

WATSON'S CARING THEORY AND
INSTRUMENT DEVELOPMENT

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BY
MARGARET H. STANFIELD, B.S., M.S.

DENTON, TEXAS

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TEXAS WOMAN'S UNIVERSITY
DENTON, TEXAS

July 1, 1991

Date

To the Dean for Graduate Studies and Research:

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Margaret Stanfield
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DEDICATION

In loving memory of my parents who stressed the value of doing one's best and that anything can be accomplished with work.

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WATSON'S CARING THEORY AND INSTRUMENT DEVELOPMENT

ABSTRACT

MARGARET STANFIELD, M.S., R.N.

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING
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Caring has been identified as a construct critical to contemporary nursing practice. However, the limited number of existing measurement instruments has limited research regarding caring. The purpose of this study was to further determine the reliability and validity of the Caring Behaviors Assessment (CBA) and to validate the theory on which it was based.

The CBA was developed using Watson' (1979) theory of carative nursing. Watson's theory identified 10 carative factors which served as the basis for the instrument's 7 subscales.

The instrument was administered to a convenience sample of 104 adults hospitalized on the medical-surgical units of a large metropolitan hospital. The subjects' ages were distributed from 21 to over 91 years of age and there were equal numbers of men and women. Most subjects has been hospitalized for fewer than 5 days and had from 1-4 prior

hospitalizations. A wide variety of medical diagnoses was represented.

A methodological design was used and study findings indicated the CBA was a valid and reliable instrument. The alpha coefficient for the complete instrument was .9566. The alpha coefficients for the subscales ranged from .7825 for the Existential/Phenomenological Forces Subscale to .8867 for the Humanism/Faith-Hope/Sensitivity Subscale. Items 27 and 49 had item to total correlations less than .3 and items 35, 36, 38, and 44 had 9 item to total correlations greater than .7. Items 35-37 were from the Teaching/Learning Subscale.

Construct validity of the instrument was evaluated through factor analysis. Fifty-six items loaded on factor 1 which indicated than one construct was being measured, however 23 items loaded on more than one factor. Four factors with 3 or more items loading at the .4 level or better were identified. The factor analysis did not support the existence of 10 discreet carative factors or subscales. The factor with most items loading on it was characterized as caring.

The CBA was shown to be a reliable instrument which can be utilized in a variety of settings to assess patients' perceptions of caring behaviors. The need for caring in

all areas of nursing practice can be supported by additional studies examining the concept.

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CHAPTER 1

INTRODUCTION

"The practice of caring is central to nursing" (Watson 1979, p. 9). Caring has been described as the "essence and central unifying, and dominant domain to characterize nursing" (Leininger, 1984, p. 4). There is agreement in the assertion that caring is a construct essential to nursing.

Leininger first began to study caring in the early 1960's in Gadsup villages of New Guinea (Leininger, 1966) and introduced the importance of the construct to professional nursing. Since then theorists, researchers, clinicians, educators and administrators of nursing have built a sizable accumulation of literature in support of the need for caring. Nurses acknowledge that caring is essential and perhaps critical as an ingredient of health, human development and survival.

What seems to be needed is a description of caring that most nurses understand and accept and can build into their practice. If they are already caring but are unaware of their caring practices, published research findings may create the needed awareness. Nurses should know what differentiates caring from uncaring practice. Recent

scholarly and lay literature emphasize the importance of care to overall health. Hospitals today are offering elegant surroundings, gourmet meals and other luxuries, yet patient satisfaction with nursing care is the variable which correlates significantly with satisfaction with hospitalization (Abramowitz, Cote, and Berry, 1987).

Contemporary nursing care is not marked with caring. The increased demand for nurses and additional stress and burden on those nurses who are employed may be a reason. Additionally, caring is difficult to quantify thus not a visible priority. A minimal amount of work has been done by nurses to quantify caring including instrument generation. Instrumentation is a critical issue in nursing research in general, but specifically in the area of nurse caring because study findings are only as valid and reliable as the instruments used in the study.

Problem of Study

The problem of the study was to 1) determine validity and reliability of the Caring Behaviors Assessment (CBA) (Cronin and Harrison, 1988) instrument when it was administered to hospitalized patients over 21 years of age with varying diagnoses and 2) validate the carative factors of Watson's (1979) theory of nursing.

Rationale for the Study

The major gap in the caring literature in nursing centers on the lack of valid and reliable instruments to measure caring. The present study will fill part of the gap by testing an existing instrument. This section of the study notes the theorists of caring and the important qualitative and quantitative studies conducted to date.

Theorists of Caring

Major theorists in the caring literature are Leininger (1981, 1984, and 1988), Watson (1979 & 1985), Gaut (1981), Bevis (1981), and Ray (1981). Leininger and Watson were the earliest to generate theories of caring with Gaut's philosophical analytic research also resulting in a theory of caring. Bevis (1981) developed a curriculum based on the concept. Ray's concept analysis of caring resulted in the identification of caring attributes including authenticity, availability, attendance, and communication which consists of interest, acceptance, touch, and empathy.

Research Conducted

Qualitative studies of patients' perceptions of caring include those of Henry (1975), Swanson-Kauffman (1986), Brown (1986), Drew (1986), Rieman (1986), and Luegenbiehl (1986). Henry studied 50 patients who were receiving care

from visiting nurses. Swanson-Kauffman interviewed 20 women who had experienced miscarriage and generated a conceptual model for nurse caring. Fifty medical-surgical patients were interviewed by Brown whose findings strongly support Gaut's (1981) model. A phenomenological research study conducted by Drew focused on the concepts exclusion and confirmation. In another phenomenological research study, Rieman explored 10 patients' perceptions of caring and noncaring nursing interactions. Leugenbiehl also used a phenomenological approach with recently delivered mothers, their birth attendants, and their nurses to identify caring behaviors. Ford (1981), Gardner and Wheeler (1981a), Barr (1985), Ray (1987), and Forrest (1989) conducted qualitative studies of nurses. One quantitative study of caring by Gardner and Wheeler (1981b) was located. Gardner and Wheeler found significant differences between patients' and nurses' definitions of caring.

Four instruments to measure caring were located in the available literature (Larson, 1981; Weiss, 1986; Wolf, 1986; and Cronin and Harrison, 1988). Only one of these instruments measures caring solely from the patients' perspective. The others were generated for completion by patients as well as nurses and other health professionals.

A need exists for patients to advise nurses regarding caring within their practice. Contemporary literature and

personal experiences support the knowledge of the risks of high technology in health care without the accompaniment of a counterbalancing human caring response.

To elicit patients' counsel regarding nurse caring, researchers can use qualitative or quantitative methods. Since so little nursing research in caring reports quantitative studies, particularly methodological research, the focus of the present study is on the only theoretically based instrument which was generated by two nurses, Cronin and Harrison in 1988. The instrument is reported to be valid and reliable, however, it was tested on only 22 adults. The present study will further test the instrument and tie it to the research process by validating major concepts of a nursing theory.

Theoretical Framework

The Caring Behaviors Assessment (CBA) (Cronin and Harrison, 1988) was based on Watson's (1979) theory of carative nursing. Since the instrument was based on Watson's theory, the theory is presented here. Watson identified two premises providing the foundation for use of care as a construct in nursing. First, caring and nursing have existed in every society whether or not nursing as an entity has been defined. The second acknowledges the

discrepancy between theory and practice in nursing This is often referred to as the gap between the scientific and artistic facets of nursing.

In addition to the basic premises, Watson (1979) presented the basic assumptions for a science of caring. Those assumptions include the following:

1. Caring can be effectively demonstrated and practiced only interpersonally.
2. Caring consists of carative factors that result in the satisfaction of certain human needs.
3. Effective caring promotes health and individual or family growth.
4. Caring responses accept a person not only he or she is now but what he or she may become.
5. A caring environment is one that offers the development of potential while allowing the person choose the best action for himself or herself at a given point in time.
6. Caring is more "healthogenic" than is curing. The practice of caring integrates biophysical knowledge with knowledge of human behavior to generate or promote health and to provide ministrations to those who are ill.
7. The practice of caring is central to nursing (p. 8-9).

Watson (1979) then identified ten carative factors which "form a structure for studying and understanding nursing as the science of caring" (p. 9). Those factors include the following:

1. The formation of a humanistic-altruistic system of values
2. The instillation of faith-hope
3. The cultivation of sensitivity to one's self and to others
4. The development of a helping-trust relationship

5. The promotion and acceptance of the expression of positive and negative feelings
6. The systematic use of the scientific problem-solving method for decision making
7. The promotion of interpersonal teaching-learning
8. The provision for a supportive, protective, and corrective mental, physical, sociocultural, and spiritual environment
9. Assistance with the gratification of human needs
10. The allowance for existential-phenomenological force (p. 9-10)

Watson's (1979) theory is drawn from a wide variety of authors from many disciplines including psychology and philosophy. According to Watson, the first three carative factors are interdependent and she combined them in her discussion. She wrote, "...they comprise a unique context because of their philosophical value laden orientation to care" (p. 10). Terms used by Watson in her discussion of a humanistic-altruistic value system include kindness, concern, love of self and others which are inherent in caring.

According to Watson (1979), humanistic values are developed in childhood and are based on experiences from one's parents and exposure to varying philosophies and divergent beliefs. As an individual grows and matures these beliefs become firmly established and can be broadened through exposure to varying cultures, additional study and personal growth experiences. Interaction between nursing student and nursing faculty with role modeling and the

exchange of attitudes and beliefs will facilitate the acquisition of these values by the student (Watson).

"Altruism values and behaviors bring meaning to one's life through relationships with other people" (Watson, 1979, p. 11). Watson stressed the need for self-awareness and self examination if the nurse is to rise above self and make a contribution to society. A humanistic-altruistic value system is essential for the nurse to provide personal care and make mature contributions.

The second carative factor is the instillation of faith and hope (Watson, 1979). Watson identified and described the importance of faith and hope to civilizations through the ages. The role of the nurse in the instillation of faith-hope is to instill the patient's hope in the nurse as well as in the treatment. Watson wrote, "Faith-hope may help the patient to accept information from the nurse and to engage in attitude change and health-seeking behavior" (p. 14). The instillation of faith-hope occurs within a scientific framework and the nurse must determine what is meaningful and important to the person. The instillation of faith and hope is particularly important when scientific medicine has nothing left to offer the patient.

The cultivation of sensitivity to self and to others is the third carative factor (Watson, 1979). Sensitivity to

the feelings of others can only be accomplished as a result of sensitivity to the feelings of self whether they are happy or sad. An awareness of feelings is often the result to exposure to the humanities and compassionate life experiences. Sensitivity to feelings is important if the nurse is to develop herself fully and utilize self fully to assist others (Watson).

According to Watson (1979) the carative factor of sensitivity occurs when the nurse can function as a whole person and provide holistic nursing care. The nurse who is sensitive to feelings assists the other person to "feel understood, accepted and capable of moving toward a more mature level of functioning and growth" (p.19). In a caring relationship, the nurse must never assume to know the patient, but continually strive to know the patient better. The nurse's sensitivity promotes self development and self-actualization as well as fostering development in others.

The fourth carative factor addresses the development of a helping-trust relationship (Watson, 1979). Watson wrote, "The quality of one's relationship with another person is the most significant element in determining helping effectiveness" (p. 23). One of the most common problems in

providing nursing care is failure to establish rapport and a helping trust relationship with the care recipient. The patient who senses caring by the nurse is more likely to have a trusting relationship with that nurse and high-quality care may become apparent.

Certain attitudinal processes must be included in the development of a helping trust relationship (Watson, 1979). The first factor is congruence which can also be described as genuineness including terms such as real, honest, and authentic. Empathy is an essential element in the helping trust relationship. It is the ability of the nurse to experience the feelings and private world similar to those of the patient and relate to the patient a significant degree of understanding. The ability of the nurse to understand the situation of the client is the basis for empathy. When empathetic understanding is present, the patient is aware of his worthiness for the attention paid by the nurse.

Nonpossessive warmth refers to total, unconditional acceptance of the patient in a manner which is not judgmental or not evaluating the quality or value of the other's feelings (Watson, 1979). Warmth refers to the degree to which the nurse communicates nonverbal caring to the patient. Warmth alone will not result in a helping

trust relationship but in concert with the constructs of empathy and genuineness the relationship can develop.

Included in the discussion of the helping-trust relationship is a review of effective communication skills, since communication is essential to the development of the nurse-patient relationship (Watson, 1979). Three types of communication include the somatic level which is related to basic body functioning, the action level which is nonverbal communication and the language level dealing with words. The nurse should recognize that 65% of communication is nonverbal while only 35% is verbal (Watson, 1979). This results in the need for accuracy in interpreting communication in the development of a helping trust relationship.

The promotion and acceptance of the expression of positive and negative feelings is the fifth carative factor (Watson, 1979). This carative factor acknowledges the existence and acceptance of feelings whether they are positive or negative by the patient. In many instances, there are inconsistencies in what the individual may intellectually know about a situation and "gut level" feelings. The nurse must be supportive in the patient's dealing with a particular situation and allow risk taking by the patient. If risk taking is allowed, the relationship

between nurse and patient can grow to a deeper and more honest level.

The systematic use of the scientific problem-solving method of decision making is the sixth carative factor (Watson, 1979). Watson's discussion of this carative factor focused on the importance of the use of the problem solving process as it has been neglected by nurses who are too work oriented, too clinically oriented or too preoccupied with nursing tasks. Nursing draws from many disciplines including human behavior, biophysical processes, pathophysiologic processes, nursing skills and procedures. The synthesizing of these disciplines to provide care for a single patient or family is important to nursing theory. The problem solving approach allows the nurse to synthesize nursing practice.

The seventh carative factor is the promotion of interpersonal teaching-learning (Watson, 1979). According to Watson, teaching has been the traditional role of the nurse and teaching has received more attention than the interpersonal and learning aspects of nursing. The benefit of teaching to reduce patient fear and anxiety has been documented in nursing practice and theory.

Information and its resultant alleviation of stress has important implications in nursing practice. Information can

lessen stress in responding to procedures such as diagnostic tests, injections, dental procedures and surgery. Watson's (1979) science of caring is based on the combination of carative factors. Those factors are the use of a problem solving process and promotion of interpersonal teaching and learning. One of the best methods to deal with stressors is information about the situation.

Learning is as important in the teaching-learning process as teaching (Watson, 1979). In many instances, the nurse knows what she has "taught" but is unaware if the patient has learned. The focus is on teaching rather than interpersonal learning. When teaching is not individualized to the patient, the patient may be left with a significant knowledge deficit.

The eighth carative factor is the provision for a supportive, protective, and (or) corrective mental, physical, sociocultural, and spiritual environment (Watson, 1979). Watson combined the multiple variables which are addressed in day to day nursing care in this carative factor. She described them as functions and procedures used by the nurse in the restoration of health, prevention of illness, or care for the sick. She acknowledged factor No. 8 (as Watson described it) as not including everything, but "it helps the student nurse and the practicing nurse to

conceptualize a major part of what nursing care is from the perspective of the science of caring" (p. 81).

Interdependence between the external and internal environments in one's life are known to affect health and illness (Watson, 1979). An individual's life style is supported by internal biological and physiological regulatory mechanisms. Internal mechanisms are essential in the maintenance of health. The nurse should provide support for and protect the components of the environment in the biophysical, mental, spiritual, and sociocultural spheres.

Five factors were identified as external variables the nurse may need to address. Stress-change is defined as any event or activity which interferes with the day to day functioning (Watson, 1979). The person's immediate response to a situation determines whether the event will result in harm or threat to the person. Any event in a person's life whether illness to self or spouse, a job change, or change in marital status can result in stress and require coping by the person.

The nurse's first responsibility is to assess the person's subjective response to the situation. The nurse can alleviate stress through listening, accepting and understanding. After the subjective response is analyzed, the nurse can assist the person to deal with the situation

from a more accurate and realistic perspective. The carative factors were then applied to the stress-change situation (Watson, 1979). Carative factors No. 1 and 3 were considered supportive while factors No. 4, 5, 6 and 7 potentially contributed to support, protection and correction for the person.

Two scientific propositions contributing to the impact of a stress-change on the patient were identified (Watson, 1979). The propositions are identical except for two phrases dealing with the presence of susceptibility to illness and whether there are significant changes in daily living patterns. The two conclusions drawn are the need to know the significance of the change to the person and its effects on the person's life. The nurse must assess the correlation between stressful events and the presence of symptoms. The patient's own perspective of the situation must be assessed as well as his coping abilities. The application of the carative factors can assist the person in dealing with stress-change and prevent illness.

Comfort is an external variable which is at least partially controlled by the nurse (Watson, 1979). Comfort measures were described as "supportive, protective, or even corrective for a person's internal and external environments" (p. 88). Comfort measures should provide

comfort as well as encouraging the patient to be as independent as his physical condition allows in meeting basic needs. Examples of procedural physical comfort measures include making the bed comfortable and relieving muscle tension. Watson differentiated environmental, sociocultural, and spiritual comfort. The nurse may be actively involved in environmental comfort, but other sources of support may be necessary.

Privacy is an important facet of the eighth carative factor and the depersonalization which accompanies hospitalization heightens the awareness of privacy issues (Watson, 1979). The patient is expected to reveal intimate information as well as the exposure of his body to strangers. The function of the nurse is to provide support, protection and correction through preservation of the patient's privacy. The individual's perception of privacy may be cultural or learned and the nurse must acknowledge these differences. The need for privacy must be recognized in planning routine procedures and daily care as well as confidentiality of protected communication. The nurse must be sensitive to the patient's need for privacy and this will often provide faith-hope in the patient.

Safety is an integral part of the nurse's function and is essential in supporting, protecting, and correcting the

environment (Watson, 1979). Maslow (1972) identified safety as a basic human need and to feel safe is to feel free of threat or danger. The nurse's role in the maintenance of safety deals mainly with the physical components of safety because of the frequency of accidents. Safety is also critical for the patient experiencing illness, anxiety, or loss of control over the environment. Three nursing responsibilities in maintaining a safe environment include eliminating existing and potential hazards, explaining safety precautions to patients and their families, and supervising safety precautions.

The maintenance of clean-aesthetic surroundings is another element in achieving the eighth carative factor (Watson, 1979). The importance of cleanliness in nursing practice has been a facet of nursing since Nightingale's (1969) time. Although a clean, sterile environment may be desirable, many people respond more positively to an environment which is personalized and pleasant. The nurse's role is expanded from that of maintaining a clean-sanitary environment to providing a setting which appeals to the patient's higher sense of mental and physical comfort. A pleasant environment improves the effective state of the patient. Hospitals have used colored linens, walls, and floor coverings to improve the aesthetic level in the

institution. Although the nurse may focus on the maintenance of aesthetic environment, in general cleanliness promotes wellbeing in the patient. Watson concluded by stressing the importance of the provision of an environment which is supportive, protective, or corrective as a facet of quality of health care. She wrote, "Cleanliness and aesthetics are closely linked with quality, in that attention to them promotes a high level of self-worth and dignity" (p. 100).

Assistance with the gratification of human needs is the ninth carative factor identified by Watson (1979). Watson discussed the carative factor in psychosomatic or psychophysiological perspective and directed the reader to a medical surgical textbook for the traditional approach in meeting basic needs. Watson identified two levels of human needs with the lower level needs addressing biophysical food and fluid needs as well the needs for elimination and ventilation. Also included as lower level needs are the needs for activity and sexual interaction. The higher level needs are described as psychosocial and include the need for achievement, the need for affiliation, and the need for self-actualization. According to Watson, higher level needs can be considered long range goals when applied to nursing

practice and are the highest level the nurse should strive to achieve.

Assistance to the client in meeting basic needs is an essential role of the nurse. According to Watson (1979), the practice of caring is based on the ability of the nurse to meet those needs. The best way to examine human needs in the context of a science of caring is the use of a holistic approach which includes all four components (biophysical psychophysical, psychosocial, and intrapersonal). In addition, health must be addressed by the nurse as well as illness and a holistic approach is more appropriate than interventions based solely on illness.

According to Watson (1979) the ultimate goal of the nurse should be the optimal health of the patient. But in many instances so much energy is spent meeting "basic needs" that the overall goal may be lost. The concept of optimum health can be linked with a human needs hierarchy. One assumption of caring is acceptance of the person not only as he is but as what he may become. This assumption acknowledges the potentialities of the person and allows the use of a holistic-dynamic focus.

The nurse must be able to assess the person's needs from the person's perspective, because the two views often differ. Certain generalizations can be made in terms of the

lower level basic needs, but the two levels of needs are interdependent and cannot be separated from each other. The level of needs identified by Watson (1979) include survival needs, functional needs, integrative needs and growth seeking needs. The lower level needs are more specific and tangible, but the nurse must consider all needs in assisting the person to attain and maintain optimal health. Nursing interventions can be directed at assisting the person to attain lower level needs to allow energy for the person to seek self-actualization.

One useful approach described by Watson (1979) to assist in the gratification of needs is to consider needs "as belonging to and affecting individuals, not as isolated concerns" (p. 109). The whole person may have more than a single physical need and certain needs may be precursors to higher level needs. According to Watson, the gratification of lower level human needs allows the development of additional human needs. In addition, although there is a hierarchy of needs, no one level has greater importance than another in the maintenance of optimum health. Watson concluded her discussion of the gratification of human needs by stressing they encompass a large part of nursing practice.

The tenth carative factor is the allowance for existential-phenomenological factors which acknowledges the separateness and identity of each person (Watson, 1979). Watson described this factor as resting on the person, subjective experience of the person and as the foundation for understanding. The best way to understand the situation of the other person is to "feel" the person's situation. There are many examples in which tragedy has resulted in the growth and meaning in one's life.

The incorporation of the existential and phenomenological carative factors gives the nurse a broader perspective in understanding the meaning of the patient's life (Watson, 1979). Phenomenology and existential psychology are relatively new terms in the development of nursing theory, but do have relevance for nursing and the science of caring (Watson). In many situations it is the existential-phenomenologic carative factor which helps people to deal with their problems. When the person faces the truth, he develops means to respond. The nurse can never respond for the patient, but she can be aware of realities concerning self and support awareness of the patient.

Daily, nursing is involved in an individual's struggle for his own being and personal meaning of the human

predicament (Watson, 1979). Death and dying are common events confronting the nurse with personal being and nonbeing. When the person achieves acceptance of his own situation, death is less feared and better accepted as a part of life. According to Watson, the existential-phenomenological factor most often results in meaning and focusing by the patient and may account in unrecognized courage. Watson described the existential-phenomenological carative factor as having unlimited possibilities in the development of nursing study, practice and research.

In the preface of her book, Watson (1979) identified its purpose as a textbook to be used in an integrated curriculum in a school of nursing. However, the book has served more to provide a structure for widening nursing's perspective as a science of caring. Each carative factor is discussed in detail with an explanation of the source used in the consideration of the concept. An application to nursing practice is also included in the discussion of the carative factor. The interrelatedness of the factors is stressed and there are repeated references to other factors. The purpose of the carative factors is to provide the framework for the science of caring.

Watson's carative factors served as the source for the subscales of the Caring Behaviors Assessment (Cronin and

Harrison, 1988). Watson combined the first three carative factors in her initial discussion because of their interdependence and, as a result, the authors combined the first three carative factors into one subscale. The carative factor dealing with the use of a creative problem solving process was omitted because of Cronin and Harrison's belief that problem solving is inherent in all nursing practice. Although the number of items on each subscale varies, the remaining carative factors were each addressed by a subscale within the instrument.

Theoretical Assumptions

The following theoretical and research assumptions were made:

1. The practice of caring is central to nursing" (Watson, 1979, p.9).
2. Individuals can discriminate between varying behavior of nurses.

Hypotheses

The hypotheses to be tested in the study were as follows:

- H₁ The internal consistency reliability coefficient of the Caring Behaviors Assessment instrument is equal to or greater than 0.70.

- H₂ The internal consistency reliability coefficient on each of the Caring Behaviors Assessment subscales are equal to or greater than 0.60.
- H₃ All item to total correlations are between 0.3 and 0.7.

Definition of Terms

1. An adult is a hospitalized individual 21 years of age or over.
2. Caring behaviors are those behaviors demonstrated by the nurse when providing patient care which indicate the nurse's interest and desire in improving the patient's condition as described by Watson (1979). Examples of caring behaviors include expertise with equipment and procedures, prompt response to patient needs, providing support through touch, listening and knowledge of unspoken patient needs.

Limitations

The limitations of the study were as follows:

1. Reliability and validity cannot be established by one study. Further continuous testing needs to be conducted.
2. Brinberg and McGrath's (1985) definition of validity is used, ".... validity is ...to be assessed relative to purpose and circumstances" (p. 13).

Summary

Chapter 1 has presented the problem for the study, the rationale and theoretical framework. Hypotheses, definitions and limitations are stated.

CHAPTER 2

REVIEW OF THE LITERATURE

The review of the literature is limited to caring in nursing literature. Within the nursing literature the review is selective. The five sections presented in this chapter discuss the nurse theorists, major qualitative studies, major quantitative studies, development of instruments to measure caring and psychometric theory.

Theorists of Nurse Caring

Leininger (1965) was one of the first nurse theorists to explore the construct of caring. She has studied and researched caring using numerous approaches. Leininger has generated a model for studying transcultural nursing care theories and practices. In addition, she has developed a multi-level structural caring model as well as a taxonomy of care/caring (1981). She created the Sunrise conceptual model for culturologic interviews, assessments, and therapy goals (1984). Leininger's collections of unpublished public addresses and papers from 1965 to the present are located at the universities of Colorado, Washington, Utah and Wayne State University.

Four reasons were identified for the study of caring (Leininger, 1984) which included the following:

1. Care appears to be critical for human growth, development, and survival of human beings for millions of years.

2. Further study of caring can explicate caregiver and care recipient roles in various living and survival contexts.

3. Study of caring would preserve and maintain the attribute for current and future human cultures.

4. Since the beginning of modern professional nursing, the nursing profession has not systematically studied caring in relation to nursing care.

In more recent publications, Leininger (1986) discussed factors which have contributed to a lack of a caring theory for nursing practice. Factors possibly contributing to the development of more caring theory include:

1. Examine nurses' cultural values, meanings and experience with care in order to better understand their care experiences.
2. The nursing profession should more actively promote and reward nurses who are outstanding care givers at every level of practice.
3. Nurses should be actively supported in their efforts to provide means for caregiving.
4. There should be financial rewards for nurses who are expert caregivers in every facet of practice including clinical practice, education and administration.

5. Federal monies should be made available to nurses who are actively involved in research related to caring.
6. The use of qualitative research should be encouraged to broaden the knowledge of caring.
7. Nurses who are actively practicing and expert care givers should be rewarded to facilitate and provide care.
8. The caring roles of both sexes should be recognized, legitimized, and facilitated in areas which are not widely recognized.
9. Care should be facilitated if nurses are committed to care, share their experiences and feelings, and caring research with each other (p. 3-6).

In addition, Leininger (1984) identified factors contributing to resistance to a caring theme. These factors include the following: Caring is perceived as a feminine attribute with low prestige and status; nurses have become interested in developing expertise and competence with high technology; personal care practice is not perceived as cost effective in the provision of care; it is very difficult to examine caring through quantitative research methods; nursing education today does not truly examine the phenomenon of caring; and some nurses are reluctant to more actively practice caring at the bedside.

Watson (1979) has developed a theory of caring, but little research applying the theory has been reported. Her theory of nursing is based on two premises with the first premise acknowledging the presence of caring and nursing in

every society whether or not nursing as an entity has been defined. The second addresses the discrepancy between theory and practice in nursing. Although Watson's theory is more heavily based on the psychosocial facets of patient care, her carative factors addressing basic needs can be applied in the direct patient care setting. The theoretical framework of this study presented an in depth examination of Watson's theory.

Gaut's (1981) contribution to caring theory has been the development of a theoretically accurate definition of caring in nursing. Gaut began with a concept analysis of caring with the intent of identifying

...general or abstract ideas in order to bring clear conditions that must be met if a particular concept is to be strictly applicable and thus theoretically adequate (p. 21).

Gaut (1979) analyzed caring and identified the conditions necessary and sufficient for use of the term caring. The five conditions included "awareness, knowledge, intention, means for positive change and the welfare-of-x criterion" (p. 108). Each of these conditions must be evident if the term caring is to be used appropriately.

The theoretical description of caring developed by Gaut (1979) was the result of a philosophical analysis of the concept caring. The definitions states, "A(G), A(S)/

A(g,t,i)" (p. 159). A in the definition signifies the agent involved and (G) is the overall goal of the interaction.

A(S) signifies the assessment of the situation, while

A(g,t,i) represent the following:

g-a particular goal

t-the choice of actions or tactics necessary
to meet the goal

i-implementation of the actions proposed (p. 159).

Ray (1981) analyzed the concept of caring and described a conceptual scheme of caring which presented co-presence and love as the nature of nursing. Attributes of caring include authenticity, availability, attendance, and communication consisting of interest, acceptance, touch, and empathy. These attributes are encompassed within the giving and receiving of oblation love.

Bevis (1981) described caring as both a process and an art form. In order to be considered an art, caring must possess three characteristics which include the following:

1. A commitment to caring as an important aspect of life
2. A lifelong commitment to the theory and philosophy of caring.
3. The continual practice of caring for people, events and progress of society (p. 49-50).

In From Novice to Expert (1984), Benner presented exemplars to examine the differences in novice and expert practitioners. One conclusion drawn was the central role

caring plays in nursing. Benner discussed the difficulty in doing research regarding the caring facet of nursing. According to Benner, research in caring should not be limited to quantitative, experimental measurement, but should include self-interpretive relationships between researcher and participants. In her conclusion, Benner wrote,

These exemplars illustrate excellence and power in nursing. Excellence requires commitment and involvement, but it also requires power. Since caring is central to nursing, then power without excellence is an anathema (p. 207).

She also identified six different qualities of power associated with caring which include the following:

1. Transformative power allows the patient to recognize that he does have power in terms of choices and possibilities in health care.
2. Integrative caring involves encouraging and allowing the patient to resume activities and events enjoyed prior to the illness as much as physically possible.
3. Advocacy power entails the nurse running defense for the patient through improved communications between physician and patient.
4. Caring provides healing power through the healing relationship and healing climate.
5. The participative/affirmative power of caring occurs with the engagement and involvement which results in drawing from the resources in a demanding situation.
6. A caring involved stance is essential if expert and creative problem solving is to occur. The nurse must possess perceptual abilities and become engaged and attentive.

In her discussion Benner (1984) stated that the power of caring is underestimated in a society seeking mastery and control. Benner noted one example of abused power with caring as the situation in One Flew Over the Cuckoo's Nest (Kesey, 1962).

In The Primacy of Caring (1989) Benner and Wrubel discussed methods of assisting individuals in coping. They identified the primary ingredient as caring because caring means that "persons, events, projects, and things matter to people" (p. 1). They wrote, "Because caring sets up what matters to a person, it also sets up what counts as stressful, and what options are available" (p. 1).

Benner and Wrubel's (1989) book has relevance in a discussion of theory because they stressed "theory be formed by real-world experience and experiments, which are in turn subject to theoretical interpretation" (p. 5). They asserted theory has not been adequately influenced by the actual practice of nurses. The authors presented their approach to theory development in nursing as opposed to the atomistic and mechanistic view of the person. They felt rigid theory made it difficult "to capture the embodied, relational, configurational, skillful, meaningful, and contextual human issues that are central to expert nursing care" (p. 6).

Benner and Wrubel (1989) identified three factors making caring primary. First, caring creates possibilities because it determines what is important to an individual which results in risks and vulnerability. The enabling condition and concern is the second factor making caring primary. Caring results in an individual having an interest or concern in another. The interest and concern leads to actions which assist another in dealing with problems and evaluating the benefits of a particular action. This is commonly seen in nursing but it is also apparent in the parent-child relationship.

The third factor making caring primary is that caring sets up the possibility of giving and receiving help (Benner and Wrubel, 1989). This is important because the presence or absence of caring can impact the results of any intervention. Benner and Wrubel's work has relevance because it describes a relatively simple method for linking caring to theory development.

Confirmation and validation were identified by Engel (1980) as factors facilitating the professional practice of caring. Confirmation is defined as the "acceptance of a person's definition of himself" (p. 54). It involves acceptance of the other person's right to interpret past experiences and knowledge making him the person he is.

Confirmation includes mutual esteem, clarifying definitions for the patient through good communication, and confirming activities such as client teaching, anticipatory guidance, and client involvement.

Disconfirmation (Engel, 1980) is the antithesis of confirmation. It is a pathological form of communication negating the value of the other person and saying in effect, "You do not exist" (Watawick, Beavin, and Jackson, 1967, p. 86).

Engel (1980) discussed the close relationship between confirmation and validation, but they are different. Validation involves the acceptance of what the other person says. Engel wrote, "...acknowledgement that one has received the message which the sender transmitted and that from the sender's perspective it is true" (p. 55). This is important because in the nurse patient relationship the nurse must use good communication skills to assure the patient understands the issue under discussion. If the nurse perceives the patient's understanding as false, more information may be necessary for the patient to fully understand.

When one hears a message and declares it to be false, invalidation is the result (Engel, 1980). Invalidation occurs when the perspective or attitude of other is not

acknowledged. This results in closed or egocentric communication. Engel stressed the importance of confirmation and validation to caring because both are essential for a patient to perceive he is being cared for.

In an article written for nurse administrators, Nyberg (1989) identified five attributes enabling a nurse administrator to exhibit caring behavior. Those attributes include commitment, self-worth, ability to prioritize, openness, and the ability to bring out potential. Nyberg defined caring as,

An interactive commitment in which the one caring is able, through a strong self concept, ordering of life activities, an openness to the needs of others and the ability to motivate others, to enact caring behaviors that are directed toward the growth of the one cared for, be it an individual or group (p. 15).

Although it was directed at nurse administrators, Nyberg's definition could be utilized by nurses in other areas of practice.

Quantitative Studies of Caring

One of the earliest caring studies was conducted by a physician, Linn (1974), who examined the "care" versus "cure" orientation of physicians and nurses. The author developed an instrument, Care-Cure Orientation, consisting of ten items describing patient care statements on a Likert type scale. A high score on the instrument reflected a high

value on caring behaviors, while a low score reflected a high value on patient cure.

The instrument was administered to physicians, nurse educators, medical students, and nurse practitioner students (Linn, 1974). The sample size was not reported. The instrument was administered to nurse practitioner students on entry into a four and one half month program, after completion of the program and six months into a preceptorship, but it was administered to the other groups only once.

Linn (1974) found physicians to be the most cure oriented group with nurse educators being more care oriented. Medical students were less cure oriented than physicians but there were no significant differences in the groups of nurse educators and practitioner students. Linn hypothesized nurse practitioners would become more cure oriented following advanced education but the hypothesis was rejected. The practitioner students became more care oriented resulting in Linn's suggestion of the educational process itself contributing to the change in the nurse practitioner students.

Gardner and Wheeler (1981a) described two studies exploring the relationship between caring and support. They identified support as a component of caring and wrote, "if

caring is essential for an individual's growth and development, support may be described as a specific component of the caring process" (p. 69).

A concept analysis and literature review were the initial phases in the authors' (Gardner and Wheeler, 1981a) exploration of the concept support. The term, support, is widely used in the fields of psychiatry, psychology, and sociology and the authors described the adoption of these usages and meanings by nurses.

The authors (Gardner and Wheeler, 1981a) identified caring as a prerequisite to support and described support as being more goal directed than caring. Support may be given over a long or short period of time and the authors summarized, "Support may encompass behaviors employed by one person to strengthen the self-caring ability of the other person" (p. 73).

One study (Gardner and Wheeler, 1981b) involved the administration of a 67 item questionnaire to nurses (N=74) and patients (N=119) from medical, surgical and psychiatric settings. The questionnaire items were drawn from the literature and described supportive behaviors. The behaviors were categorized as activities describing the administration of physical, social, emotional, and cognitive support. No theoretical framework was presented.

When the first ten items ranked by nurses and patients were compared, the groups agreed on only three items. Those items included show interest in the patient, assess the patient, and provide moral support. The data analysis revealed twenty-seven items statistically significant in disagreement between patients' and nurses' rankings. The patients ranked receiving adequate physical care and the nurse being friendly as more important while nurses ranked listening and discussing patient feelings as more important.

Qualitative Studies

In an early study of nurse caring, Henry (1975) interviewed 50 patients receiving home health care from a large Visiting Nurses' Association. The author did not report or describe a theoretical framework.

Three open ended questions were presented to each subject and their responses were placed on cards and organized to examine trends (Henry, 1975). Responses fell into three categories including what the nurse does, how the nurse does, and how much the nurse does. Twelve nurse caring behaviors were identified with most of the responses fitting into the category of how the nurse does. Specific behaviors included assessment skills, nursing procedures, and good communication skills. The only statistical

analysis reported was the frequency each behavior was mentioned.

Knowlden (1985) developed a series of video-taped interactions between nurses and patients. The video-tapes were shown to each group separately and the groups were asked to identify all the caring behaviors. Responses reflecting caring identified by both patients and nurses included health teaching, assessment and physical care. Behaviors identified by patients only included advocacy and knowledge, while behaviors identified by nurses only were supplying resources and planning for the future. A theoretical framework was not included in the study.

Swanson-Kauffman (1986) interviewed 20 women following miscarriage and categorized the nurse behaviors. The author reported a thorough review of the literature, but no theoretical framework was presented. The categories of caring nurse behaviors included knowing, being with, doing for, enabling, and maintaining belief. Knowing involves recognition of the meaning of personal loss to the woman on the loss of the pregnancy. Being with entails feeling with the patient with the author identifying the only way for the nurse to be truly with the patient is through living existentially with the patient. The third caring category, doing for, is the recognition of the woman's need to have

things done for her in a time of need. Doing for involves all individuals involved in the situation including the husband, nurse and physician. Enabling allows the woman to grieve and deal with her loss and can be accomplished through a variety of interventions based on the needs of the particular patient. The final caring behavior is maintaining belief focusing on the woman's ability to deal effectively with the loss and, ultimately, to have another child.

The critical incident technique was used by Brown (1986) when 50 patients were interviewed following 2 to 5 days of hospitalization for non-life threatening medical-surgical conditions. No specific theoretical framework was described, but Brown based her study on the works of Leininger (1981), Paterson and Zderad (1976), Gaut (1981), Bevis (1981), and Watson (1979).

Initially, several themes were identified including recognition of individual qualities and needs, reassuring presence, provision of information, demonstration of professional knowledge and skills, assistance with pain and surveillance (Brown, 1986). Then, two patterns of care were identified. The first pattern of care included the themes of demonstration of professional knowledge and skill, surveillance, and reassuring presence. The second pattern

was the recognition of individual qualities and needs, promotion of autonomy, and time spent. A four part nursing process of care emerged: the patient's perceptions of needs he cannot satisfy, recognition and acknowledgment of the need by the nurse, an action taken to satisfy the needs, and performance of the nursing action. This description of caring is similar to the definition of caring developed by Gaut (1979).

The phenomenological approach was used by Rieman (1986) to explore patients' perceptions of caring and noncaring nursing interactions. A theoretical framework was not included. Rieman interviewed patients (N=10) following hospitalization and identified five patterns of behavior including the nurse being in a hurry and rewarded for efficiency, doing a job, being rough and belittling patients, not responding and treating patients as objects. The significant statements were then analyzed into three themes: the nurse's presence, the client's response, and the consequences.

Rieman (1986) also identified 4 reasons for noncaring nurse-patient interactions. Those reasons included the nurse being praised and rewarded for efficiency instead of caring behaviors and the lack of value or care for nurses by physicians and administrators. Another reason is the

patient's forfeiture of control on admission to the hospital making it easy for the nurse to treat him/her like a child or an incompetent adult. The final reason for uncaring nurse behaviors is technology resulting in the nurse caring for machines instead of the person.

The phenomenological technique was used by Drew (1986) to explore the feelings of 35 adults hospitalized in a community hospital on surgical and obstetrical units. A theoretical framework was not included in the study. Subjects were asked a series of open ended questions regarding experiences with caregivers and all the responses were recorded on tape.

The tapes were then analyzed to determine themes and patterns in the interviews. The author (Drew, 1986) ultimately identified eight categories of behaviors. Although the term "caring" was not used, the researcher explored patients' feelings in terms of exclusion and confirmation. Exclusion was defined as the feeling of being disregarded or an object to the caregiver, while confirmation was defined as having one's feelings be recognized or having presence between two individuals.

A qualitative study was conducted by Leuegenbiehl (1986) to explore the responses regarding the labor and delivery process from recently delivered mothers, birth

attendants, and registered nurses. The author did not include a theoretical framework in the report of study findings. The subjects from each group (N=10) were interviewed and the phenomenological procedure was used for the data analysis. The themes identified in the data analysis included competence and knowledge, help/reassurance/support, presence, touch/talk/comfort and the personal characteristics of the nurse.

Varying behaviors were identified by each group (Leugenbiehl, 1986) with birth attendants (usually fathers) indicating the importance of knowledge. Mothers emphasized the importance of getting through the labor process as safely and as easily as possible. The nurses also placed a great deal of emphasis on getting the mother through the labor process as safely and easily as possible, but they also stressed work related caring concerns.

Ford (1981) reported the findings of a study involving the administration of an open ended questionnaire consisting of two items to practicing nurses (N=11) in both educational and institutional situations. A theoretical framework was not included in the study. The responses were analyzed for content and category. The two categories identified as caring were giving concern for the well being of another and giving of yourself. Listening, helping, and

showing respect were identified as caring behaviors by the respondents.

Gardner and Wheeler's (1981a) second study utilized the critical incident technique and asked 84 nurses to identify incidents detailing the provision of supportive care. Ninety incidents were reported by nurses practicing in medical, surgical, and psychiatric situations. The incidents were categorized as being physically, emotionally, or socially supportive. The 8 most frequently identified behaviors included helping the patient to cope with feelings, talking to/with the patient, sitting with the patient, giving information, listening, doing specific physical comfort activities, touching the patient and coordination of care.

In a phenomenological study of critical care nurses' perceptions of caring, Barr (1985) interviewed 15 registered nurses employed in the critical care setting for from thirty minutes to one hour. The nurses were asked to describe the meaning of caring in the critical care area. Eight major concepts were identified and those concepts included the totality of care, priority of care, nature of caring, blending attitude with action, recognition of the patient's individuality, involvement of the family, teaching and communication and patient perception of outcomes.

Positive factors influencing caring in the critical care area include 1) the patient's positive response and family interactions, 2) the nurse's knowledge, 3) the nurse receiving support of colleagues, 4) the nurse's own modeling of caring, and 5) the nurse's personal attraction to some patients, expanding visiting hours, and 6) adequate staff and work environment (Barr, 1985). Negative factors influencing caring included 1) difficult, confused or noncommunicating patients; 2) absent, hostile or uncooperative families; 3) lack of continuity in patient care; 4) lack of knowledge on the part of the nurse; 5) the nurse's feelings of anger, hopelessness, frustration and the condition of burnout; 6) nonsupport from colleagues; 7) the nurse's fear of some disease conditions; 8) economic conditions, bureaucratic forces and 9) incomplete assessment data. Barr included a discussion of phenomenologic research in her study, but did not include a theoretical framework.

The phenomenologic research technique was used by Ray (1987) when 8 critical care nurses were asked the question, "What is the meaning of caring to you in the critical care unit" (p. 167)? Themes identified in the data analysis included maturation, technical competence, transpersonal caring, communication, and judgment/ethics. Again, a theoretical framework was not reported.

Bush (1988) conducted a qualitative study which resulted in a model of the caring teacher of nursing. Data were collected from the literature in the following areas: (1) student perceptions of the caring teacher in education, (2) direct observations of caring teacher in education, (3) education studies and articles containing terms related to caring, and (4) doctoral students in nursing. Concepts were coded, clustered and compared to Leininger's (1984) ethnocare constructs, Watson's (1979) carative factors, and Gaut's (1981) caring conditions. The comparison of the concepts derived from the literature and student's data validated the study concepts as belonging to the care domain. The major concepts which constitute the model of caring are spirituality, presence, mutual respect, sensitivity, communication with the other and organization of teaching-learning.

Forrest (1989) reported the findings of a qualitative study involving interviews with seventeen staff nurses regarding their subjective experiences of caring using the phenomenologic approach. The most important facet of caring identified was the "mental and emotional presence that evolves from deep feelings for the patient's experience" (P. 818).

The term being there was utilized by Forrest (1989) as one theme cluster of caring and it was placed in a category identified as involvement. Other cluster themes included in the category involvement were respect, feeling with and for and closeness. Interaction was the second category identified. Touching and holding, pickup up cues, being firm, teaching, and knowing them well were included in the theme clusters within the category of interacting. These findings were consistent with the results of other researchers regarding caring. No theoretical framework was included.

Instrument Development

Four instrument development studies on caring have been reported in the literature. One of the instruments was developed for use with patients only while the others were generated to assess the judgments of health care providers.

Larson (1981) described the development of an instrument (CARE-Q) which would measure both nurses' and patients' perceptions of nurse caring behaviors. The initial step in Larson's study was the identification of caring behaviors as perceived by each group. The Delphi Survey Technique (Pill, 1971) was used to identify the nurse caring behaviors. It consisted of 4 questions administered to 8 colleagues of the researcher in four rounds. At the

completion of the fourth round 23 nurse caring behaviors were identified.

The patient perceptions of nursing caring behaviors were identified through the interview of 15 patients using the Lofland's (1971) Intensive Interview Technique which asked a single question, "What is it that nurses do to make you feel cared for" (Larson, 1981, p. 48)? Qualitative analysis revealed fifty-eight nurse caring behaviors as well as six distinct themes of caring behaviors.

The findings of the two studies were combined and the result was 69 nurse caring behaviors becoming an item pool (Larson, 1981). The themes identified were retained as the scale categories. The 69 items were then submitted to a panel of 13 nurse experts for review. The panel reached agreement on 60 of the 69 items. The items were then submitted to an expert in psychometric theory. Items which were ambiguously written were rewritten or deleted and wording used by patients was used whenever possible. The caring themes were retained as the subscales for the instrument. Following review by the psychometrician and the researcher, 52 items remained for the final instrument.

The instrument was then reviewed by a panel of four nurses and three patients to assess the content validity. As a result of this review 52 items remained (Larson, 1981).

The reliability of the instrument was assessed by its administration to a group of 9 undergraduate nursing students. The students were retested one week later and correlation between Test 1 and Test 2 was 1.0. However, there was little similarity in the sorting in the cards between the two testings. The researcher reported agreement between the most important and least important nurse caring behaviors indicated the instrument had test-retest reliability, but recommended additional study.

Larson (1981) administered the instrument to oncology patients and nurses. Behaviors selected by patients as indicative of caring included the nurse being accessible, monitoring and following through. Nurse identified behaviors were comforting and trusting relationship behaviors. In another study using the CARE-Q instrument, Larson (1984) reported the most important caring nurse behaviors identified by oncology patients (N=57). Those behaviors included knowledge of technical skills, knowledge of changes in patients' conditions, and responding quickly to the patient's side when called.

The CARE-Q was administered to nurses (N=57) caring for oncology patients (Larson, 1986) with the goal of determining nurse behaviors perceived as caring by nurses. The behaviors with the highest means included: listens to

the patient, touches when comforting is needed, and allows expression of feelings. Those means ranged from 5.86 to 4.86. The means of the least important caring behaviors ranged from 3.58 to 2.49. The items with the lowest means included is professional in appearance, suggests questions for the patient to ask the doctor, and is cheerful.

Mayer (1986) administered the CARE-Q to cancer patients, their nurses, and their families. No statistical information or sample size was reported, but the author reported a significant correlation between the groups of nurses and patients. The patients' perceptions of the most caring behaviors included the following: knows how to give shots and manage equipment, is cheerful, and encourages the patient to call when he has problems. The nurses' perceptions of important caring behaviors included listens to the patient, allows the patient to fully express his feelings, and realizes that the patient is most knowledgeable about his condition.

The least important behaviors of nurses according to patients included helping the patient to establish realistic goals and checking out with the patient the most appropriate time to talk to the patient's family (Mayer, 1986). Least important behaviors identified by nurses included volunteers to do "little things" for the patient and being cheerful.

Caring behaviors in common to both patients and nurses included professional appearance, asking the patient what he liked to be called, and suggesting to the patient questions to be asked of the physician. Mayer (1987) also correlated the scores of the two groups. The correlation coefficient between the two groups was significant ($r=0.37$, $p=.01$).

Keane (1987) administered the CARE-Q (Larson, 1981) instrument to rehabilitation patients ($N=26$) and the nurses ($n=26$) who cared for them. The most important caring behaviors identified by the two groups were compared with a Spearman's correlation coefficient of .94. Behaviors identified as most important included knows when to call the doctor. The most important subscales were monitors and follows through and is accessible.

Weiss (1986) reported the development of a 10 item Caring Scale developed through factor analysis. The scale items are on a seven point Likert-type scale with a low score indicating favorable reaction of nurses and physicians to the nurse behaviors and a high score indicating an unfavorable reaction to the nurse's behaviors. The items on the Caring Scale were derived from items on the Social Distance Scale (Bogardus, 1933), The Attitude Toward Employment of Older People Scale (Kirchner, 1957), and the

Slater Nursing Competencies Rating Scale (Wandelt and Stewart, 1975).

The researcher identified the three instruments as Questionnaire #1, Questionnaire #2, and Questionnaire #3 (Weiss, 1986). Weiss reported five of the original 7 items from the Bogardus (1933) scale were used and six similar items were written. Questionnaire #2 consisted of 11 items drawn from the original 24 items of the Kirchner (1957) instrument with Questionnaire #3 consisting of 11 items from the original 25 items in the Psychosocial Individual and Communication section of the Slater instrument (Wandelt and Stewart, 1975).

Weiss (1986) reported a series of studies in which the Caring Scale was developed. In studies conducted in 1981 and 1984, reliability coefficients of greater than 0.9 were obtained for each instrument. The Pearson correlation coefficients obtained between Questionnaire #1, Questionnaire #2, and Questionnaire #3 obtained in the 1981 study as well as the 1984 study were each greater than .6.

Questionnaire #2 and Questionnaire #3 had the highest correlations in both studies with values of $r = .79$ and $r = .85$. On the basis of the two studies, Weiss (1986) deleted Questionnaire #1 from additional studies of nurse caring.

The remaining 10 items on the final instrument were analyzed via factor analysis with an alpha coefficient of .95.

The Caring Behavior Inventory (CBI) was developed by Wolf (1986) to identify behaviors identified by nurses as indicative of caring. Although no theoretical framework was presented, the author presented a detailed literature review. Seventy-five words and phrases related to caring behaviors were drawn from the nursing literature. The words and phrases were then placed on a four point Likert-type scale with one (1) indicating strong disagreement and (4) indicating strong agreement.

The instrument was administered to a convenience sample of 97 registered nurses (Wolf, 1986). Seventy-eight (78%) percent of the respondents were enrolled in a baccalaureate program following completion of an associate degree program while 22% were prepared at the baccalaureate, master or doctoral level. Factor analysis was utilized to statistically analyze the data, however no pattern emerged (Wolf). The overall list was then reduced by the selection of the 10 highest ranked words and phrases. The median ranks of the words and phrases ranged from 2.77 to 3.87. The researcher deleted those words or phrases with median ranks below 3.75 resulting in a list of 10 caring behaviors. Kendall rank correlation coefficient was used to analyze the

data with 60% of the items correlating at the .05 level of significance. The list of the highest ranked nursing behaviors included items such as attentive listening, comforting, honesty, and patience. The researcher suggested the development of an operational definition of caring based on the caring behaviors selected by the nurses in the study.

Cronin and Harrison (1988) reported the development of an instrument utilized to "identify nursing behaviors perceived as indicators of caring by patients who have had a myocardial infarction" (p. 374). The Caring Behaviors Assessment (CBA) (Cronin and Harrison) consists of 63 items on a five point Likert-type scale. Values of 1-5 were assigned to each items of the scale: 1-no importance , 2-little importance, 3-neutral, 4- some importance and 5- much importance. Instrument items were written by Cronin and Harrison and were based on Watson's (1979) theory of carative nursing.

The items of the CBA are organized into 7 subscales which are congruent with Watson's (1979) theory of carative nursing consisting of 10 carative factors (Cronin and Harrison, 1988). The first three carative factors were combined into one subscale consistent with Watson. The sixth carative factor dealing with the use of the problem

solving process was omitted because of Cronin and Harrison's belief that the problem solving process is inherent in nursing practice.

Face and content validity were determined by submitting the items to four experts familiar with Watson's (1979) theory (Cronin and Harrison, 1988). Each item was reviewed for congruence with its particular subscale. Items with interrater reliabilities of less than .75 were reassigned to another subscale with the final instrument consisting of 63 items. Cronin and Harrison then administered the CBA to a sample of 22 patients. Cronbach's alpha was used to determine the internal consistency of each subscale. The reliability coefficients for the subscales ranged from 0.66 to 0.90.

The behaviors identified as most caring included know what they are doing, make me feel someone is there if I need them, and know how to give shots, IV's, etc. (Cronin and Harrison, 1988, p. 378). Least important behaviors included visit me when I move to another hospital unit, ask me what I like to be called and ask me how I like things done.

Psychometric Theory

According to Burns and Grove (1987) the primary goal of nursing research is the development of a scientific framework as the basis for nursing practice.

Instrumentation and the use of measurement theory are critical issues in nursing research. Both Burns and Grove and Waltz et al (1984) asserted nurses' limited understanding of measurement theory has had a negative impact on nursing research. Since measurement theory is so important, a brief review of psychometric theory follows.

Nunnally (1978) defined measurement as the "...rules for assigning numbers to objects in such a way as to represent quantities of attributes" (p. 3). Nunnally noted the term attribute as being critical in the definition. In most instances a construct cannot be measured but its attributes are. In this study, caring as a concept cannot be measured, but instrument items reflect caring behaviors with numbers being assigned to them. This is an indirect form of measurement while direct measurement is more straight forward. Weight, vital signs or bodily functions are examples of directly measurable attributes.

In a discussion of the rules for the assignment of numbers to objects, four levels of measurement have been identified. The level or scale of measurement is important because it dictates the types of statistical treatments which can be utilized. In nominal level measurement, objects are assigned according to a defined property. Waltz et al (1984) identified the requirements for nominal level

measurement as being mutually exclusive, exhaustive and unorderable. Gender is an example of data on the nominal level.

In ordinal level measurement objects are rank ordered. Characteristics of ordinal scales include ordering from first to last, the quantity of each attribute is unknown and there is an unknown distance between objects being classified (Nunnally, 1978). An example of ordinal level measurement is rank ordering according to grades on an exam.

In an interval level scale the distance between each object is known. Nunnally (1978) identified the three characteristics of an interval level scale as rank ordering concerning the attribute, a known distance between objects, and unknown information concerning the absolute magnitude of the attribute. Nunnally believed all data gathered from attitudinal scales are data on the interval level. Thus, data collected via the CBA can be statistically analyzed using parametric procedures.

The characteristics of ratio scales include rank ordering with respect to some attribute, known intervals between individuals and presence of a rational zero (Nunnally, 1978). Height and weight are examples of ratio level scales. Nunnally also discussed the various

arithmetic operations which could be used on data collected at the interval and ratio level.

In every measurement there is error and the error can be either random or systematic. Waltz et al (1984) described random error as variable or chance error occurring haphazardly around the true score with systematic error resulting in a systematic bias. An example of systematic error might be a scale that weighs every subjects in a study as two pounds heavier than they truly are.

Classical measurement theory states a subject's true score on any instrument is never known, but the observed score in any measure is the sum of the true score plus the error score (Nunnally, 1978). The following equation represents measurement theory (Burns and Grove, 1987):

$$O = T + E$$

The error score in this equation represents random error. Since the true score and error score are never actually known, the true score can only be estimated. The influence of random error on any score is known as the error of measurement (Waltz et al, 1984).

According to Waltz et al (1984) the true score on a particular instrument is assumed to be fixed and if an infinite versions of a test are administered the obtained scores would be arranged around the true score. Measurement

error assumes the mean of the error scores is zero with the correlation between the true scores and error scores being zero. The more widely the error scores are arranged around the true score, the greater the error of measurement. And conversely, the more narrowly the error scores are arranged around the true scores, the less the error of measurement. If infinite versions of an instrument are administered, the resulting distribution is assumed to be normal and the standard deviation of the resulting distribution is described as the standard error of the mean (Nunnally, 1978).

There are two references of measurement in testing involving the comparison of the scores of an individual with the score to a standard (Burns and Groves, 1987). An example of norm-referenced measurement is testing involving the comparison of the scores of an individual with the scores on standardized exams. Decisions concerning individuals are often made based on scores on standardized exams. Criterion referenced measurement involves comparing the scores of an individual with a specific criterion.

The validity of an instrument is the usefulness of an instrument in a particular situation. Burns and Grove (1987) stressed that validity is not an all or none propositions but a matter of degrees. Additionally, when a

researcher validates an instrument the researcher is actually validating the instrument's value in a particular situation. An instrument may be valid in some situations but invalid in others. Nunnally (1978) identified three major functions of psychological instruments and these functions are appropriate for nursing research. The functions include the following: (1) establishment of a statistical relationship with a particular variable; (2) representation of a specified universe of content; and (3) measurement of psychological traits (p. 85). Nunnally correlated those functions with predictive validity, content validity and construct validity.

Predictive validity is also referred to as criterion validity and it concerns the value of an instrument in the prediction of some event (Nunnally, 1978). The use of a particular test in predicting the success of college students is an example of predictive validity. Concurrent validity is also included in discussions of predictive validity. Concurrent validity is the ability of an instrument "to predict the current value of one measure based on the value obtained on the measure of another concept" (Burns and Grove, 1987, p. 295). Predictive validity is expressed by a correlation coefficient between an individual predictor test and an individual criterion.

Nunnally described predictive validity as the most basic of the three types of validity.

Content validity is confirmation of a particular instrument measuring what it purports of measures. Nunnally (1978) wrote this type of validity is particularly important in test construction. He identified the two major procedures to assure content validity as the inclusion of a representative group of questions and a planned approach. The planned approach might include the statement of objectives and table of specifications when items are written. Burns and Grove (1987) identified two subtypes of content validity including face and expert validity. If an instrument "looks" like it is supposed to it has face validity. Expert validity is important in instrument development because instrument items are sent to experts in the field for their evaluation.

"Construct validity is the degree to which a measurement strategy measures the construct it was designed to measure" (Burns and Grove, 1987, p. 296) and it is the most critical issue in instrument validity. Nunnally (1978) asserted the degree to which a variable is abstract rather than concrete makes it a construct. Very concrete variables can be measured easily, but constructs essential to nursing research are not so easily measured. Establishing construct

validity in an instrument is an ongoing process which could take years.

Several methods in achieving construct validity have been identified and Burns and Grove (1987) presented an eight step process leading to validity. The most frequently discussed methodologies are presented. The contrasted groups approach involves the administration of an instrument to a group known to be high in a particular quality and to a group known to be low. The scores of each group are then analyzed using a t-test or analysis of variance to determine if the groups are significantly different. A significant difference may signify construct validity.

Waltz et al (1984) discussed the multitrait-multimethod approach which Burns and Grove (1987) described as convergent and divergent validity. This procedure is feasible when two or more constructs are being studied, two or more methodologies have been selected to measure the constructs, when all of the methodologies can be administered to all subjects at one time and responses to one instrument will not be biased by performance on another. Disadvantages in this procedure are the demands made on the subjects by the testing and the time and money involved in the procedure.

Nunnally (1978) and Burns and Grove (1987) included factorial analysis as a method to determine construct validity. Factorial analysis involves a statistical procedure looking for clusters of variables. Items which measure the same construct should load on a particular factor. Nunnally identified factor analysis as the heart of measuring construct validity by determining the

...internal structure of a set of variables to measure a construct and the statistical cross structures between different measures of one construct and those of another (p. 112).

Reliability is another issue in psychometric theory. Waltz et al (1984) defines reliability as "the consistency with which a device or method assigns scores to subjects" (p. 3). Reliability is expressed in terms of a coefficient with a coefficient of 1.0 indicating perfect reliability and 0.0 indicating zero reliability. According to Burns and Grove (1987) reliability reflects the random error of the instrument. They also established the minimal acceptable level of an instrument's reliability as 0.8.

Burns and Grove (1987) discussed three types of reliability. Stability is concerned with the consistency on an instrument in measuring the same construct and this can be referred to as test-retest reliability. Test-retest reliability is determined by administering the instrument to

a group of subjects and retesting after a period of time. The time between testings varies but two weeks is usually recommended. The scores between the two groups are correlated with the minimal acceptable correlation coefficient as .6 or better (Benson and Clark, 1982).

Equivalence deals with similar versions of a single instrument. There are two procedures used in determining the equivalence of two instruments. Interrater reliability involves the comparison of two observers. The administration of two formats of an instrument to subjects is known as parallel or alternate forms of reliability. The scores on each instrument are correlated with a correlation coefficient of 0.6 or greater indicating reliability. However, it is very difficult to develop two instruments which are truly equivalent (Burns and Grove, 1987).

The third and most important type of reliability is homogeneity. The traditional means to establish homogeneity is the split-half procedure involving the division of the instrument items into two groups (usually even versus odd items), administering the instruments and correlating the scores. A high correlation coefficient indicates reliability (Burns and Grove, 1987).

The means for establishing homogeneity most widely used today is internal consistency. Internal consistency is

established by a mathematical procedure which determines whether items in an instrument measure the same construct (Burns and Grove, 1987). Cronbach's alpha is the method used for internal level data while the Kuder-Richardson 20 is used with dichotomous data. Nunnally (1978) stressed the homogeneity of an instrument should be determined first and other two methods of assessing reliability be used if possible. A coefficient of 1.0 may indicate that all items on an instrument measure the same attribute while a coefficient of 0.8 to 0.9 reflects the ability of the instrument to finely discriminate aspects of a construct (Burns and Grove, 1987).

One research issue is whether to use a pre-existing measurement instrument or develop one when conducting nursing research. Waltz et al (1984) stressed the need to use a preexisting instrument whenever possible rather than developing one. However, Burns and Grove (1987) discussed the hazards of developing a study to match an instrument. If a researcher decides to use a preexisting instrument, it must be carefully reviewed to assure the congruence of its purpose, conceptual framework, and psychometric properties with the planned study (Waltz et al).

If the decision is made to develop a new instrument, the researcher must select the appropriate measurement

procedure. The researcher must decide whether to use physiologic, measures, observations, interviews, content analyses, questionnaires and scales (Burns and Grove, 1987). Once the measurement technique is selected, the researcher must then begin to write items.

Nunnally (1978) identified the most appropriate way to measure subject attitudes is to ask in one way or another what their attitudes are. However, self report attitude scales are limited to what subjects know about their attitudes or the amount of information they are willing to give. Nunnally also stressed the validity of a self-report instrument depends on how the results are interpreted.

Rating scales can be constructed in a variety of ways. Most commonly scales are presented graphically with two anchors and a series of spaces. Advantages of graphically constructed designs include the following:

1. The presence of a graphic scale probably helps in conveying the idea of a rating continuum.
2. The graphic scale lessens the potential for clerical errors because subjects are not required to continually remember the rating scale.
3. If subjects are asked to place numbers in blank spaces, there might be difficulty in determining what the subject has written (Nunnally, 1978, p. 595).

Nunnally (1978) discussed the number of steps in each scale and supported the psychometric theory for more rather than fewer steps. The number of steps can range from two to

twenty with highest reliability at seven steps, but little reliability is gained when up to twenty steps are used. Another issue discussed by Nunnally is whether an odd or even number of steps should be used. According to Nunnally, the researcher must decide whether or not to include a neutral step if the scores are summed.

Items can be written by the researcher or a panel of experts and items should be stated either positively or negatively. According to Nunnally (1978) there is no place for neutral items in an instrument. However, the items must be reviewed for validity as previously described and the instrument must be pilot tested to assess its reliability. Instrument development can easily take up to one year (Burns and Grove, 1987).

Summary

The review of the literature is limited to the works of nurse theorists, major quantitative studies, major qualitative studies, instrument development related to caring and psychometric theory.

Leininger's (1981, 1984) works from 1966 to the present have provided the impetus for the interest in caring and the exploration of caring's impact on nursing practice. Her studies utilizing the ethnoscientific approach constitute a major contribution to the knowledge concerning caring.

Watson's (1979) theory of carative nursing is one of the most popular and has been applied to nursing curricula. Gaut's (1979) theoretical definition of caring is very specific. Benner (1984) and Benner and Wrubel (1989) stress the power of caring on nursing practice and discuss the primacy of caring.

The concept analyses of Bevis (1981) and Ray (1981) are similar as each identifies communication, concern and love as essential elements of caring. Leininger (1981 and 1984), Watson (1979), Benner (1984), and Benner and Wrubel (1989) stress the need for the qualitative approach in the development of nursing theory. Nyberg (1989) identified five attributes associated with caring, while Engel (1980) believed confirmation and validation facilitate care.

The quantitative studies by Gardner and Wheeler (1981a), Larson (1981), Mayer (1986), Keane (1987), and Cronin and Harrison (1988) identifying patients' perceptions of caring have similar findings. Commonly patient identified behaviors of nursing caring include the demonstration of professional competence and the provision of support for the patient.

Nurse perceptions of nurse caring behaviors are different from those of patients. Commonly identified nurse perceptions of caring behaviors include listening and touch

(Larson, 1981; Ford, 1981; Gardner and Wheeler, 1981; Knowlden, 1985; Mayer, 1986; Weiss, 1986; Wolf, 1986; Ray, 1987; and Forrest, 1989). The discrepancy between patient and nurse identified behaviors of nurse caring needs to be explored more fully. This review of the literature clearly indicates patients' definitions of nurse caring behaviors are different from the definition nurses give to caring.

Patient perceptions of nurse caring behaviors derived as a result of qualitative studies (Henry, 1975; Knowlden, 1985; Swanson-Kauffman, 1986; Brown, 1986; Reiman, 1986; Drew, 1986, and Leugenbiehl, 1986) are similar. The most commonly identified nurse caring behavior was the demonstration of professional knowledge and skill. Other behaviors identified include the attitude of the nurse, recognition of patient needs, and acceptance of the patient as someone deserving care and concern.

One study was located which researched caring in nursing education. Bush (1988) developed a model of the caring nurse teacher which found the concepts of caring in teaching to be parallel to those espoused by Leininger (1984), Watson (1979), and Gaut (1981).

When findings of the qualitative and quantitative studies are compared commonalities are present. Patients in both types of studies have identified the most important

nurse behaviors indicating caring as professional competence and skill while the most commonly nurse identified behaviors are touch, listening, and other supportive behaviors.

The discrepancy in perceptions of caring behaviors between nurses and patients provides an area which merits further research. Since many nursing interventions are derived from the nurse's perception of caring, some of those interventions may not truly meet patient needs. The nurse must be aware of those behaviors seen as caring by the patient.

Although different techniques were used in developing the instruments, items on Larson's (1981) and Cronin and Harrison's (1988) are similar. Items common to both include the nurse knowing how to do particular procedures, the nurse telling the patient his/her name, and asking the patient what he/she would like to be called.

Weiss's (1986) developing of the Caring Scale utilized an experimental design. The items solicited the subjects' judgment of the nurse's caring behaviors.

Although research exploring the concept of caring has increased, additional information is needed. Even though some nurse researchers (Watson, 1979; Leininger, 1981; Ray, 1981; and Benner and Wrubel, 1989) stress the value of qualitative research over quantitative research, there is a

place for both. Further research of both types of needed to expand nursing's knowledge of caring and support the contention which describes caring as the "essence of nursing" (Leininger, 1981. p. 4).

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

Chapter 3 describes the design of the study, the population, and sample selection criteria. Also included in this chapter is the strategy for data collection and data analysis. Procedures and findings of the pilot study are included. The methodological approach in this study is used to test the validity and reliability of the Caring Behaviors Assessment (CBA) (Cronin and Harrison, 1988).

A methodological approach involves a controlled investigation of the theoretical and practical aspects of constructing measuring instruments (Kerlinger, 1986). Methods of obtaining data, scaling issues, item writing and item analysis are major considerations in methodological studies. The CBA measures the construct of caring, an important variable in nursing research.

Setting

The setting of the study was a proprietary hospital located in a large metropolitan area in the southwest. The hospital has approximately 500 beds and provides a variety of services including medical, surgical, oncology, orthopedic, gynecology, urology and ENT.

Population and Sample

The population of the study was hospitalized adults over 21 years of age with varying diagnoses on the medical-surgical units in the hospital. A convenience sample was used. Burns and Grove (1987) defined accidental or convenience sampling as "... subjects are included in the study because they happened to be in the right place at the right time" (p. 216).

Advantages of an accidental sample include less expense, increased accessibility, and a shorter time to acquire data. In addition, Kerlinger (1986) asserted, "... used with reasonable knowledge and care, it (accidental sampling) is probably not as bad as it has been said to be" (p. 129).

The sample size was determined according to Cohen (1988). With an effect size of $r=.30$, alpha set at .05, and power at the conventional .80 value, the number of subjects necessary was 85 (p. 102). The sample consisted of 104 subjects interviewed on the various units of the hospital.

The subjects were alert, oriented, and able to respond to the items on the instrument. The ideal subject was able to complete the instrument independently. However, in some instances instrument items were read to willing subjects by

family members or the researcher. Of the 104 subjects interviewed approximately 25% needed assistance in the completion of the instrument. The balance of the subjects completed the questionnaire independently.

Protection of Human Subjects

Permission to perform the study was obtained from the Texas Woman's University Graduate School (Appendix A) and the involved agency (Appendix B). Because the study utilized a questionnaire, data collection presented no risk to subjects. It qualified as Category I (no risk) research according to the Department of Health and Human Services Federal Guidelines and Policies of the Texas Woman's University Human Subjects Review Committee. Category I investigations are exempt from review by the Human Subjects Review at Texas Woman's University (Human Subjects Program Guidelines, 1983).

Subjects were asked not to put any identifying marks on the questionnaire. Only the researcher worked with the data and questionnaires will be destroyed one year after completion of the study. The following statement in capital letters and underlined was placed at the top of the data collection instrument:

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE
CONSIDERED YOUR CONSENT TO BE A PARTICIPANT IN THIS STUDY.

If subjects were interested in knowing study findings, they completed and mailed to the researcher a self-addressed, stamped post card given to them by the researcher. Results were mailed to those subjects addressed to "occupant." Only 15 of the subjects were interested in knowing the study findings.

Instrument

A researcher developed demographic data sheet was used. The demographic data included age, gender, length of hospitalization, number of previous hospitalizations, and diagnosis.

The instrument tested in the study was the Caring Behaviors Assessment developed by Cronin and Harrison in 1988 (Appendix C). Permission to use the instrument was obtained from the instrument's authors (Appendix D). The instrument is a self report, paper and pencil, and Likert type questionnaire consisting of 62 items. The items are organized into seven subscales and there are a varying number of items on each subscale. Table 1 presents each subscale, and its number of items, mean and standard deviation, and alpha coefficients determined by Cronin and Harrison when it was tested on 22 adults.

The CBA is written at the sixth grade level and this was confirmed by the Flesch Readability formula (Flesch,

1974) and the Fog formula (Gunning, 1952). The instrument was comprehensively described in Chapter 2.

Table 1

Subscales and Cronbach's Alpha Found by Instrument Authors

Subscale	Number of Items	Cronbach's Alpha	Mean Score & SD
Humanism/Faith-Hope/ Sensitivity	16	0.84	68.91±7.35
Helping/Trusting	11	0.76	42.68±6.08
Expression of Feelings	4	0.67	15.23±3.28
Teaching/Learning	8	0.90	35.18±5.27
Supportive Environment	10	0.79	41.23±5.84
Human Needs Assistance	9	0.89	41.45±4.54
Existential/Phenomenological Forces	3	0.66	12.55±1.97

(Cronin and Harrison, 1988, p. 386)

Pilot Study

A pilot study was conducted by the researcher when the CBA was completed by sixty-one patients hospitalized on the telemetry unit of a small community hospital in a large metropolitan area in the southwest. Examples of the diagnoses of the subjects included chest pain, myocardial infarction, post operative cardiac bypass grafting, angioplasty, cerebral vascular accident and pulmonary disease.

The sample consisted of 26 (42.6%) men and 35 (57.3%) women with missing data on three instruments. The age of ten subjects ranged from 30 to 40 while 44 (72.1%) of the subjects were between 50 and 79 years of age. Three subjects were older than age 80.

Nineteen subjects were high school graduates while fourteen reported some high school only. Fifteen subjects reported completion of trade or technical school while six subjects were college graduates and four reported some graduate school preparation.

The data were collected by the researcher. Several subjects were willing to participate but were physically unable to complete the questionnaire independently either because of limited vision or physical infirmities. In those instances instrument items were read to the subjects by either family members or the researcher.

The initial phase of data analysis included determination of the range of scores, mean and standard deviation. Scores included in the initial data analysis were each subject's total score on the 63 items of the instrument. The maximum possible score was 315 while the minimum score was 63. Scores ranged from 179-310 with a mean of 262.87. The standard deviation of the scores was 30.72. Cronin and Harrison (1988) reported the mean and

standard deviation of each subscale, but did not report total scores, thus no comparison can be made.

Data analysis included the determination of means for each subscale. A high mean indicated the importance of nurse caring behaviors while a lower mean indicated little importance. Table 2 presents the mean and standard deviation for each subscale calculated in the pilot study. These data are consistent with that of Cronin and Harrison (1988).

Table 2

Subscale Means and Standard Deviations Determined in Pilot Study

Subscale	Mean Score & SD
Human Needs Assistance	41.78±2.95
Humanism/Faith-Hope/Sensitivity	70.96±9.41
Supportive/Protective/Corrective Environment	51.40±6.38
Teaching/Learning	32.70±6.64
Expression of Positive-Negative Feelings	16.06±3.46
Existential/Phenomenological Needs	11.75±2.91
Helping/Trusting Relationship	42.50±6.80

The means of individual items ranged from a low of 2.65 to 4.86. Table 3 presents behaviors perceived by patients as having little importance. These means are similar to those of Cronin and Harrison (1988).

Table 3

Five Items with Lowest Means

ITEM	MEAN
Visit me if I move to another hospital unit.	2.27
Talk to me about life outside the hospital.	2.65
Ask me what I like to be called.	3.17
Consider my spiritual needs.	3.34
Help me see that my past experiences are important.	3.54

Items with means of 4.80 or greater are listed in Table 4. The means of these items indicate that interventions dealing with the importance of clinical skills and expertise are consistent with the findings of other researchers (Larson, 1981; Mayer, 1986, and Keane, 1987).

Table 4

Five Items with Highest Mean

Item	MEAN
Give my pain medication when I need it.	4.86
Know when it's necessary to call the doctor.	4.85
Give my treatments and medications on time.	4.83
Know how to handle equipment (monitors, etc.)	4.83
Know what they're doing.	4.83

Cronbach's correlation coefficient alpha was selected as the statistical method to assess the internal consistency and reliability of the CBA. The overall alpha coefficient

obtained in the pilot study for the instrument was .904.

Table 5 reports the alpha coefficient for each subscale.

Using the criteria established by Burns and Grove (1987) the alpha coefficient for each subscale was acceptable except for the Human Needs Assistance subscale with a coefficient of .45.

Table 5

Subscales Alpha Coefficient

Subscale	Alpha Coefficient
Humanism/Faith-Hope/Sensitivity	0.90
Helping/Trust	0.74
Expression of Positive-Negative Feelings	0.73
Teaching/Learning	0.83
Supportive/Protective/Corrective Environment	0.72
Human Needs Assistance	0.45
Existential/Phenomenological/Spiritual Forces	0.78

Cronin and Harrison (1988) found a coefficient of .89 for this subscale. The researcher looked to the major study for further support or refutation of the coefficient found in the pilot. Since the Human Needs Assistance subscale contains technical and competence factors it is critical to determine whether these variables are part of caring or another construct.

Item analysis of the items of the Human Needs Assistance subscale revealed deletion of item 56 would

improve the alpha coefficient to 0.50. As a result of this analysis, item 56 was deleted for the major study.

The Human Needs Assistance subscale which includes items dealing with nursing skills such as technical expertise and knowledge of equipment had the highest mean. However, the Human Needs subscale also had the lowest coefficient alpha. Close examination this discrepancy was made in the major study.

Item to item correlations were also calculated for each item on the instrument. The guidelines for evaluation of item to total correlations recommended by Waltz et al (1984) ranged from .3 to .7. Only one item exceeded the recommended limit of .7, but 12 items had correlations below .3. Eight of those items are found on the Human Needs Awareness subscale which also had the lowest alpha coefficient of .45.

Data Collection

Following the approval of the Graduate school and the agency administration, patients hospitalized on medical, surgical, orthopedic, gynecological and other units of the hospital were asked to complete the questionnaire. The data was collected over a two week period. It was stressed to subjects that they were in no way required to participate in the study and all questions were answered.

Data were collected by the researcher. The Kardex of each unit was reviewed and room numbers of prospective subjects were obtained. The researcher then visited each room explaining the purpose of the study and asking the patients if they were willing to participate in the study (Appendix E). The subjects were given about thirty minutes to complete the questionnaire and the researcher retrieved the questionnaire thanking the subjects for participating. At that time the subjects were asked if they would like to receive final results of the study.

Data Treatment

Demographic data was analyzed using frequencies and percentages. This information was used to describe the sample.

Hypotheses 1,2, and 3 dealt with internal consistency of the complete instrument, the subscales and item to total correlation. Cronbach's alpha was the statistic used to test the hypotheses.

Factor analysis is based on multiple regression techniques with the computation of a correlation matrix among the variables based on interrelationships (Burns and Grove, 1987; Kerlinger, 1986; & Nunnally, 1978). The principle components are transformations of original variables into a set of composite uncorrelated (orthogonal)

variables. The resulting factors are the best linear combination of variables and account for more variance in the data as a whole than any other linear combination of variables.

Components (factors) in the order of descending important are the output of the SPSSX program when factor analysis is done. Factor I accounts for more variance in the data than in any other linear combination. Factor II accounts for residual variance following the extraction of Factor I. Each factor is more important than the successive one.

The second step in factor analysis is the principal components analysis (Burns and Grove, 1987). There are three components on the computer printout in the principle component analysis which includes "the eigenvalues, the amount of variance explained by each factor, and the weight of each variable on each factor" (p. 545). The sum of the squared weights of each factor is the eigenvalue. Generally, new factors are formed on factors of eigenvalues with 1.00 or more.

Factor rotation is the third step in exploratory factor analysis (Burns and Grove, 1987). Through factor rotation the best fit between the variables is accomplished to form clusters or factors. The varimax rotation is the most

for all factors with eigenvalues of 1.00 or greater. This method further simplifies the factor matrix by maximizing the variance. Varimax rotation is rotating for the "best fit" and the factors are uncorrelated (orthogonal). Nonorthogonal factors are considered oblique because the angles between them are not 90 degrees. Nunnally (1978) wrote that it is tempting use oblique angles because it tends to "maximize the loadings on a factor for the members of a cluster" (p. 374). The rotation method utilized was based on the factor correlation matrix. If it correlated greater or equal to 3, varimax rotation was utilized.

Summary

This chapter described the procedure utilized in the collection of data. Results of the pilot study were also reported. Finally, the statistical procedures used in the data analysis were presented with a brief discussion of the those procedures.

CHAPTER 4

ANALYSIS OF DATA

A methodological study was conducted to determine the reliability and validity of the Caring Behaviors Assessment (CBA) which was developed by Cronin and Harrison in 1988. Cronin and Harrison developed the CBA utilizing Watson's (1979) theory of carative nursing thus a second major part of the study was to validate the carative factors of Watson's theory.

Descriptive characteristics of the sample, as well as the reliability and validity of the CBA were included in the data analysis. In addition, factor analysis was utilized for the validation of the carative factors of Watson's theory.

Description of the Sample

The sample of this study consisted of 104 adults hospitalized on the medical-surgical units of the participating hospital. The sample consisted of 49 (47.1%) men and 54 (51.9%) women with missing data on one questionnaire.

Table 6 presents the age characteristics of the sample. Approximately 50% of the sample was under 50 years of age. Twenty-two percent of the sample was between 61 and 70 years of age.

Table 6

Age Groups Represented in Sample

Age Range	Frequency	Percent	Cumulative Percent
21-30	19	18.26	18.26
31-40	19	18.26	36.52
41-50	16	15.38	51.90
51-60	13	12.50	64.40
61-70	23	22.11	86.51
71-80	12	11.53	98.04
81-90	2	1.92	99.96
Total	104		100.00

The next question of the demographic portion of the instrument dealt with the length of hospitalization. Fifty-six percent of the sample had been hospitalized for less than five days. Table 7 includes the breakdown of the length of hospitalization of the sample.

Table 7

Length of Hospitalization

Length of Hospitalization	Frequency	Percent	Cumulative Percent
1 - 5 days	59	56.7	56.7
6-10 days	26	25.0	81.7
11 or more days	15	14.4	96.1
Missing data	4	3.8	99.9
Total	104		100.0

Also included in the demographic data was the number of previous hospitalizations. Fifty-three percent (53%) of the sample had between one and four previous hospitalizations. Table 8 presents the frequency and percentages regarding the number of previous hospitalizations.

Table 8

Number of Previous Hospitalizations

Number of Previous Hospitalizations	Frequency	Percent	Cumulative Percent
None	9	8.6	8.6
1 - 4	56	53.8	62.4
5 - 8	17	16.3	78.7
9 or more	20	19.2	97.9
Missing data	2	1.9	99.8
Total	104		100.0

The diagnosis of each subject was also included in the demographic data. Table 9 displays the diagnoses of subjects in the sample. If a subject was admitted to the hospital for a surgical procedure which was urologic, orthopedic or gynecological in nature, it was categorized in that particular area. Other surgical procedures identified by the subjects included cholecystectomy (2 subjects), craniotomy (2 subjects), bowel resection (2 subjects), mastectomy, hemorrhoidectomy, exploratory laparotomy, carotid endarterectomy, and incision and drainage of a perirectal abscess.

Table 9

Diagnostic Breakdown of Subjects

Diagnosis	Frequency	Percent	Cumulative Percent
Myocardial infarction or Chest pain	2	1.9	1.9
Hypertension	1	.9	2.8
Diabetes mellitus	1	.9	3.7
Surgery	18	17.3	21.0
Urological problems	3	2.8	23.8
Orthopedic problems	24	23.0	46.8
Gynecological problems	9	8.6	55.4
Cancer treatment	10	9.6	65.0
Other	35	33.6	98.6
Missing data	1	.9	99.5
Total	104		100.0

Patients admitted for the treatment of cancer included those admitted for chemotherapy or surgical treatment of the disease. Thirty-three percent (33%) of the subjects were admitted for treatment of various other medical surgical problems. Six (5.7%) of the subjects were admitted for the treatment of AIDS while four (3.8%) were admitted for the treatment of respiratory problems (including pneumonia and COPD). Other disease processes represented in the sample included meningitis, GI bleeding, chronic renal failure and problems related to shunts, psoriasis, cephalgia, and CVA. Six (5.7%) of the subjects failed to follow the directions and marked all of the disease processes they had ever had.

Findings

The mean combined score on the 62 items of the CBA was 253.75 with a standard deviation of 32.086. The variance for the combined instrument was 1029.56. Combined item means of the subscales were 4.05 with a range of 2.25 to 4.76. A low mean reflects little importance to caring while a high mean indicates much importance to caring. Table 10 reports the item number, the five items with the lowest means and the five items with the highest means with their individual means.

Table 10

Items with Lowest and Highest Mean with Individual means

Item #	Item	Mean
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Five Items with Lowest Means

25	Visit me if I move to another hospital unit.	2.25
20	Talk to me about my life outside the hospital.	2.80
49	Consider my spiritual needs.	3.14
26	Touch me when I need for comfort.	3.30
61	Help me to see that my past experiences are important.	3.39

Five Items with Highest Means

3	Know what they're doing.	4.76
54	Know how to handle equipment (for example, monitors,	4.73
59	Know when it's necessary to call the doctor.	4.71
16	Treat me with respect.	4.67
53	Know how to give shots, IV's, etc.	4.65

Descriptive statistics of the data were also utilized. Data include the mean, standard deviation, and variance for each subscale. Those data are reported in Table 11.

Table 11

Mean, Standard Deviation and Variance of the CBA and Subscales

Subscale	No. Items	Mean	Item Means	Standard Deviation	Variance
CBA	62	253.75	4.09	32.08	1029.56
Humanism/Faith-Hope/Sensitivity	16	66.68	4.16	9.25	82.62
Helping/Trust	11	42.47	3.86	6.33	40.12
Expression of Positive-Negative Feelings	4	12.47	3.79	3.53	12.47
Teaching/Learning	8	31.75	3.96	6.94	48.24
Supportive/Correctivty/Supportive Environment	12	50.30	4.19	7.01	49.16
Human Needs Assistance	8	36.15	4.51	4.28	18.33
Existential/Phenomenological Spiritual Forces	3	11.17	3.72	2.95	8.82

Reliability

In the assessment of an instrument's reliability the most important measure is its internal consistency or homogeneity. The reliability of the Caring Behaviors Assessment (CBA) was obtained from the RELIABILITY program of the Statistical Package for the Social Sciences (SPSS-X). Cronbach's reliability coefficient alpha was used to estimate the internal consistency of the CBA and subscales. The data which resulted from this study were on interval level and the statistic of choice is Cronbach's alpha (Waltz et al, 1984). The alpha coefficient for all 62 items was .9566 (standardized item alpha = .9566).

The coefficient alpha for the CBA of .9566 was within the range advocated by Burns and Grove (1987). They wrote an alpha coefficient of .8 to .9 "will reflect more richly the fine discriminations in the level of the construct" (p. 293).

Cronbach's alpha coefficients were calculated for each subscale. The values ranged from .7825 for the Existential/Phenomenological Subscale to .8867 on the Humanism/Faith-Hope Sensitivity Subscale. Table 12 presents each subscale, its number of items, its alpha coefficient and its standardized item alpha.

Table 12

Subscale Alpha Coefficients and Standardized Item Alphas

Subscale	No. Items	Alpha Coefficient	Standardized Item Alpha
Humanism/Faith-Hope			
Sensitivity	18	.8867	.8916
Helping/Trust	11	.7812	.7970
Expression of Positive/ Negative Feelings	4	.7941	.7961
Teaching/Learning	8	.9081	.9095
Supportive/Protective/ Corrective Environment	12	.8472	.8648
Human Needs Assistance	9	.8104	.8309
Existential/Phenomenolo- gical Forces	3	.7825	.7829

Item to total correlations for the items on each subscale were determined. In addition the effect of the deletion of a particular item on that subscale was calculated also. Tables 13 - 19 indicate the subscale, the item to total correlation for each item, and the coefficient alpha of the subscale if an item is deleted.

The guidelines for evaluation of the item to total correlation recommended by Waltz et al (1984) ranged from .3 to .7. In the major study 2 items, 27 and 48, had item to total correlations less than .3. Item 27 with an item to total correlation of .2862 was from the Helping/Trusting Relationship while item 49 with an item to total correlation of .2777 was from the Supportive/Protective/Corrective

Environment subscale. Both of the subscales represented by these items had alpha coefficients of greater than .7.

Items 35, 36, 37, 38, and 44 had item to total correlations of greater than .7. Four of the items, 35, 36, 37, and 38 were on the Teaching/Learning subscale. This subscale also had the highest subscale mean and deletion of the items would lower the subscale's mean. The other item with an item to total correlation was item 44 which appeared on the Supportive/Protective/Corrective Environment subscale. The deletion of this item with a correlation of .7075 would lower the subscale's reliability from .8487 to .8124.

Table 13

Item-Total Correlation and Alpha If Item Deleted for the
Humanism/Faith-Hope/Sensitivity Subscale

Item	Item-Total Correlation	Alpha if Item Deleted
1	.4692	.8826
2	.3122	.8885
3	.3729	.8855
4	.6224	.8767
5	.6001	.8781
6	.5512	.8807
7	.6002	.8775
8	.5545	.8801
9	.6504	.8752
10	.4820	.8827
11	.5973	.8776
12	.5750	.8788
13	.5380	.8811
14	.5899	.8778
15	.6407	.8762
16	.5808	.8798

Table 14

Item to Total Correlations and Alpha if Item Deleted for
Helping/Trust Subscale

Item	Item-Total Correlation	Alpha if item Deleted
17	.4421	.7654
18	.5627	.7515
19	.5632	.7499
20	.4244	.7667
21	.4414	.7641
22	.4066	.7675
23	.4285	.7658
24	.4967	.7613
25	.4121	.7721
26	.4400	.7651
27	.2861	.7786

Table 15

Item to Total Correlation and Alpha If Item Deleted for
Expression of Positive/Negative Feelings Subscale

Item	Item-Total Correlation	Alpha If Deleted
28	.5250	.7824
29	.6996	.6984
30	.6372	.7267
31	.5682	.7604

Table 16

Item to Total Correlation and Alpha If Item Deleted for Teaching-Learning Subscale

Item	Item-Total Correlation	Alpha If Item Deleted
32	.6838	.8981
33	.6069	.9043
34	.6348	.9022
35	.7104	.8962
36	.8181	.8864
37	.8021	.8872
38	.7795	.8896
39	.6304	.9048

Table 17

Item to Total Correlation and Alpha If Item Deleted for Supportive/Protective/Corrective Environment Subscale

Item	Item-Total Correlation	Alpha If Item Deleted
40	.4379	.8415
41	.4143	.8432
42	.6327	.8270
43	.6030	.8294
44	.7075	.8214
45	.5983	.8320
46	.6113	.8288
47	.6261	.8281
48	.5758	.8322
49	.2777	.8679
50	.5473	.8345
51	.4461	.8402

Table 18

Item to Total Correlation and Alpha If Item Deleted for
Human Needs Assistance Subscale

Item	Item-Total Correlation	Alpha If Item Deleted
52	.6636	.7931
53	.3963	.8282
54	.5390	.8105
55	.7178	.7896
56	.4792	.8251
57	.6815	.7898
58	.4341	.8282
59	.6628	.7991

Table 19

Item to Total Correlation and Alpha If Item Deleted for
Existential/Phenomenological Forces Subscale

Item	Item-Total Correlation	Alpha If Item Deleted
60	.6117	.7712
61	.6789	.6404
62	.6396	.6847

Validity and Factor Analysis

Construct validity of the CBA was estimated using exploratory factor analysis. The extraction of factors assists in reducing the number of variables (Kerlinger, 1986). Nunnally (1978) recommended the use of principal component analysis plus varimax rotation with at least 20

variables. The SPSS-X statistical program FACTOR was used. The factors were utilized in examining the validity of the ten carative factors as identified by Watson (1979).

The initial step of the factor analysis was the identification of the principal components. Factors extracted were then rotated using both oblique and varimax rotations. The oblique rotation assumes the factors were correlated while the varimax rotation assumes the factors are uncorrelated (orthogonal) (Ferketich and Muler, 1990).

The varimax rotation was selected because the factors were uncorrelated. The varimax rotation resulted in more factors but the first factor extracts the most variance and minimizes loadings on all successive factors (Kerlinger, 1986). The second factor is computed on the residual of the first factors and accounts for the most variance remaining. As a result each successive factor accounts for less variance.

The amount of total variance accounted for by a factor is represented by the eigenvalue of that component. Eigenvalues are values equal to the sum of squared weight of that factor (Burns and Grove, 1987). Eigenvalues are employed to determine the number of factors to be retained. Sixteen factors were identified in the factor analysis of the CBA with eigenvalues ranging from 1.6 to 29.9. Table 20

summarizes the factors, their eigenvalues, percent of variance accounted for and the cumulative percent of variance accounted for. The 16 factors accounted of 80.0% of the variance.

Table 20

Eigenvalues and Percentage of Variance for Factors

Factor	Eigenvalue	Factor extraction % of variance explained	Cumulative % of variance explained
1	18.5535	29.9	29.9
2	6.0332	9.7	39.7
3	3.8252	6.2	45.8
4	2.8268	4.6	50.4
5	2.4744	4.0	54.4
6	2.1337	3.4	57.8
7	1.8051	2.9	60.7
8	1.7658	2.8	63.6
9	1.6060	2.6	66.2
10	1.5537	2.5	68.7
11	1.4386	2.3	71.0
12	1.3439	2.2	73.2
13	1.1348	1.8	75.0
14	1.0869	1.8	76.7
15	1.0357	1.7	78.4
16	1.0004	1.6	80.0

Rotation of factors was employed for developing more meaningful and simpler patterns for interpretation of the variable structure. Varimax rotation -- an orthogonal rotation to keep the factors independent -- was employed to show the pattern structure of the data.

Several criteria were used for the interpretation of the factors resulting from the varimax rotation. A significant factor loading of .4 was utilized and a minimum loading of at least three variables was required for a factor to be identified. Using these criteria, four factors were identified. The four factors accounted for 50.4% of the cumulative explained variance.

The summary of factor extraction and factor loading from the study sample is shown in Table 21. Twenty-three items (1, 3, 4, 5, 6, 9, 12, 13, 14, 28, 37, 38, 39, 45, 46, 50, 51, 54, 55, 58, 59, 60, and 61) loaded on more than factor at the .40 level while three items (2, 21, and 49) failed to load on any of the factors extracted at the .40 level. Table 21 summarizes factor extraction and loadings for the study.

Table 21

Factor Extraction and Loading Summary of Four FactorsFactor 1

1 = .4328*	35 = .6643
3 = .5349*	36 = .6765
4 = .6532*	37 = .6256*
5 = .6854*	38 = .5489*
6 = .5411*	39 = .5029*
7 = .5338	40 = .5151
8 = .4885	41 = .4405
9 = .5542*	42 = .5743
10 = .4412	43 = .5210
11 = .5497	44 = .6897
12 = .5121*	45 = .6391*
13 = .5133*	46 = .6440* loadings of items
14 = .5425*	47 = .6865
15 = .6489	48 = .5835 down in downgrading
16 = .5963	50 = .6023*
17 = .4670	51 = .6023* tried solely on
18 = .5494	52 = .6855
19 = .5624	53 = .4642 and 6 also loaded
20 = .5170	54 = .5289*
22 = .6287	55 = .5613* Surrender/Faith-
23 = .5523	57 = .6603
24 = .5954	58 = .5040* Trust Subscale, 3 -
28 = .4282*	59 = .5476*
29 = .5501	60 = .5122* Subscale, 4 -
30 = .6822	61 = .5300*
31 = .5885	62 = .6144/ Protective/
32 = .6006	
33 = .7201	
34 = .4929	

Table 21 (Continued)

<u>Factor 2</u>	<u>Factor 3</u>	<u>Factor 4</u>
3 = .4629*	1 = .4133*	4 = .4928*
6 = .4368*	9 = .4117*	5 = .4064*
13 = .4192*	12 = .4287*	51 = .4051*
25 = .5555	13 = .4188*	
26 = .5445	46 = .4047*	
27 = .4802	58 = .4031*	
37 = .4487*		
38 = .5644*		
39 = .4826*		
45 = .4656*		
54 = .4236*		
55 = .5758*		
59 = .4313*		
60 = .4057*		
61 = .4525*		

* Indicates item loaded on more than one factor

Table 22 compares factors and factor loadings of items and the subscale from which the item was drawn in descending order. Only 3 items (25, 26, and 27) loaded solely on factor 2. All items loading on factors 3 and 4 also loaded on factor 1. (The key for the table, 1 -- Humanism/Faith-Hope Sensitivity Subscale, 2 -- Helping/Trust Subscale, 3 -- Expression of Positive/Negative Feelings Subscale, 4 -- Teaching/Learning Subscale, 5 --Supportive/ Protective/ Corrective Environment Subscale, 6--Human Needs Assistance Subscale, and 7 -- Existential/ Phenomenological Forces Subscale.)

Table 22

Comparison of Factors and Loadings (Items) of Study Sample with Subscale

Number	Subscale	Weight	Item Statement
<u>Factor 1</u>			
33	4	.7201	Answer my questions to be sure I understand.
44	5	.6897	Explain safety precautions to me and my family.
47	5	.6865	Respect my modesty.
52*	6	.6855	Help me with my care until I'm able to do it for myself.
5	1	.6854	Make me feel someone is there if I need them.
30	3	.6822	Help me understand my feelings.
36	4	.6765	Ask me what I want to know about my health/illness.
35	4	.6643	Ask me questions to be sure I understand.
57	6	.6603	Check my condition very closely.
4*	1	.6532	Reassure me.
15	1	.6489	Maintain a calm manner.
46*	5	.6440	Encourage me to do what I can for myself.
45*	5	.6391	Give my pain medication when I need it.
22	2	.6287	Introduce themselves to me.
37*	4	.6256	Help me set realistic goals for my health.
62	7	.6144	Help me feel good about myself.
51*	5	.6023	Is cheerful.
32	4	.6006	Encourage me to ask questions about my illness and treatment.
16	1	.5963	Treat me with respect.
24	2	.5954	Give me their full attention when with me.
31	3	.5885	Don't give up on me when I'm difficult to get along with.
48	5	.5835	Check with me before leaving the room to be sure I have everything I need within reach.

Table 22 (Continued)

42	5	.5743	Offer things to make me more comfortable.
19	2	.5624	Come into my room just to check on me.
9*	1	.5542	Understand me.
23	2	.5523	Answer quickly when I call for them.
29	3	.5501	Don't become upset when I'm angry.
11	1	.5497	Accept me the way I am.
18	2	.5497	Accept my feeling without judging them.
59*	6	.5494	Know when it's necessary to call the doctor.
14	1	.5476	Know when I've had enough and act accordingly.
6*	1	.5425	Encourage me to believe in myself.
3*	1	.5411	Know what they're doing.
7	1	.5338	Point out positive things about me and my condition.
61*	7	.5300	Help me to see that my past experiences are important.
54*	6	.5289	Know how to handle equipment.
43	5	.5210	Leave my room neat after working with me.
40	5	.5151	Tell me what to expect during the day.
13*	1	.5133	Be kind and considerate.
60*	7	.5122	Seem to know I feel.
12*	1	.5121	Be sensitive to me feelings and mood.
58*	2	.5040	Help me feel like I have some control.
39*	4	.5029	Help me plan for my discharge from the hospital.
50	5	.4942	Be gentle with me.
34	4	.4929	Teach me about my illness.
8	1	.4885	Praise my efforts.
53	6	.4632	Know how to give shots, IV's, etc.
10	1	.4412	Ask me how I like things done.
41	5	.4405	Understand when I need to be alone.
1*	1	.4328	Treat me as an individual.
55*	6	.5613	Give me treatments and medications on time.
38*	4	.5489	Help me plan ways to meet those goals.

Table 22 (continued)

17*	2	.4679	Really listen to me when I talk.
28	2	.4282	Encourage me to talk about how I feel.
56	6	.4328	Let my family visit as much as possible.
<u>Factor 2</u>			
45*	5	.4656	Give my pain medication when I need it.
37*	4	.4487	Help me set realistic goals for my health.
59*	6	.4312	Know when it's necessary to call the doctor.
6*	1	.5411	Encourage me to believe in myself.
3*	1	.4629	Know what they're doing.
61*	7	.4525	Help me to see that my past experiences are important.
54*	6	.4236	Know how to handle equipment.
13*	1	.4192	Be kind and considerate.
60*	7	.4057	Seem to know how I feel.
39*	4	.5029	Help me plan for my discharge from the hospital.
55*	6	.5758	Give my treatments and medications on time.
38*	4	.5644	Help me plan ways to meet those goals.
25	2	.5555	Visit me if I move to another hospital unit.
26	2	.5441	Touch me if I need it for
20	2	.5170	Talk to me about my life outside the hospital.
27	2	.4802	Do what they say they will do.
<u>Factor 3</u>			
9*	1	.4117	Understand me.
13*	1	.4118	Be kind and considerate.
12*	1	.4287	Be sensitive to my feelings and moods.
58*	6	.4031	Help me feel like I have some control.
1*	1	.4133	Treat me as in individual.
17*	1	.4754	Really listen to me when I talk.

Table 22 (continued)

Factor 4

51*	5	.4051	Is cheerful.
5*	1	.4064	Make me feel some one is there if I need them.
15*	1	.4924	Maintain a calm manner.

Since all of the items loaded on factor 1 except 2, 21, 25, 26, 27, and 49, factor 1 was considered to indicate caring. This finding fails to support Watson's (1979) contention of the existence of 10 distinct carative factors. The items loading on factor 1 also represent each of the 7 subscales resulting in the questioning of the existence of discreet subscales. Caring behaviors identified by Cronin and Harrison (1988) and items loading on factor 1 include those behaviors related to the nurse-patient relationship, teaching and learning issues, assistance in the maintenance of basic needs and an awareness of needs other than those which are purely physical.

The only 4 items loading solely on factor 2 (20, 25, 26, and 27) reflecting nurse behaviors related to the support of the patient. Cronin and Harrison (1988) described the subscale which is the source of the items as the Helping/Trust Subscale. The remainder of the items loading on factor 2 also loaded on factor 1. These items reflect behaviors indicating the importance of the nurse's

competence and technical expertise in meeting patient needs. Other subscales represented include the Humanism/Faith-Hope/Sensitivity Subscales, the Teaching/Learning Subscale, the Human Needs Assistance Subscale, and the Existential/Phenomenological Forces Subscale.

Items 1, 9, 12, 13, 46, and 58 loaded on factor 3 and these items represent the Humanism/Faith-Hope/Sensitivity Subscales, the Human Needs Assistance Subscale, and the Existential/Phenomenological Forces Subscale. Factor 3 cannot be described as a distinct factor but as a component of caring. This component of caring could be described as an awareness or sensitivity to individual needs. Sensitivity was a major concept of caring in a study conducted by Bush (1988) and a carative factor identified by Watson (1979).

Factor 4 cannot be considered as a distinct factor of caring either but only a component of caring. Items loading factor 4 included items 4, 5, and 51, and again, these items loaded on factor 1. The subscales represented included the Humanism/Faith-Hope/Sensitivity Subscale and the Human Needs Assistance Subscale. This component of caring can be described as presence. Both Ray (1981) and Bevis (1981) identified presence as a facet of caring in their concept

analyses of caring. Bush (1988) also demonstrated presence to be a component of caring.

Summary

The CBA was administered to 104 adults hospitalized on medical-surgical units of a large metropolitan hospital over a two week period. There were slightly more women (51.9%) included in the sample than men. Ages of the subjects ranged from 21 to 90 with 49.9% being between 41 and 70 years of age. Most (56.7%) of the sample had been hospitalized for less than 5 days and 53.8% had been hospitalized 1-4 times in the past. A variety of medical diagnoses were represented with 17.3% undergoing surgery for a multiplicity of procedures. Thirty-three percent (33.6%) of the sample had been admitted for problems not specifically addressed by the particular item.

The Cronbach's coefficient alpha of the CBA as a whole was .9566. This value was within the acceptable range for an instrument.

The Cronbach's coefficient alphas for the subscales ranged from .7590 to .8916. All of these values are also within the range for subscales. Only items 27 and 49 had item-total correlation of less than .3. Deletion of item 27 would increase the alpha coefficient of the Helping-Trust subscale to .7812, while the deletion of item 49 would

increase the coefficient alpha of the Supportive Environment subscale to .8679. Items 35, 36, 37, 38, and 44 had item to total correlations greater than .7.

Factor analysis revealed 16 factors, however, only 4 factors had three or more items loading at the .4 level or greater which accounted for 50.4% of the explained variance. Items 2, 21, and 49 failed to load on any of the 4 factors identified. Fifty-six (90%) of the items loaded on factor 1 with 23 items loading on more than one factor. Items 25, 26, and 27 loaded on factor 2 and those were the only items loading solely on a factor other than Factor 1. All items loading on factors 3 and 4 also loaded on other factors. This finding indicates that caring encompasses many nursing behaviors and questions the existence of the discreet carative factors as described by Watson (1979) or specific subscales of the CBA. Caring is a broad concept which includes a wide range of nurse behaviors performed in meeting patient needs.

CHAPTER 5

SUMMARY OF THE STUDY

This chapter provides a summary of the study and discusses the findings. Conclusions, implications, and recommendations for further study are discussed.

Summary

A methodological approach was used in the study to assess patients' perceptions of nurse caring behaviors. The problem of the study was to determine the reliability and validity of the Caring Behaviors Assessment (CBA) and to validate the carative factors of Watson's (1979) theory of nursing.

The theoretical framework for the study was Watson's (1979) theory of carative nursing. The instrument developed by Cronin and Harrison in 1988 based on Watson's theory was utilized in this study. Watson's theory identifies 10 carative factors which Watson contends are discreet facets of caring.

The hypotheses to be tested in the study were as follows:

- H₁ The internal consistency reliability coefficient of the CBA instrument is equal to or greater than 0.70.
- H₂ The internal consistency reliability coefficient for each of the CBA subscales is equal to or greater than 0.60.
- H₃ All item to total correlations are between 0.3 and 0.7.

A pilot study was conducted when the CBA was administered to patients 61 hospitalized on the telemetry unit of a small community hospital. The alpha reliability coefficient for the complete instrument in the pilot study was .904

The major study involved the administration of CBA to 104 adults hospitalized on medical-surgical units of a large metropolitan hospital over a 2 week period. Demographic data collected included gender, age, length of hospitalization, number of previous hospitalization, and diagnosis.

The findings were as follows:

1. The Cronbach's coefficient alpha for the 62 instrument items was .9566.
2. The Cronbach's coefficient alpha for the seven subscales ranged from .7583 to .9081.

2. The Cronbach's coefficient alpha for the seven subscales ranged from .7583 to .9081.

3. All item to total correlations were above .3 except for items 27 and 49. The item to total correlation for item 27 was .2861, while the item to total correlation for item 49 was .2777. Items 35, 36, 37, 38, and 44 had item to total correlations of greater than .7.

4. Four factors with at least 3 items loading at the .4 level or better were identified. Those factors accounted for 50.4% of the variance.

5. Analysis of the items contributing to the four factors were undertaken. Each factor was labeled following evaluation of the items loading on that factor. Factor 1 was identified as caring since all subscales were represented in the item loading. Items loading on factor 2 reflected supportive behaviors of the nurse in meeting patient needs, while factor 3 can be characterized as being sensitivity to patient needs. Factor 4 represented behaviors which can be described as presence.

Discussion of Findings

This section discusses the findings in four separate sections. The sections are: reliability, hypotheses, validity, and the validation of Watson's (1979) theory of carative nursing.

Reliability

The internal consistency reliability coefficient of the CBA was .9566. This value is consistent with the reliability coefficient determined in the pilot study which was .904. Based on this finding, the CBA can be described as a reliable measure of the concept of caring.

The internal consistency reliability coefficients for each of the 7 subscales was greater than .70. The reliability coefficient obtained for the Human Needs Assistance Subscale was .8104. This is in contrast to the coefficient for that subscale determined in the pilot study which was .45. The value of .8104 indicates that technical and competence factors are indeed facets of caring. The reliability coefficients determined for the remaining 6 subscales were consistent with those obtained in the pilot study.

Item to total correlations for each item was also calculated. All items had item to total correlations greater than .3 except items 27 and 49. Deletion of item 27 would increase the reliability of the Helping/Trust Subscale to .7786, although the coefficient was already greater than .7. The deletion of item 27 which had an item to total correlation of .2777 would increase the reliability coefficient of the Supportive/Protective/Corrective

Environment Subscale to .8679. Again, the reliability coefficient of that subscale was already greater than .7.

The upper limit for item to total correlations was .7 and 4 items with item to total correlations greater than .7 were identified. Three of those items appeared on the Teaching/Learning Subscale and deletion of the items would lower the reliability coefficient of the subscale. This subscale also had the highest mean. Item 44 had an item to total correlation greater than .7 and it was included on the Supportive/Protective/Corrective Environment subscale. Deletion of the item would lower the subscale's mean.

The major study findings were different from those of the pilot study. In the pilot study, eight of the 12 items with item to total correlation less than .3 were on the Human Needs Assistance Subscale. However, in the major study none of the item to total correlations on that subscale were less than .3.

Hypotheses

Three hypotheses related to the reliability are discussed in the following section:

- H₁ The internal consistency reliability coefficient of the CBA is equal to or greater than 0.70. This hypothesis was accepted as the internal consistency reliability coefficient of the CBA was .9566.
- H₂ The internal consistency reliability coefficient for each of the CBA subscales are equal to or greater than 0.70. This hypothesis was accepted as the internal reliability correlation coefficients of the subscales ranged from .7812 to .9081.
- H₃ All item to total correlations are between 0.3 and 0.70. This hypothesis was rejected because two items, items 27 and 49, had item to total correlations less than .3 and two items, items 35, 36, 37 and 44 had item to total correlations of greater than .7

Validity and Validation of Watson's Theory

The CBA was based on Watson's (1979) theory of carative nursing by Cronin and Harrison (1988). When the internal consistency of the CBA was shown to be acceptable, factor analysis was utilized to inductively reason the relationship of the CBA's seven subscales and thus Watson's carative factors and the factors identified. However, the factor

analysis failed to discriminate the seven distinct subscales.

The 62 items on the CBA loaded on 16 factors, but only 4 factors had three or more items loading at the .4 level or greater. Since 56 items loaded on Factor 1 and those items represent each of the seven subscales, Watson's (1979) contention of the existence of 10 discreet carative factors is not supported. Caring is a broad concept encompassing many nursing behaviors in providing patient care.

In their discussion of the relationship of theory and research, Fawcett and Downs (1986) stressed the importance of parsimony of a theory. They wrote, "...the fewer the concepts, definitions, and propositions needed to describe, explain, or predict a phenomenon, the better" (p.58). The results of the present study may be a beginning step to economy of assumptions in Watson's (1979) theory of caring.

Based on the findings of the study, Watson's (1979) theory can be made more parsimonious by stating that caring involves all nursing behaviors aimed in meeting patients' basic human needs and teaching-learning needs. In addition, the caring nurse strives to develop a nurse-patient relationship aimed at building the patient's trust and is sensitive to the often unspoken psychosocial needs. Nurses

should be made aware of the impact of caring on their practice.

In assessing the loading of individual items and their loadings on factors, items 2, 21, and 49 failed to load on any of the four factors. Item 2 had a relatively low (.3122) item to total correlation on the Humanism/Faith-hoper Sensitivity subscale. Items 21 had an item to total correlation of .4414 on the Helping/Trust subscales. Since the reliability coefficients of each of the subscales were greater than .7 with these items included, the researcher questions the importance of the items to the instrument.

Item 49 failed to load on any factor and it also had an item to total correlation on the Supportive/Corrective/Protective Environment Subscale of .2777. This item was also one of the five items with lowest means. Based on this finding item 49 which deals with consideration of spiritual needs, does not appear to be a behavior necessary to caring. The subjects interviewed by the researcher indicated that they felt that the meeting of spiritual needs did not fall within the realm of the nurse. The subjects suggested that other resources existed to assist in meeting spiritual needs.

Conclusions and Implications

The CBA has been proven to be a valid and reliable measure of the concept of caring. Although the existence of 10 discreet carative factors and 7 distinct subscales has not been supported, the framework is adequate in the discussion of caring. The items written by Cronin and Harrison (1988) based on Watson's (1979) theory include behaviors which patients perceive as caring. In addition, there were very few items which patients did not perceive as important to caring.

The identification of the CBA as a valid and reliable measure of caring has important implications for nursing practice, nursing research and nursing education. The importance placed on the instrument items by the subjects, supports the contention that caring is an important facet of nursing.

The importance of caring to patients should be stressed to practicing nurses. Nurses who are skilled clinicians and expert practitioners should be rewarded for their practice because patients do perceive technical competence and clinical expertise as important to caring. These nurses should be encouraged to remain in the direct patient care setting in order that patients receive the benefits of their skills. Unfortunately, in many areas of practice expert

practitioners are rewarded by removing them from the direct care setting.

In addition, continuing education programs should be offered to nurses to refresh them in the importance of caring. Caring behaviors are often lost in the nurse's struggle to deal with the stress accompanying nursing practice. The acuity of hospitalized patients and the effects of high technology often impact negatively on the caring practice of the nurse.

The volume of research concerning the importance of caring has increased exponentially over the last several years. Both quantitative and qualitative studies have been conducted in examining the importance of caring. The findings of this study should be the basis for additional research using the CBA and increasing the amount of quantitative research. This study is just one of the first steps in the quantitative examination of the importance of caring.

Most nursing schools' curricula are broadly based and include the importance of both interventions aimed at meeting psychosocial and psychological needs as well as basic human needs. The findings of this study suggest that the importance of clinical skills and expertise should be stressed to nursing students. Although behaviors such as

touch and listening are important to patients, clinical skills are equally or more important.

Another implication is the need for nursing faculty to be good role models in providing caring nursing care. Faculty need to possess the same clinical expertise and technological competence as practicing nurses. The importance of caring should be stressed to nursing school faculty as well as practicing nurses.

Recommendations for Further Study

The findings of this study suggest several areas for further research. The following recommendations for further study are important in exploring the concept of caring.

1. Additional studies with different samples are needed to confirm the construct validity of the CBA and the relationship between the instrument and Watson's carative factors.
2. Varying patient populations should be sampled since all studies undertaken thus far have utilized samples consisting of hospitalized patients.
3. The existential/phenomenological needs subscale requires further consideration because of the few number of items on the subscale. Although the reliability coefficient of the subscale was .7583, the addition of items should be considered to make

the subscale equivalent to the others in terms of the number of items.

4. The discrepancy between nurse and patient perceptions of caring should be addressed. The CBA could be pilot tested with nurses and if it was valid findings could be compared.
5. Secondary analysis of the data from the present study would provide important information on the relationship between the various aspects of the subjects and the scores on the CBA.

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Appendices

Appendix A
Prospectus Approval

TEXAS WOMAN'S UNIVERSITY

DENTON DALLAS HOUSTON

THE GRADUATE SCHOOL

P.O. Box 22479, Denton, Texas 76204-0479 817/898-3400



June 11, 1991

Ms. Margaret Stanfield
2260 Colony Court
Dallas, TX 75235

Dear Ms. Stanfield:

Thank you for providing the materials necessary for the final approval of your prospectus in the Graduate Office. I am pleased to approve the prospectus, and I look forward to seeing the results of your study.

If I can be of further assistance, please let me know.

Sincerely yours,

Leslie M. Thompson

Leslie M. Thompson
Dean for Graduate Studies
and Research

dl

cc Dr. Helen Bush
Dr. Carolyn Gunning

An Eq

tyl. Affirmative Action Employer

Appendix B
Agency Approval

LETTER OF ACCEPTANCE

To: Margaret Stanfield
Principal Investigator

From: Jacquelin S. Neatherlin RN, MSN, CWRN
Chair, Nursing Research Committee

Subject/Proposed study: Watson's Caring Theory and Instrument Development

Your proposal has been approved for conduct within the Division of Nursing. You are therefore entitled to proceed with your study within the following guidelines:

1. may not be identified in the final report.
2. A copy of the study's final report, including an abstract, must be submitted to the Nursing Research Committee within six months of its' completion.
3. The results of your study must be presented orally to an audience of nurses within the institution within six months of completion.
4. If the study has not been completed within six months of approval, then a follow-up report must be completed and submitted to the committee.
5. Any additional requirements as specified during the approval process must be fulfilled, i.e. Contact Person for institution - Jacquelin S. Neatherlin

Your signature on this letter indicates an agreement to follow these guidelines. Non-compliance will necessitate formal notification of the Associate Executive Director of Nursing, and may result in your loss of privilege to conduct nursing research at . If you are not an employee of , notification of non-compliance will also be sent to the responsible nursing administrator/faculty in the agency you represent.

Please sign and return the two copies of this agreement in the enclosed envelope. You will receive a copy for your files by return mail and may, at that time, begin your research study.

5/22/91
Date

Jacquelin S. Neatherlin
Nursing Research Committee Representative

5/22/91
Date

Margaret Stanfield
Principal Investigator

Appendix C
Caring Behaviors Assessment

CARING BEHAVIORS ASSESSMENT

Instructions

Listed below are descriptions of activities frequently performed by nurses when caring for patients. Please rate each activity in terms of its importance to you when you have received care from nurses. Please do not leave any questions blank and truthful answers are important to the study. There are no wrong or right answers. Participation in the study is completely voluntary.

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSIDERED YOUR CONSENT TO BE A PARTICIPANT IN THIS STUDY.

	Much Importance			Little Importance	
	5	4	3	2	1
1. Treat me as an individual.	5	4	3	2	1
2. Try to see things from my point of view.	5	4	3	2	1
3. Know what they're doing.	5	4	3	2	1
4. Reassure me.	5	4	3	2	1
5. Make me feel someone is there if I need them.	5	4	3	2	1
6. Encourage me to believe in myself.	5	4	3	2	1
7. Point out positive things about me and my condition.	5	4	3	2	1
8. Praise my efforts.	5	4	3	2	1
9. Understand me.	5	4	3	2	1
10. Ask me how I like things done.	5	4	3	2	1
11. Accept me the way I am.	5	4	3	2	1
12. Be sensitive to my feelings and moods.	5	4	3	2	1

Much Importance					Little Importance
5	4	3	2	1	

- | | | | | | |
|--|---|---|---|---|---|
| 13. Be kind and considerate. | 5 | 4 | 3 | 2 | 1 |
| 14. Know when I've "had enough" and act accordingly (for example, limit visitors). | 5 | 4 | 3 | 2 | 1 |
| 15. Maintain a calm manner. | 5 | 4 | 3 | 2 | 1 |
| 16. Treat me with respect. | 5 | 4 | 3 | 2 | 1 |
| 17. Really listen to me when I talk. | 5 | 4 | 3 | 2 | 1 |
| 18. Accept my feelings without judging them. | 5 | 4 | 3 | 2 | 1 |
| 19. Come into my room just to check on me. | 5 | 4 | 3 | 2 | 1 |
| 20. Talk to me about my life outside the hospital. | 5 | 4 | 3 | 2 | 1 |
| 21. Ask me what I like to be called. | 5 | 4 | 3 | 2 | 1 |
| 22. Introduce themselves to me. | 5 | 4 | 3 | 2 | 1 |
| 23. Answer quickly when I call for them. | 5 | 4 | 3 | 2 | 1 |
| 24. Give me their full attention when with me. | 5 | 4 | 3 | 2 | 1 |
| 25. Visit me if I move to another hospital unit. | 5 | 4 | 3 | 2 | 1 |
| 26. Touch me when I need it for comfort. | 5 | 4 | 3 | 2 | 1 |
| 27. Do what they say they will do. | 5 | 4 | 3 | 2 | 1 |
| 28. Encourage me to talk about how I feel. | 5 | 4 | 3 | 2 | 1 |
| 29. Don't become upset when I'm angry. | 5 | 4 | 3 | 2 | 1 |
| 30. Help me understand my feelings. | 5 | 4 | 3 | 2 | 1 |

	Much Importance			Little Importance	
	5	4	3	2	1
31. Don't give up on me when I'm difficult to get along with.	5	4	3	2	1
32. Encourage me to ask questions about my illness and treatment.	5	4	3	2	1
33. Answer my questions to be sure I understand.	5	4	3	2	1
34. Teach me about my illness.	5	4	3	2	1
35. Ask me questions to be sure I understand.	5	4	3	2	1
36. Ask me what I want to know about my health/illness.	5	4	3	2	1
37. Help me set realistic goals for my health.	5	4	3	2	1
38. Help me plan ways to meet those goals.	5	4	3	2	1
39. Help me plan for my discharge from the hospital.	5	4	3	2	1
40. Tell me what to expect during the day.	5	4	3	2	1
41. Understand when I need to be alone.	5	4	3	2	1
42. Offer things (position changes, blankets, back rub, lighting, etc.) to make me more comfortable.	5	4	3	2	1
43. Leave my room neat after working with me.	5	4	3	2	1
44. Explain safety precautions to me and my family.	5	4	3	2	1
45. Give my pain medication when I need it.	5	4	3	2	1
46. Encourage me to do what I can for myself.	5	4	3	2	1

	Much Importance			Little Importance		
	5	4	3	2	1	
47. Respect my modesty (for example, keeping me covered).	5	4	3	2	1	
48. Check with me before leaving the room to be sure I have everything I need within reach.	5	4	3	2	1	
49. Consider my spiritual needs.	5	4	3	2	1	
50. Be gentle with me.	5	4	3	2	1	
51. Is cheerful.	5	4	3	2	1	
52. Help me with my care until I'm able to do it for myself.	5	4	3	2	1	
53. Know how to give shots, IV's, etc.	5	4	3	2	1	
54. Know how to handle equipment (for example, monitors).	5	4	3	2	1	
55. Give my treatments and medications on time.	5	4	3	2	1	
56. Let my family visit as much as possible.	5	4	3	2	1	
57. Check my condition very closely.	5	4	3	2	1	
58. Help me feel like I have some control.	5	4	3	2	1	
59. Know when it's necessary to call the doctor.	5	4	3	2	1	
60. Seem to know how I feel.	5	4	3	2	1	
61. Help me to see that my past experiences are important.	5	4	3	2	1	
62. Help me feel good about myself.	5	4	3	2	1	

Appendix D
Permission to Use Instrument



NEWBURG ROAD
LOUISVILLE, KY 40205
502/452-8211

January 30, 1989

Margaret Stanfield, RN, MS
2260 Colony Court
Dallas, Texas 75235

Dear Ms. Stanfield,

Thank you for your interest in the Caring Behaviors Assessment. Enclosed is a copy of the tool and additional information regarding its development. Please feel free to use the CBA. In return, we ask that you acknowledge its authorship (reference to the Heart and Lung article is sufficient) and, upon completion of your study, please send us a copy of your abstract. We would also appreciate the results of any further reliability and validity testing of the CBA.

Your research ideas sound exciting and we will be most interested in your findings. If we can answer any questions or be of any further assistance, please feel free to contact us.

Sincerely,

Sherill Nones Cronin, RN, C, MSN
Assistant Professor

Barbara Harrison, RN, C, MSN
Assistant Professor

Appendix E
Explanation of Study to Subjects

EXPLANATION OF STUDY TO SUBJECTS

My name is Margaret Stanfield and I am a nurse and doctoral student enrolled at Texas Woman's University. As part of my dissertation I am interested in learning what behaviors performed by nurses that patient perceive is caring.

I have a questionnaire which has 62 items listing various behaviors of nurses. Please score each behavior according to its importance to you. The score range from 5 which signifies that the behavior has much importance to you to 1 which means the behavior has little importance to you. I am interested in your opinions about all nurses who have ever worked with you and not necessarily just the nurses here at this hospital. There are no wrong or right answers and I interested in your honest opinion.

The last page of the questionnaire asks a few questions about you in order to describe the people who participated in the study. Please do not put your name on the questionnaire as it is anonymous.

You are not required to participate and may refuse if you do not feel like completing the questionnaire. If you

would like to participate but don't feel like filling out the questionnaire, I can read each of the items to you. It will take about 10 minutes to complete the form.

Thank you for your assistance.