factor II accounted for 12.2% of the variance, loaded 5 items at greater than the .50 delineation and one item at .45994. Three of these items were social integration items, one intimacy and one worth item. Factor III accounted for 8% of the variance and loaded 3 items: two worth, and one nurturance item. These 3 factors account for 51.5% of the total variance. Factors IV - VII account for only 21.1% of the rest of the variance.
Figure 3. The scree plot of factors extracted during the Factor Analysis of the PRQ85, Part 2 depicting discontinuity as shown by the abrupt drop after the first three factors and again after the last four factors.
These results may suggest a three factor structure. The majority of the items (17 of 25) load on just three factors. Three of the original 25 items loaded at less than 0.50. There was no predominance of subscale items loading on any one factor. This inconsistency from previous reported research by Weinert prompted personal conversation (August 10, 1993) with the author of this tool. She related they too had found inconsistencies in the formation of subscales and were using total scores only on the PRQ 85, Part 2 for the perceived social support value.

Little credence can be attributed to these results with a sample N of 82. To have been an adequate sample it would have been necessary to have 5-8 subjects per item analyzed (Munro, Visintainer, Page, 1986). It is reasonable however, to define perceived social support as measured by the PRQ 85, Part 2, as a multidimensional scale whether a 3-factor, 5- factor, or 7- factor scale. The question is not really how many factors, but that there is more than one factor representing the concept put forth originally by Weiss (1969, 1974) and later as accepted by Weinert (1982).
Chapter V
Summary of the Study

This chapter presents a summarization of the study and recommendations. The chapter has been organized into five major sections: discussion of the findings, conclusions, study limitations, implications for nursing practice, and recommendations for further research.

Discussion of Findings

Overall Findings. The purpose of this methodological study was to evaluate the PRQ85, Part 2 to substantiate its reliability and validity with respect to the client experiencing the stressor of breast cancer. Specifically the goals were: to provide evidence of criterion validity from concurrent testing with the Norbeck Social Support Questionnaire (NSSQ), and provide construct validity, ruling out mental health constructs of depression and anxiety by comparing the Personal Resource Questionnaire (PRQ85), Part 2 with the Beck Depression Inventory (BDI) and Trait scale of the Spielberger State-Trait Anxiety Inventory (STAI).

The conceptual framework used for this study was based on Neuman's view of the client as a holistic and multidimensional composite of physiological, psychological, sociological, developmental, and spiritual variables. Psychosocial factors such as social support exert a protective effect that may buffer the individual from physiological and/or psychological ramifications of stressors such as breast
cancer, that impinge on the client's lines of defense. This framework suggests a need for nursing to be able to accurately and consistently measure and evaluate the perceived social support in women diagnosed with breast cancer.

The convenience sample was selected in a southwestern metropolitan area. The 82 women who comprised the sample had a median age of 65 years, were predominately white, more apt to be married, highly educated, and more affluent than the metropolitan population from which the sample was drawn. The sample was comparable to the overall description of the woman with the highest risks for breast cancer: over age 55, caucasian, upper socioeconomic class, and living in an urban area (Kelsey & Gammon, 1991). Disparity from this overall description was in area of marital status with the highest risk being women having never been married. The study sample was more representative of the population of women across the United States having a diagnosis of breast cancer, than to the general metropolitan population which was expected. The small convenience sample however limits the generalization of the findings of the study to the population of women with breast cancer as a whole.

The 82 usable questionnaires were sufficient for the purpose of this research question. The small sample makes interpretation of a factor analysis, to evaluate multidimensionality of the PRQ85, Part 2 subscales unstable. Factor analysis was not a major aspect of the study nor part of the research question. It was included to add to the body of knowledge about the tool.

A higher return rate could have been facilitated had the researcher lived in the area of the study and been present more often to encourage the contact Registered
Nurses in each oncology clinic to hand out the questionnaires to all of the women meeting the criteria for inclusion. Another problematic area was participant anonymity. The actual anonymity of the participant limited access to them. It was not possible to send a reminder postcard, nor know which questionnaires belonged to whom when they were returned.

The review of literature suggested women who indicate they have a belief system, perceive greater social support than those that do not have a belief system. The literature also reported social support resources change over time and in proportion to the duration of illness (White, Richter, Fry, 1992; Roberts, 1984; Adams and Lindemann, 1974; Feldman, 1974; Lubkin, 1986). Pearson Product by Moment Correlations between the PRQ85, part 2 (perceived social support) and belief systems, length of illness, age, educational attainment, ethnic background, and income did not support any significant relationships existing between perceived social support and the selected socioeconomic variables. It is possible that if the belief system question had been expanded to include, "How much time do you regularly spend engaged in activities that involve your belief system?", a more refined reading could have been obtained for that variable. Another question that might help quantify the weight of their belief system is, "If you have a belief system, how much does it contribute to your security?" Ratings could be designated for either of the questions such as, 0 (none at all) to 4 (a great deal) and quantification may be possible.

The correlation proposed between perceived social support and time or length of illness could be evaluated with a longitudinal study over months rather than weeks.
It would also be interesting to see if the initial questionnaires completed more immediate to the diagnosis, then repeated at 6 months, and finally at one year past breast cancer diagnosis, would show a linear change. The women in this study were at least nine months post diagnosis, but no correlation was found between social support and the length of diagnosis. The acute changes in social support may not be as evident after one year post diagnosis, as the literature suggests the support system stabilizes at about one year (Quint, 1963; Peters-Golden, 1982; Meyeromitz, Watkins, and Sparks, 1983).

Findings in Relation to the Research Question. The research question, "Does the PRQ85 demonstrate reliability (short-term stability and internal consistency), criterion validity, and construct validity when used to assess the perceived social support of the women experiencing the stressor of breast cancer?" was answered positively by the study. Reliability was assessed by its two components, short-term stability and internal consistency. Criterion validity was measured by the concurrent testing of the PRQ85, Part 1 and 2 and the NSSQ. Pearson Product by Moment Correlation was used to determine the degree which the PRQ85, Part 1 and 2 coincides with a known measure of social support, the NSSQ. Construct validity using the discriminant validity principle to rule out mental health constructs or personality constructs was measured by comparison of scores on the PRQ85, part 2 with the BDI and Trait scale of the STA1.

Reliability

Internal consistency. Cronbach's alpha, an internal consistency coefficient,
was obtained on all the instruments utilized in the study. All coefficients were greater than .70, an acceptable coefficient when using the tool for group level measurements (Woods and Catanzaro, 1988). The .70 alpha or greater, indicates internal consistency, supporting reliability of the instruments used for this sample of women with breast cancer.

**Stability.** Independent t-tests were calculated to evaluate if there was a significant difference between the initial and retest PRQ85, Part 1 and 2 mean scores. With an alpha set at 0.05, the null hypothesis was retained in all cases, indicating there were no significant differences between the mean scores for the PRQ85, parts 1 and 2, initial test group and the retest group. These results indicate stability of the respondents number of interpersonal resources and perceived social support as measured by the PRQ85, Part 1 and 2 over a 4 to 6 week period of time. The significance may be altered by the concession that the assumption of independence for the t-test was violated.

**Validity**

**Criterion validity.** Criterion validity as measured by concurrent testing of the PRQ85, Part 1 and 2 with the NSSQ subscales (see Table 10), showed a range of \( r = 0.2892 \) to \( 0.3694 \) for Part 1 and \( 0.39 \) to \( 0.42 \) for Part 2, when Total Loss was excluded. With the exclusion of the Total Loss scale, the findings were as expected: low to moderate with a positive direction.

The PRQ85, part 2 correlated more highly with the subscales of the NSSQ: affect, affirm, aid than did PRQ85, Part 1. This is reasonable when one recognizes
that part 2 measures perceived social support, not numbers of persons and that part of perceived social support are components of the NSSQ social support, such as aid, function, duration. The subscales (aid, function, duration) are connected with questions, "How much does this person make you feel loved?", "How much can you confide in this person?", "If you really needed to borrow money ...?". These measures are highly related to perceived social support, more so than the elaboration of numbers of persons. In summary, low to moderate but significant correlation and the positive direction of relationship, demonstrate evidence for criterion validity indicating both measure the same construct. The concurrent testing also lends validity to both tools.

**Construct Validity.** Scores from the BDI, a measure of clinical depression, and scores from the Trait scale of the STAI, a measure of anxiety in the general population were compared by Pearson Product by Moment Correlation with the expected resultant inverse moderate strength correlation with both measures. The direction, strength, and negative relationship indicated that these concepts are related, but not the same. Conceptually, if high scores are obtained on the PRQ85, Part 2 low scores should be found on the BDI (depression) and Trait (anxiety) meaning high support and low depression and anxiety. Mean scores for perceived social support were 143.92, indicating high perceived social support. Mean scores were 4.061 on the BDI and 31.171 on the Trait, indicating low depression and anxiety in this sample. These findings provide evidence for construct validity of the PRQ85, part 2 with this sample of women experiencing the stressor of breast cancer.
Multidimensionality. In previous studies Weinert, had conducted exploratory factor analysis of the PRQ85, part 2 to test multidimensionality of the scale. In psychometric testing with four samples, Weinert (1987) indicated the PRQ85, Part 2 had high internal consistency with alpha coefficients ranging from .87 to .90. This study’s alpha of .8722 is consistent with these findings. However, a 3-factor structure for the perceived social support, rather than the original proposed 5-factor structure stemming from the original conceptual model (Weinert,1982; Weinert, 1987) was suggested in this study.

However, the small size of the study sample must be kept in mind when attempting to interpret these findings. Overall findings from this study are congruent with those of Weinert adding strength to the criterion validity.
Conclusions

The conclusions based on the present study can be applied only to the sample, both because of the small sample size and the lack of randomness in the selection of the participants. The results indicate that the PRQ85 does have reliability, both short-term stability as indicated by test/retest and internal consistency, with this sample of women with breast cancer.

Criterion validity was supported with low to moderate but significant correlations in concurrent testing of the PRQ 85 with the more established social support instrument the NSSQ. Construct validity was supported for the PRQ85, Part 2 as evidenced by the significant moderate negative correlations, ruling out depression and anxiety constructs, with both the BDI and Trait.

The multidimensionality of the PRQ 85, Part 2 could not be adequately assessed using a factor analysis. The small sample size reduced the stability of this factor analysis. It was interesting to note that the analysis indicated a 3- subscale structure as was found by Weinert in her series of psychometric testing of this tool.

Findings do support utilization of the PRQ85 with women having the diagnosis of breast cancer. Therefore, based on the results of this study, reliability and validity of the PRQ85 were substantiated for the sample of women with breast cancer.
Limitations

The following were limitations of the study:

1. Initial distribution of the questionnaire by contact Registered Nurses in busy oncology offices may have limited number of qualified clients approached to participate in this study.

2. The use of mail methodology resulted in low response rate.

3. The instruments were blended into a questionnaire that may have been too lengthy and affected the response rate.

4. Anonymity of clients resulted in an inability to pair the specific scores in the retest group for analysis.

5. Small convenience sample size restricts generalization.

6. The questionnaire may have evoked anxiety or depression which in turn, may have reduced participant response.

Implications for Nursing Practice

The ability of the nurse to accurately assess and measure the clients’ perception of their social support and its contribution to optimal well being is invaluable. Psychosocial factors, such as social support, exert a protective effect which may buffer the individual from physiological and/or psychological ramifications of stressors such as breast cancer that impinge on the client’s flexible lines of defense. Alteration in the client’s perceptions of their social support can strengthen or weaken their lines of defense accordingly.

Substantiation of the reliability and validity of the PRQ85 with the sample of
women with breast cancer provides another step toward attaining a clinical tool that
nurses may use to more accurately assess their breast cancer client's social support
needs. Adaptation of the PRQ85 as an effective clinical tool would necessitate
refining the scoring techniques so nurses in a clinical setting could rapidly assess an
individual's perceived social support needs. A scale placing a value of the assessed
perceived social support need would allow the nurse to communicate to others
(nursing, social service, family) the level and degree of urgency the needs were for
social support intervention. Discharge planning would greatly benefit from a clinical
tool that could accomplish this evaluation quickly and accurately.

This research has also added to the body of nursing knowledge related to
social support. Substantiation of construct validity adds clarification for the
conceptual premise that social support is related to the mental constructs of anxiety
and depression but are not the same as social support. Strong social support could be
hypothesized to help overcome the depression and anxiety.

The application of the Neuman's Model in this the study supports a need for
nursing to incorporate a nursing model into their practice. By viewing the client
holistically, we can identify intrapersonal, interpersonal, and extrapersonal stressors
and then mutually, as Neuman suggests, set goals to produce optimal well being for
the client. The PRQ 85, Part 1 and 2 identifies the client's perceived level of social
support, descriptive information about their interpersonal resources and their
satisfaction with their resources.
**Recommendations for Further Study**

Based on the results of this study the following recommendations are made:

1. The proposed relationships between social support and strength of belief systems should be explored further. The demographic questionnaire did not assess belief systems well enough to quantify this concept.

2. The proposed relationship between social support and duration of illness could be better evaluated by longitudinal studies starting more immediate to the diagnosis of breast cancer and following at least one year. The participants in this study were all at least nine months post breast cancer diagnosis.

3. Adaptation of the PRQ85 as a clinical tool would necessitate refining the scoring techniques such that a nurse could rapidly assess the of Perceived Social Support of the individual client in a clinical setting. Studies pertinent to this refinement would be appropriate for clinical application of the PRQ85.

4. A study with a larger sample is needed to assess the multidimensionality of the PRQ85.
References


Barrera, M. J. (1986). Distinctions between social support concepts, measures and models. Unpublished manuscript; Arizona State University, Tempe.


Broadhead, W., Kaplan, B., & James, S. (1983). The epidemiologic evidence for a relation between social support and health. American Journal of
Epidemiology, 117, 521.


Earp, J. (1979). The effects of social support and health professional home visits on patients adherence to hypertension regimes (abstracts). Preventative Medicine, 8, 155.


APPENDIX A.

Cover Letter with Attached Informed Consent
Dear Ms:

I am a graduate student at the University of Nevada, Las Vegas, conducting research to learn how well questionnaires work in measuring social support.

**Purpose:** The purpose of this study is to learn how accurately social support questionnaires are in measuring social support for women with breast cancer.

**Procedure:** If you agree to participate in this study you will be asked to complete the attached set of questionnaires in one week and return it to me, in the enclosed self addressed, post-paid envelope in one week. Approximately one month later, you will receive a second and final set of questionnaires in sections, to be completed and returned in the same manner. The first questionnaire should take less than one hour to complete. If you become fatigued, you complete may the questionnaire in sections, as you find necessary or desire. This will not affect the outcome of the study. The second questionnaire takes less than thirty minutes. Instructions for completion are at the top of each section of the enclosed questionnaire.

**Risks:** Minor fatigue or anxiety may be experienced. The enclosed list of resources may be helpful if such occurs.

**Benefits:** The information obtained in this study will help nurses and hospitals to more accurately measure social support, and with more accurate measures, women with breast cancer can be better helped.

**Costs:** There is no payment for participation, nor cost other than the time and energy required to complete the questionnaires, to the participants in this study.

**Confidentiality:** Your responses are confidential. No names or identifying information will be used in reporting the results of this study. Please indicate if you want a copy of this study, when it is completed, by placing your address at the bottom of the page.

**Right to Withdraw:** You may refuse to participate or withdraw at any time.

Your signature below, indicates only that you have decided to participate in this study and that you have read the above information with understanding. Included are two copies of this information sheet. Please sign and return one copy. You may keep the second for yourself. Thank you for your cooperation and contribution of your time to nursing’s effort to evaluate our ability to measure social support for women with breast cancer.

Date: __________________________ Signature: ________________________________

I would like a summary of this study when completed.

Address: __________________________________________
APPENDIX B.

Human Subjects’ Rights with Abstract
UNIVERSITY OF NEVADA, LAS VEGAS

PROTOCOL FORM

FOR RESEARCH INVOLVING HUMAN SUBJECTS

INVESTIGATORS: List person principally responsible for the investigation on line a). If principal investigator is a student, list faculty advisor on line b).

Investigator: 

a) JENKY, BARBARA M. 
b) LUDE, MARGARET 
c) 
d) 

Department: 

MARRIAGE 

Phone: 

481-9830 
729-3502

UNLV status of Principal Investigator (circle): Faculty/Post-doctoral/Graduate/Undergraduate/Other

TITLE OF PROJECT: Social Support and the Woman with Breast Cancer: Issues of Measurement

NAME AND ADDRESS of sponsoring agency or foundation (if other than UNLV)

CONTRACT OR GRANT NUMBER (if known)

DURATION OF STUDY (Protocols must be renewed annually) 9/98 Start/99 Conclude

TYPE OF SUBMISSION: New

Renewal (attach progress report)

Modification

Previous Log # (if any)

LOCATION(S) OR FACILITIES where study will take place: Questionnaires will be mailed to individuals, then filled out in their homes and mailed back

Principal Investigator's Signature

Department Chair or Unit Head's Signature

Faculty Advisor's Signature (if warranted)
SURVEYS: (Please estimate numbers)

- [ ] Patients as experimental subjects
- [ ] Patients as controls
- [ ] Minors (under 18)
- [ ] Undergraduate students
- [ ] Pregnant women or fetuses
- [ ] Mentally disabled
- [ ] Prisoners, incarcerated subjects
- [ ] Normal adult volunteers
- [ ] Persons whose first language is not English.
- [x] Other (please specify)

TOTAL ANTICIPATED SUBJECTS

PROCEDURES: (ATTACH relevant materials, such as questionnaires, interview schedules, written test instruments, etc.)

- [x] Survey, questionnaire(s)
- [ ] Interview: phone/in-person
- [ ] Medical or other personal records
- [ ] Filming, taping, recording
- [ ] Observation
- [ ] Participant observation
- [ ] Anthropological fieldwork
- [ ] Psychological intervention
- [ ] Incomplete disclosure of purpose
- [ ] Payment of subjects
- [ ] Costs to subject/third parties

Brief Explanation of Procedures:

[ ] - Exposure on the Beck Depression Inventory, Personal AD Scale, Immigration Status, Past Compulsory Self-Evaluation Questionnaire, Urban's Social Support Questionnaire, Other (please specify)
UNIVERSITY OF NEVADA, LAS VEGAS
PROTOCOL FORM APPROVAL SHEET
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Log Number: ____________________

Title of Project: Social Support and the Woman with Breast Cancer: Issues of Measurement

Investigator: Bonnie M. Ivey

After reviewing this proposal, the members of the Review Committee have indicated below their approval/disapproval of this proposal.

Signature of Committee Members

Approve

Disapprove

The above named project is hereby approved/disapproved (circle one)

Date: September 10, 1992

Committee Chairman's Signature
Abstract

Problem

The framework for this study is based on Neuman's view of the client as a wholistic and multidimensional composite of physiological, psychological, sociocultural, developmental, and spiritual variables. Psychosocial factors such as social support, exert a protective effect which may buffer the individual from physiological and/or psychological ramifications of stressors that impinge on the client's flexible lines of defense. It is the responsibility of the professional nurse to accurately assess and plan care collaboratively with the client to optimize their well-being.

In order then, to provide accurate descriptions of the social support phenomena in women with breast cancer, nurses need assessment methods with known and acceptable levels of reliability and validity. While the social literature is abundant in theoretical and applied studies, few researchers have generated reports dealing with extensive psychometric analysis related to the development and validation of social support instruments.

Purpose

Research to substantiate reliability and validity of social support measures seems appropriate to theory building using the Neuman model. Therefore, the purpose of this study is to examine the psychometric properties of the Personal Resource Questionnaire (PRQ 85), a first generation social support instrument, in order to substantiate its reliability and validity with respect to the client with breast
cancer; and to provide evidence of criterion validity from concurrent testing with the Norbeck Social Support Questionnaire; and also to provide construct validity ruling out mental health constructs by comparing the PRQ 85 with both the Beck Depression Inventory and the Spielberger State-Trait Anxiety Questionnaires.

Method/Design. Data Collection

The methodological research design was chosen for this study in instrument development. This study will be conducted in a large southwestern metropolitan city. The sample consists of all women aged 18 or older with breast cancer, in this city. Approximately 400 subjects will be randomly chosen from a sampling frame of computer lists generated by the Cancer Society and National Tumor Board Registry, in this selected city.

The subjects that meet the criteria and agree to participate will be mailed two sets of questionnaires. The first set consists of (1) a cover letter, (2) a demographic questionnaire, (3) the PRQ 85, (4) the NSSQ, (5) the Beck Depression Inventory, (6) the Spielberger Self-Evaluation Questionnaire, and (7) a self-addressed post paid return envelope.

Procedures

The second set of questionnaires will include: (1) a validation sheet of potential major changes that might have occurred in the month’s time, (2) the PRQ 85, and (3) a self-addressed post paid return envelope. A subset sample of 1/4 of the original sample will be randomly chosen for test-retest methods. This second set will be mailed out approximately one month after the first set is returned. Stability and
reliability will be indicated by a Pearson coefficient score. Internal consistency scores will be evaluated by Cronbach’s alpha. Evidence of construct validity will be obtained by correlating the scores on the PRQ 85 (perceived social support) with the score measuring depression and anxiety from the BDI and Trait-Anxiety Scale. Factor analysis will be utilized to evaluate the PRQ 85’s multidimensionality of the subscales.

**Findings**

It is anticipated that the research finding from this population of women with breast cancer will provide further criterion and construct validity for the PRQ 85. It is expected that there will be high test-retest correlation scores and high internal consistency scores, as have been indicated with prior studies. Factor analysis may yield three subscales instead of the original five, as was noted by Weinert earlier (1987). Findings will be available in January 1993, at the study’s completion.

**Implications**

The implications of this study are relevant in two areas: (1) advancement of the social support theory and (2) research efficiency. First by improving the psychometric quality of social support scales, researcher obtain more accurate and reliable descriptions of the phenomena under study. Secondly, loss of time and effort are minimized when complete psychometric data are available and research efforts become more efficient. Research to substantiate reliability and validity of social support instruments provides more accurate measures of the clients perceived social support, and therefore nursing is then able to assist the client in attaining and
maintaining and optimal level of wellness by strengthening adaptive measures, decreasing stress factors, and reducing the effect of the stressors through the ability to accurately assess the client's perceived support.
APPENDIX C.

Personal Resource Questionnaire
PLEASE NOTE

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

97-109
111-117
119-121
123-124

University Microfilms International
APPENDIX D.

Norbeck Social Support Questionnaire
APPENDIX E.

Beck Depression Inventory
APPENDIX F.

Spielberger State-Trait Anxiety Inventory
APPENDIX G.
Demographic Questionnaire
Demographic Information

The following items relate to specific information about yourself. Please answer all items in the spaces provided below.

1. My age is: __________________.

2. My marital status is:
   ______ Never married.
   ______ Married, ___________ years married.
   ______ Separated/Divorced.
   ______ Widowed.
   ______ Living with significant other.

3. I consider myself to be:
   ______ Black.
   ______ White.
   ______ Hispanic.
   ______ Asian.
   ______ American Indian.
   ______ Other (specify).

4. The highest grade in school that I have completed is:_________________________.

5. My occupation is:__________________________________________________________

6. My employment status is:
   ______ Full - time.
   ______ Part - time.
   ______ Unemployed.

7. My approximate income for the last year was:
   ______ 0 - $15,000
   ______ $15,001 - 30,000
   ______ $30,001 - 45,000
   ______ $45,001 - 60,000
   ______ $60,001 - 75,000
   ______ $75,001 - + +

8. My religious/spiritual (belief system) preference is:
   ______ Catholic.
   ______ Jewish.
   ______ Protestant.
   ______ No preference.
   ______ Other (specify).

9. I was first diagnosed with breast cancer in _____________ (year).
APPENDIX H.

Permission Letters
Bonnie Ivey  
3660 Boulder Hgh., Space 67  
Las Vegas, NV 89121  

Dear Ms. Ivey:

Thank you for your call. I am pleased that you are interested in the PRQ85 for use in your research project. If you find it meets your needs, you have my permission to use it and reproduce as many copies as you will require. In this packet you will find a copy of the PRQ85, the directions for scoring, the suggested demographic information, and some additional results from the continued psychometric evaluation of the PRQ. Much of our work is published, but if you have specific questions please do contact me. Our latest article entitled "Social support: Assessment of validity", is in the July/August 1990 issue of Nursing Research.

As we continue to work with the refinement and development of the PRQ we are likewise beginning to collect and to collate data sets provided by researchers who have used the PRQ. One specific aim is to have a systematized data base that would provide a source of comparison across studies, populations, situations etc. If you are willing to share your data set we would be most happy to include it in this growing data base. I have included the list of demographic variables that should be sent with the data.

The PRQ has been designed with two distinct parts. Part 1 can address some aspects of the network structure and provides descriptive data regarding situational support. Part 2 is a scale developed to measure the level of perceived social support based on the work of Robert Weiss. While Part 1 can be used without Part 2 or Part 2 without Part 1 we ask that no items or questions be changed/deleted, or the item sequence altered in any way. If you feel you need to change specific items to meet the aims of your research, I would ask that you submit them to me for review. I would be happy to discuss any questions or concerns you have in relation to your specific research.

If you decide to use the PRQ85 in your research please send us a letter with a brief description of your study. Students are to include the name of their research advisor. The tool must be identified, in your questionnaire, as the Personal Resource Questionnaire and authorship of the tool acknowledged in any publication or communication regarding the tool. Please send three dollars to help with the expenses of this mailing. Thank you for your interest in the PRQ. I wish you well in your research.

Sincerely,

[Signature]

CRAIG W. WOOD, SC, PhD, RN, FAAN  
Associate Professor  

Mountains and Minds • The Second Century
APPENDIX A

Request Form

I request permission to copy the Norbeck Social Support Questionnaire (NSSQ) for use in research in a study entitled: Social Support and the Woman with Breast Cancer: Issues of Measurement

Position and Full Address of Investigator:

Permission is hereby granted to copy the NSSQ for use in the research described above.

Please send two signed copies of this form to:

Jane S. Norbeck, D.N.Sc.
Department of Mental Health and Community Nursing
University of California, San Francisco
NS05-Y
San Francisco, California 94143
Dear Customer,

You recently requested permission to "use" one of our testing instruments. No permission is necessary if you wish to use the tool in your research exactly as it is printed. You must be qualified, however, to purchase our materials.

The catalog I have enclosed for your examination contains Consulting Psychologists Press, Inc.'s Purchaser Qualification Form which details the requirements for the purchase of restricted materials. CPP requires a written copy of each customer's qualifications before selling any restricted test materials. For this reason, we believe that the responsibility for "use" belongs to the customer. In the case of a student the request should come jointly from the student, and the professor who supervises the research (and who cosigns the Purchaser Qualification Form). Please send your completed Purchaser Qualification Form, order, and prepayment to:

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3803 East Bayshore Road
Palo Alto, CA 94303-0979

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If you have purchased restricted material from us previously, you may call our Customer Service Department at (800) 624-1765 or (415) 969-8901 to place an order. Thank you for your interest in our materials!

Sincerely,

Lisa Sisneros
Permission Specialist

enclosure
September 1, 1992

Dear Ms. Ivey:

On behalf of Aaron T. Beck, M.D., I am responding to your recent inquiry regarding our research scales.

You have Dr. Beck's permission to use and reproduce the scale(s) checked below only for the designated research project that you described in your letter. There is no charge for this permission.

However, in exchange for this permission, please provide Dr. Beck with a complimentary copy of any reports, preprints, or publications you prepare in which our materials are used. These will be catalogued in our central library to serve as a resource for other researchers and clinicians.

- Beck Depression Inventory (BDI)
- Beck Anxiety Inventory (BAI)
- Hopelessness Scale (HS)
- Suicide Intent Scale (SIS)
- Scale for Suicide Ideation (SSI)
- Cognition Checklist (CCL)
- Sociotropy-Autonomy Scale (SAS)
- Weekly Activity Schedule (WAS)
- Daily Record of Dysfunctional Thoughts (DRT)
- Patient's Guide to Cognitive Therapy (PGCT)
- Patient's Report of Therapy Session (PRTS)
- Anxiety Checklist (ACL)
- Beck Self-Concept (BSCT)
- Dysfunctional Attitude Scale (DAS)

If you have any further questions, feel free to contact me.

Sincerely,

Karen A. Quinn
Assistant to Aaron T. Beck, M.D.

NOTE: Permission for inclusion of the BDI, BAI, HS, SSI, and BSCT in any publication must be obtained from The Psychological Corporation; telephone #: 1-800-228-0752.