

THE DEVELOPMENT OF THE MEASUREMENT OF PRESENCE SCALE

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COLLEGE OF NURSING

BY

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I am submitting herewith a dissertation written by Doris R. Hines, M.N., R.N., entitled "The Development of the Measurement of Presence Scale." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Nursing.

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## DEDICATION

This dissertation is dedicated to the presence of all.  
Especially those who value self enough to honestly  
encounter others.

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# THE DEVELOPMENT OF THE MEASUREMENT OF PRESENCE SCALE

## ABSTRACT

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This exploratory study utilized a methodological design based on correlational methods to estimate initial reliability and construct validity of the Measurement of Presence Scale (MOPS). Paterson and Zderad's conceptualization (1976) of the humanistic nursing situation provided the frame of reference. Attributes which related to the essential structure of presence were identified and defined through systematic theory analysis and construction.

Using measurement theory and strategies items were generated and a self-report interval level, norm referenced scale was developed. Content validity was estimated by a panel of experts and the scale was resized from 135 items to 60 items. Initial estimates of internal consistency were obtained in a pilot study.

Three hundred twenty four Registered Nurses participated in the major study to estimate internal consistency reliability and construct validity of the

scale. The internal consistency reliability (Cronbach's Alpha) for the total scale was 0.9324. The subscale alpha correlation coefficients were all greater than .60.

Factor analysis procedures produced nine mutually exclusive subscales which met predetermined criteria. Interpretation of the produced subscales was accomplished. The following subscales were interpreted as a result of the analysis: (1) valuing/attending to self and others, (2) connecting, (3) transacting, (4) enduring memory from the past, (5) engaging for growth, (6) encountering, (7) availability, (8) person or event sustaining memory, and (9) disclosing and enclosing.

Item analysis on the original Measurement of Presence Scale (MOPS) between the upper and lower quartile groups by subscale score and total score revealed that three items did not discriminate significantly.

Designated subscales showed a moderate to high correlation between the subscales and the total Measurement of Presence Scale (MOPS) and were significant at the 0.01 level. These findings provide support for the initial estimations of internal consistency and construct validity of the scale. Further cumulative testing is recommended.



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## CHAPTER I

### INTRODUCTION

"The presence of the nurse is the core of the nurse patient relationship" (Gardner, 1982, p.316). Patients and nurses are often engaged in a shared situation in which the nurse responds to the requests of the person being nursed. The patient response to the nurse's intervention then creates an interactive process or event. The aim of the shared situation is to produce well being, comfort, growth and a relationship between the patient and nurse. The nurse usually experiences a sense of satisfaction, invigoration and feeling of having made a difference in a person's life process. The patient is usually better able to cope and expresses a form of comfort. In this situation, comfort may be thought of as making the most of the potential within an encounter.

Paterson and Zderad (1976) view nursing within the context of "human dialogue, intersubjective transaction, a shared situation, a transactional process and presence of both the client and the nurse" (Meleis, 1985, p.175). The main question (Paterson and Zderad, 1976) asked is "How do nurses and patients interact?" Presence is a concept that Paterson and Zderad (1976) describe as a part of the shared

interactive nursing process between the patient and the nurse. Nursing activities bring a nurse into close physical space with the patient but this in itself does not necessarily indicate presencing will occur. Paterson and Zderad (1976, p.122) have described presence as "a mode of being available or open in a situation with the whole of one's unique individual being; a gift of self which can only be given freely, invoked or evoked" (p.122). Presence with self and the availability of that self is the main idea within this description.

Presence with others reflecting a whole person exchange or intersubjective dialogue between the persons in the situation is the result of wholistic self giving exchange. Hines (1987, 1988a, 1988b) described presence as "a mode of being available in a situation with the wholeness of one's unique individual being; a process resulting in an exchange of authentic meaningful awareness and essence linking and thus more being (ultimate realization of human potential)".

Paterson and Zderad (1976) note the difficulty of describing the concept of presence. The struggle in describing presence is thought to be related to the simultaneous events that occur during presencing. The nurse and the patient have a presence with self which is

the presence that is described by Paterson and Zderad (1976). . . However, the event of the nurse and patient transacting, valuing, connecting and remembering is also part of presence. It is the presence with others that produces a whole person exchange that is described by Hines (1987, 1988a, 1988b). The researcher perceives presence as a whole person variable, and as the shared interhuman exchange continues, the transacting, valuing and connecting result in the more being of the patient and the nurse.

At times the significant exchange doesn't happen and the nurse and patient encounter either at a trivial level or a level of confirmation or simple encounter only. The basis for the levels of exchange is rooted in existentialist philosophy and belief. Buber (1970) indicates levels of relation that are known rather than counted or observed. Buber (1970) generally describes relationships which reflect person to person relating and person to object relating. I-Thou relating is the giving and receiving of the "I" or "You" whereas I-It relating is the treating of humans in relationships, as objects. Steere (1967) describes a scene of being physically present in a classroom, yet not present or available for learning the lessons or exchanging ideas.

Individual uniqueness and authenticity is the focus of

the existentialist philosophy as opposed to things, objects or systems. Buber (1970) describes the three spheres in which the world of relation arises as the following: (1) life with nature, (2) life with men and (3) life with spiritual beings. In the second sphere, persons (the nurse and the patient) give and receive the "I" or "You" (thou). Presence among humans is an event involving whole person participation and exchange that results in moreness. Buber (1970) describes the process as

when I confront a human being as my "you" and speak the basic "I-You" to him then he is no thing among things nor does he consist of things. He is no longer He or She limited by other He's or She's, a dot in the world grid of space and time nor a condition that can be experienced and described, a loose bundle of named qualities (p. 39).

The individual with choices, values, and meaning is authentically recognized by another as a unique being in the here and now.

Other disciplines, such as theology, have described the phenomenon of presence. Avery (1986) reports that the definition of presence is a way of being with a patient in such a manner that the patient knows the chaplain shares some of the joy or pain of the other person. A pastoral caregiver is with the patient at the most critical times. The behaviors and attitudes described during presencing include: (1) touching, (2) silence, (3) intimacy, (4)



caring and (5) reflective response. Hospitality is indicated as a means of paying attention to another human being in that the nurse or chaplain makes room internally for another (Avery, 1986).

Paterson and Zderad (1976) report nursing as a human response, implying the valuing of some human potential beyond the narrow concept of health taken as the absence of disease. Nursing's focus is not merely with a person's absence of symptoms, role performance, or well being but with the person's more being in his life situation. The nurse's presence with the patient enables more being to evolve through the participation and exchange. Pettigrew (1988) described outcomes of presencing as including: (1) enduring impact and memory, (2) invigoration, (3) energy, (4) hope, (5) coping, (6) strength, (7) understanding, (8) trust, (9) self esteem and (10) healthy growth. All of these are related to the broadest conceptualization of health which may include suffering.

Health acquires a different meaning when envisioned as more being. Nurse theorist Margaret Newman (1986) purported health as expanding consciousness in which the concept of consciousness is defined as the informational capacity of the system and the ability to exist meaningfully in the environment. Perception is the

original awareness of involvement of unified relations which are infinitely composed and organized as man relates to his environment which includes other human beings. This might be called the multiple reality experience. Health, in terms of human interaction

implies an individual at higher levels of consciousness with a greater repertoire of responses to any given situation. There is a greater refinement of response in terms of insight, context and detail (Newman, 1986, p.34).

Presencing enables nurses and patients to develop the personal explanatory systems that provide impetus for development of human potential in their shared situation and thus more being, consciousness, and health.

The experiencing of nurse patient interaction has been the center of much discussion, description, research and writing (Rogers, 1970; Peplau, 1952; Travelbee, 1971; Parse, 1981; Benner, 1984; Paterson and Zderad, 1976; Newman, 1986). The concept of presence has been phenomenologically described and conceptually analyzed (Pettigrew, 1988; Gardner, 1985; Hines, 1987, 1988a, 1988b). Walker's and Avant's (1983) process of concept analysis, synthesis and derivation was utilized by Hines (1987) to identify the provisional attributes of presence.

According to Kramer (1990), the aforementioned procedures attempt to preserve the wholistic tenets of many

of the phenomena in nursing. With the procedures of wholistic empirics two ideas are suggested: (1) empirical knowledge must be consistent with wholistic tenets as is possible and (2) integration with other patterns of knowledge to yield goals consistent with wholistic health is expected. Kramer (1990) supported the view that there are multiple descriptions of the same phenomena, as well as multiple explanations. The descriptions of presence and the analysis, synthesis and derivation involved in the development of the provisional attributes of presence followed these specifications.

Hines (1987) synthesized the provisional attributes of presence as (1) time with another, (T), (2) unconditional positive regard, (UPR), (3) transactional speaking with, being with, doing with, (TR), (4) encounter which is valued, (EV), (5) connectedness, (C) and (6) sustaining memory, (SM). In further work by Hines (1988b), items for a preliminary instrument reflecting the domain described by the provisional attributes were developed and tested in a pilot study. Therefore, in this study, the Measurement of Presence Scale (MOPS) (Hines, 1988b) will be tested and explored using methodological measurement strategies.

#### Problem of the Study

The problem was stated as follows: What are the

psychometric properties of the Measurement of Presence Scale (MOPS) when testing Registered Nurses in midwest, west, and southern areas of the United States? What are the elements of presence that will be illustrated and ordered through instrumentation testing data?

#### Purpose

The purpose of the present study was to test and explore the Measurement of Presence Scale (MOPS). The psychometric properties of reliability and construct validity were estimated and related as a means of systematic scholarly inquiry about the phenomenon of presence.

#### Rationale for the Study

A phenomenological study of the nurse's presence (Pettigrew, 1988) with patients who were suffering revealed major themes which correspond to the provisional attributes identified by Hines (1987). The attributes are: (1) time with another, (T), (2) unconditional positive regard, (UPR), (3) transactional speaking with, being with, doing with, (TR), (4) encounter which is valued, (EV), (5) connectedness, (C) and (6) sustaining memory (SM).

The empirical testing approaches have not been explored. In order for appropriate testing to be systematically performed, however, testing instruments need

to be developed and their reliability and validity estimated. By focusing on presence in the methodological domain and testing the Measurement of Presence Scale (MOPS), this study contributes to new knowledge about interactive relationships in nursing for the purpose of well being in humans.

In addition to new knowledge about presence as a phenomenon, the addition of a quantifiable measurement instrument for presence will allow more propositions to be tested and correlated. If researchers estimate, clarify, and order more elements of presence, the relationships between presence and hope, well being, self actualization (growth), coping and comfort might be estimated, supported, and validated.

In nursing practice, the technologies are being utilized with increasing sophistication, yet we have not been able to quantifiably illustrate how human presence would be important to the patient. It's known that presencing is important in interactive relationships through descriptions of nurse-patient interactions and discussion among professionals (Paterson & Zderad, 1976). Presence is known as felt and is discussed in this manner. Yet we have not identified specific elements of the nursing intervention, presence, which might be utilized for the

development of human potential in lived nursing situations. The nurse's presence might be used to augment the patient's decision making and coping ability.

Gardner (1985) points out that patients experiencing fear, grief, potential for injury, powerlessness, isolation, hopelessness, and distress are treated effectively by the nurse's presence and yet we have no way to estimate the intervention other than by description and verbal explanation. Presence is utilized as an intervention only if there is time left after procedures and delegated medical requirements are implemented.

Measurement of the elements of presence by instrumentation may be utilized to influence nurse staffing patterns which would facilitate the action of the nurse being able to "just talk" to the patient. In many settings the staffing pattern is determined by the performance of tasks and the minutes or hours it takes the caregiver personnel to perform the task. Thus with more estimation and validation the presence of the nursing personnel may be incorporated as a staffing variable in health care settings. If elements of presence can be more closely ordered and clarified, nurse educators can include content in an educational plan to increase the nurse's repertoire of responses in patient care situations.

## Theoretical Framework

### Humanistic Nursing

Paterson and Zderad's conceptualization (1976) of the humanistic situation provides the framework for this study. "Humanistic nursing is concerned with what is basically nursing, that is, with the phenomenon of nursing wherever it occurs regardless of its specialized clinical, functional, or social culture form" (Paterson and Zderad, 1976, p. 18). This framework provides broad dimensions for considering person, health, nursing, and environment. The elements within Paterson and Zderad's (1976) conceptual system include "incarnate men (patient and nurse) meeting (being and becoming) in a goal directed (nurturing well-being and more-being), intersubjective transaction (being with and doing with) occurring in time and space (as measured and lived by patient and nurse) in a world of men and things."

"Man is a being always becoming in relation with men and things in the world of time and space" (Paterson and Zderad, 1976). The nursing situation (environment) is between persons in the world of relation that is directed toward nurturing the well being and more being of a person with perceived needs related to the health-illness quality of living.

Within this open humanistic framework "nursing is viewed as a form of human dialogue and the nursing event as lived or experienced by the participants in the everyday world is dialogue." (Paterson and Zderad, 1976, p. 23). The term dialogue is used by Paterson and Zderad (1976) to mean "ontological sphere," or the realm of being. In Paterson and Zderad's (1976) "lived dialogue; the event is intersubjective relating and nursing is a dialogical mode of being in an intersubjective situation." Elements in the humanistic nursing framework are identified as "meeting, relating, presence, and call and response" (Paterson and Zderad, 1976, p. 26).

#### Antecedents, Provisional Attributes, and Consequences of Presence

The provisional attributes of presence along with antecedents and consequences were developed by Hines (1987) using the strategies of concept syntheses, analysis, and derivation proposed by Walker and Avant (1983). The proposed antecedents developed by Gardner (1985) were (1) caring, ability to, (2) self awareness, (3) commitment to helping, (4) knowledge and expertise, (5) skills of listening and touching, and (6) other-awareness. Hines (1987) identified these during systematic concept analysis procedures.



The provisional attributes of presence (Hines 1987) were identified as (1) time with another, (T), (2) unconditional positive regard, (UPR), (3) transactional speaking with, being with, doing with, (TR) (4) encounter which is valued, (EV), (5) connectedness (essence linking), (C) and (6) sustaining memory (SM). The conceptual process of clustering formed the basis for these attributes and the various descriptors are included in the logical configuration of presence as a phenomenon in Chapter 2.

The consequences of presencing identified by Gardner (1985) are (1) support, (2) comfort, (3) sustained assistance (goal attainment), (4) encouragement, (5) motivation, and (6) invigoration. In furthering the conceptualization of presence the systematic examination of variables, factors, and provisional attributes was employed (Blalock, 1969). The utilization of Blalock's (1969) strategy initiated the process of identifying systematically the proposed relationships among the variables (provisional attribute) related to presence.

#### Systematic Theory Construction

Blalock (1969) has outlined a strategy for examining variables to facilitate systematic theory construction. Using this strategy, the nurse theorist can examine variables in a systematic, logical and advanced way. By

reviewing variables thoroughly, interrelated propositions may be identified by the researcher to assist in the development of theories. Usually the theories can be explained in both verbal and mathematical form.

Blalock (1969) suggests that the process of formalization of theory development consists of clarifying concepts, eliminating or consolidating variables, translating existing verbal theories into common languages, searching the literature for propositions and looking for implied assumptions connecting the major propositions in important theoretical works.

The model chosen to conceptualize presence is called "inventory of causes" (Blalock, 1969, p.35). Newman (1979) uses this model to identify related factors for a concept of concern. Newman (1979) suggests specifying the direction of the relationships after careful literature review. Figure 1 (p.15) represents a model for conceptualization of presence utilizing Margaret Newman's (1979) inventory of related factors. In Figure 1, (p.15) Y represents the focal concept (concept of concern) and the X's represent the provisional related factors.

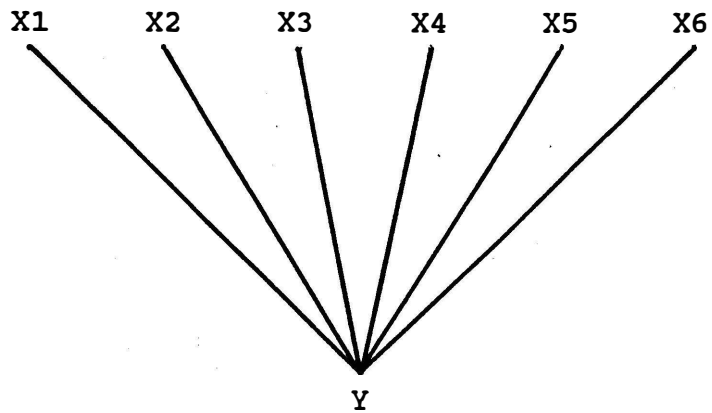


Figure 1. Blalock's Model of Inventory of Causes.

Newman's Model of Related Factors.

In Figure 2, (p.15) a depiction of the related factors are identified for presence (Hines, 1987).

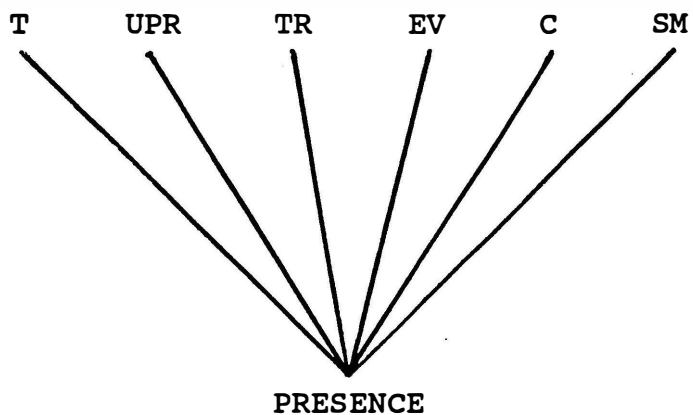


Figure 2. Inventory of Related Factors of Presence

In Figure 2 factors which relate to the essential

structure of presence are identified from careful review of the literature and substantive experiencing (Hines, 1987). The attributes previously mentioned for purposes of this study will serve as the related factors. A review of factors, attributes and themes reveal similar findings. Pettigrew's (1988) properties of presence developed from the phenomenological study approach were: (1) intangible sense of knowing, (2) being there, (3) intersubjectivity and reciprocity, (4) vulnerability, (5) personal investment of self, (6) invitation and privilege and (7) memorable and enduring impact. The characteristics found by Pettigrew (1988) correspond to the clustering of data used by Hines (1987) in synthesizing the concept of presence.

Related factor I (time with another, T) involves a perspective and perception of time as related to the utilization of time for availability in shared human interaction situations. The minutes or hours on a continuum of past, present, and future involved in producing meaningful growth, comfort, satisfaction and being. Part of the use of time is determined by significant moments in time (Pettigrew, 1988). For presence to happen the availability of persons involved is characterized by staying power, willingness to wait and lived time.

In related factor II (unconditional positive regard, UPR), the affirmation/confirmation of the persons involved takes place. Affirmation/confirmation is characterized by concern, safety, respect for personhood, consistency and trust (Hines, 1987; Pettigrew, 1988).

The transactions (TR) that take place particularly in patient care situations are non-verbal behaviors, verbal behaviors, expertise and caring between two persons (Pettigrew, 1988). Peplau (1952) relates that these roles taken on by the nurse during transaction are surrogate, teacher, resource counselor, leader, follower, and technical expert. These are illustrations of the transactions in related factor III.

Related factor IV, (encounter which is valued, EV) is the identification of a meaningful event for participants in relationships. When individuals identify an important choice to them, then they will risk, invest self, and go beyond the ordinary in their actions (Hines, 1987). The choice is risking an investment of self and action beyond the ordinary.

Connectedness (essence linking, C) is being vulnerable and the hospitable opening needed to form intersubjective sharing characterized in presencing. Nouwen (1979) discussed the idea of making our wounds available as a

source of healing and that by being present the connection is restored and interconnection occurs. Healers are called upon to connect not so much by what is done but by who we are. Avery (1986) describes hospitality as a means to pay attention to the patient and to make room internally for another. The connectedness previously described is related factor V.

Pettigrew (1988) gives insight into aspects of (sustaining memory, SM) proposed as related factor VI. In her phenomenological study of presencing with those who were suffering, she mentions the enduring impact and memorable impressions people who have been present to one another cherish. Steere (1967) discusses presence in absence. Sustaining memory is described as enduring impact creating a significant impression in the present by blending the past to the present and immediate future (Hines, 1988a).

The merging of conceptual perspectives relating to presence and well being is illustrated in Figure 3.

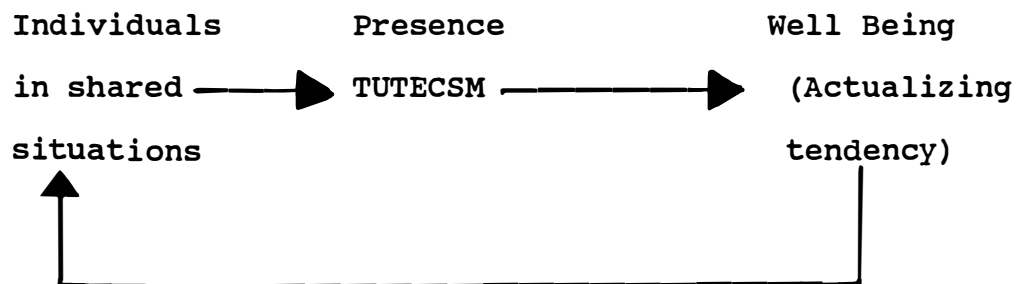


Figure 3. Merging of Conceptual Perceptives.

#### Measurement and Psychometric Theory

Methodological measurement theories and strategies were utilized to develop an initial Measurement of Presence Scale (MOPS). The Measurement of Presence Scale (MOPS) is considered a norm referenced measure which makes fine distinctions between persons with differing levels of the attribute being measured. The normal curve distribution of responses is expected. The aim of a norm referenced measure is to differentiate between individuals with varying levels of the phenomenon of interest along the distribution of the normal curve (Waltz, Strickland and Lenz, 1984, p. 4).

Specific aspects of testing reliability and validity

of the Measurement of Presence Scale (MOPS) are considered in Chapter Three - Methodology. The important point to grasp is that for the purposes of the present study the use of measurement theories and strategies will allow the researcher to more clearly describe, order and estimate a conceptualized theoretical concept or phenomenon.

The Likert self-report format instrument supplies interval level data in a cost effective, convenient, private, and efficient manner (Waltz, Strickland, & Lenz, 1984). In a Likert response format the data are interpreted as yielding interval level data (Kerlinger, 1986; Nunnally, 1978) representing an equal interval continuum. The equal interval scale measurement supports precision in measuring an attribute (Burns and Grove, 1987). Disadvantages of this type format include low response rates, high rates of missing data, inability to clarify or probe misunderstandings, and only literate respondents may participate (Waltz, Strickland and Lenz, 1984). The Likert type format was selected for the Measurement of Presence Scale to facilitate further exploration and description of the phenomenon in an efficient manner.

Reliability is a measure of accuracy defined as



dependability, consistency and stability. Kerlinger (1986, p. 404) stated that to the extent errors in measurement are present in a measuring instrument the instrument is unreliable. The errors in measurement can be caused by chance elements, fatigue, environmental conditions and memory and mood fluctuations. Kerlinger (1986) then defined reliability as "the absence of errors in measuring instrument". The aim is to produce a small measurement error thus increasing the true score measurement capability of the instrument items. In order to produce a small amount of error the items come from the identified sampling domain.

Reliability testing is considered a measure of the amount of random error in the measurement technique (Burns and Grove, 1987, p. 291). "A reliability of .80 is considered the lowest acceptable coefficient for a well developed instrument." (Burns and Grove, 1987, p. 291). Nunnally (1978) identifies criterion for the level of reliability depending on how a measure is being used. "The .80 reliability is desired for basic well developed instruments and .70 for initial instrument development scales." Nunnally (1978) suggests that reliability be higher, at .90, if life course decisions are involved as a result of testing.

"The current state of the art for instrumentation reliability and internal consistency testing is to do a Cronbach's Alpha" (Jennings, 1988, p. 4). The Cronbach's Alpha is a statistical process which examines the internal correlation (homogeneity) of all the items in the scale (Jennings, 1988, p. 4). The desired correlation among all items if around .80 means that the measuring instrument is more or less measuring an individual's true score and that error has been minimized more or less sufficiently. It should be remembered that reliability is a matter of degree in the measurement process since only observed scores are determined and an individuals true score is never really known.

Validity is defined by Jennings (1988) as a "test measuring what it is supposed to measure." The different types of validity influence the researchers actions in developing an instrument. Content validity consists of item validity; if the items represent measurement in the content area and sampling validity which measures the total domain content area. Content validity involves the use of judgement and judges to evaluate a proposed instrument's items and content for representativeness, appropriateness and completeness.

Construct validity is the degree to which a

measurement strategy measures the construct it was designed to measure. Factorial validity is one method used to develop construct validity by examining the relationships between the various items on the instrument (Burns and Grove, 1987). Items that correlate and fall under one factor are noted and examined for overall theoretical similarities and differences and the scale is confirmed, retested or modified as indicated. Construct validity is supported when factors confirm the underlying theoretical structures.

Since presence has been described as wholistic availability, dialogue and exchange, it is through systematic inquiry and estimation that knowledge about presence was synthesized. The process of instrument or scale development to measure a concept provided researchers and theorists with a useful mechanism to apply knowledge about the elements and attributes of presence. If controlled investigations and appropriate measures are taken to estimate reliability and validity, the identification of the elements of presence will be estimated and ordered more clearly. The provisional attributes of presence (Hines, 1987) are believed to have identifiable components and are therefore open to empirical estimation, testing and exploration.

### Assumptions

Theoretical assumptions include the following:

1. All individuals have some measure of presence.
2. All individuals are capable of growth.
3. Presence is a mode to attain expanded consciousness. Health, more being and actualizing tendency are outcomes.
4. Presence involves two people who are willing to share themselves (I am) honestly in a situation.
5. Synchronic dialogue enhances presence.
6. Human beings can make a choice to be present where they are.
7. The experience of presence is a desirable human experience and places value on the individual.
8. Presence implies whole person relating.
9. Presence is possible in absence through whole person relating.
10. Presence may be related to a given point in time and space.
11. Presence is basic to the whole process of nursing and every encounter with another human being is an open and profound one.
12. Value of self as an "I process" is a requisite when utilizing the nursing intervention of presence.

13. The amount of choice or control either the nurse or patient has over coming together is variable in today's health care system.

14. The patient and the nurse are two unique individuals meeting for a purpose. Each person is his choice and history.

15. Both the patient and the nurse have the innate capacity for disclosing or enclosing themselves.

16. As presencing (wholistic self giving and exchange) increases, self actualization increases.

17. The goal of being (encountering) is satisfaction, growth or comfort (individual awareness and authenticity).

Research assumptions include the following:

1. Presence as a concept can be described and measured.

2. Levels of presence may be utilized according to expressed perceived shared needs and recognized needs.

3. Nurses in practice supply valuable data about using presence as an intervention.

4. Nursing expertise is necessary to use the nursing intervention presence.

5. Elements of presence can be clarified and ordered.

### Delimitations

The delimitations in this study included the following:

1. Participants were Registered Nurses from mostly one geographical location.
2. Systematic mathematical measurement strategies were employed to measure a theoretical concept.
3. Participants in the sample were from one discipline.

### Definition of Terms

The following definitions, utilized for this study were extrapolated from the conceptualization of presence involving analysis, synthesis and derivation procedures. Further definitions were added as theory construction endeavors were performed to relate concepts and constructs such as presence, well-being, consciousness and health.

Consciousness: is the informational capacity of a system and the ability to exist meaningfully in the environment. Consciousness includes perception as the original awareness of involvement of unified relations which are infinitely composed and organized as man relates to his environment which includes other humans. (Newman, 1986, p.34). In terms of human interaction, "an individual at higher levels of consciousness has a greater repertoire

of responses to a given situation in terms of insights, context and detail" (Newman, 1986, p.34).

Health: is "a pattern of the whole based on implicit order of the persons underlying environmental relationship. Characteristics include movement, diversity and rhythm related to energy exchange and transformation" (Newman, 1986, p.14).

Presence: is "a mode of being available or open in a situation with the wholeness of one's unique individual being; a gift of self which can only be given freely, invoked or evoked" (Paterson and Zderad, 1976, p.122). Presence is a "mode of being available in a situation with the wholeness of one's unique individual being; a process resulting in exchange of authentic meaningful awareness, essence linking and thus more being (ultimate realization of human potential)" (Hines, 1987, 1988a, 1988b).

Well-being: is a quality of the human condition. Well-being develops the human potential beyond the narrow context of health taken as absence of disease and is concerned with more being regardless of underlying patterns (Paterson and Zderad, 1976, p.12).

TUTECSM: is the acronym for time, unconditional positive regard, transaction, encounter which is valued, connectedness, and sustaining memory (Hines, 1988).

T-time with another: encompasses the most of the moment, but involves a willingness to wait and staying power. The time perspective and perception related to the utilization of time for availability in interaction situations (Pettigrew, 1988). T-time with another is the minutes or hours on a continuum of past, present and future related to availability and use of time as lived time (Hines, 1988a, 1988b).

UPR-unconditional positive regard: affirming persons involved in the interaction taking place. Unconditional positive regard is characterized by safety, respect, standards, consistency and trust for self and others (Hines, 1987; Pettigrew, 1988). The communicating of concern for another in the interest of meeting that person's needs.

TR-transactional speaking with, being with, doing with: verbal and non-verbal communication behaviors combined with expertise and caring (Pettigrew, 1988; Hines, 1987). A lived call and response to different requirements of individuals as they are made known (Paterson and Zderad, 1976).

EV-encounter which is valued: is the choice in risking an investment of self and action beyond the ordinary. The identification of a meaningful event for



participants in relationships (Bugental, 1967).

C-connectedness (essence linking): is the process of being vulnerable and hospitable to another human being to form intersubjective sharing (Hines, 1987; Pettigrew, 1988). The presentation in a relationship of a person's angular view and innate force which is accepted by the other (Paterson and Zderad, 1976). Engagement with another person who is recognized as making a difference in one's life (Bugental, 1967).

SM-sustaining memory: is the enduring impact creating a significant impression in the present by blending the past to the present and immediate future (Hines, 1988a). Involves presence in absence and the memorable impression and enduring impact made between which afford a comfort (Pettigrew, 1988).

Measurement of Presence Scale (MOPS): the measurement of presence scale containing subscales of related factors. The referent for the conceptualization of presence (Hines, 1988b). The Measurement of Presence Scale is a self report scale for measuring presence including six subscales.

Internal consistency reliability: "the accuracy or precision of the Measurement of Presence Scale" (Kerlinger, 1986). The extent to which the items on a scale are sampled from the content domain. The "extent to which all

items on a scale measure the same variable" (Shelley, 1984)

Factors: closely related items (variables) on the Measurement of Presence Scale which correlate together to form an underlying variable or factor.

Registered Nurse: is a person who is licensed to practice professional nursing by a state licensing board.

The following terms were operationally defined.

Presence: measured by the Measurement of Presence Scale.

Time with another: measured by a subscale in the Measurement of Presence Scale.

Unconditional positive regard: measured by a subscale in the Measurement of Presence Scale.

Transactional speaking with, being with, doing with: measured by a subscale in the Measurement of Presence Scale.

Encounter which is valued: measured by a subscale in the Measurement of Presence Scale.

Connectedness: measured by a subscale in the Measurement of Presence Scale.

Sustaining memory: measured by a subscale in the Measurement of Presence Scale.

### Summary

The more being of individuals in shared nursing situations has been related to the presence of the nurse. Presence has been defined, described, analyzed, synthesized, conceptualized, and linked to nursing, existentialism, theology, health and consciousness.

The factors related to presence have been provisionally identified as attributes and have been incorporated in the development of the Measurement of Presence Scale (MOPS) to facilitate empirical testing of presence. The methodological determinants for exploring a concept such as presence were a way to discover more about the elements of presence through systematic investigation. The reliability and construct validity components of scale development were estimated in this methodological study.

## CHAPTER II

### REVIEW OF THE LITERATURE

The literature review for this methodological study shows the wholistic conceptual contributions incorporated into identifying the provisional attributes of presence. These include synthesis, analysis and derivation of the concept of presence (Walker & Avant, 1983; Kramer, 1990; Hines, 1987); a review of the existential philosophical foundations; a review of the theological considerations; a review of humanistic nursing and presence, and finally the measurement status of presence.

#### The Phenomenon of Presence

Provisional attributes which relate to the essential structure of presence are identified from careful review of the literature (Hines, 1987). Paterson and Zderad (1976, p.122) describe presence as a "mode of being available or open in a situation with the wholeness of one's unique individual being; a gift of self which can only be given freely, invoked, or evoked." Hines (1987, 1988a, 1988b) further describes presence as "a mode of being available in a situation with the wholeness of one's unique individual being; a process (happening) resulting in an exchange of authentic meaningful awareness and essence linking and thus

more being (ultimate realization of human potential)."

Buber (1970) suggests that when two individuals happen to one another there is an essential remainder which is common to them, but which reaches out beyond the unique sphere of each to create a unique sphere between. Buber's (1965) man relating to man is a composite formation and definition of the presence which happens between individuals; it is similarly described by Paterson and Zderad (1976) and Hines (1987, 1988a, 1988b).

The attributes previously identified by Hines (1987) include the following: (1) time with another, (T), (2) unconditional positive regard, (UPR), (3) transactional speaking with, being with, doing with, (TR), (4) an encounter which is valued, (EV), (5) connectedness, (C) and (6) sustaining memory (SM). A recent phenomenological study of presence as a nursing intervention revealed a like set of elements. Pettigrew (1988) described the elements related to presence in a study of persons experiencing suffering. Pettigrew (1988) describes properties and elements of presence as the following: (1) intangible sense of knowing, (2) being there, (3) intersubjectivity and reciprocity, (4) vulnerability, (5) personal investment of self, (6) invitation and privilege and (7) memorable and enduring impact.

The characteristics of presence that Pettigrew (1988) found in her study correspond to the clustering of data used by Hines (1987) in synthesizing the concept of presence. The clustering process revealed the following: (1) just being there; (2) core of a relationship; (3) an experience which is chosen and valued; (4) time with another; (5) essence of relationships; (6) transactional being with, doing with; (7) human contact during distress; (8) gift of self; (9) dialoguing and unconditional positive regard in a situation; (10) healing; (11) memory; (12) sustenance; (13) connectedness; (14) affirmation and compassion; (15) communion of selves; (16) availability; (17) engaging in deep human encounters and (18) risking inner being and in doing so becoming vulnerable. Emerging clusters reported by Hines (1987) shown in Table 1 include the following:

Table 1

Emerging Clusters from Concept Synthesis

Cluster Theme	Descriptors
1. Time with another	availability, being there, being with, speaking with
2. Unconditional positive regard	affirmation, communicating concern for another, meeting needs, compassion, respect for personhood, trust
3. Transaction speaking with, being with, doing with	attentiveness, listening, openness, caring, affirmation, reciprocity
4. An encounter which is valued	responsibility to others, risking, choice, responsiveness
5. Connectedness (essence linking)	communion of selves, deep encountering, intersubjectivity, hospitality, touch, vulnerability, risk-taking
6. Sustaining memory	absence producing presence, linking of happy and sad times from the past

According to Gardner (1985) presence is basic to the whole process of nursing, yet it is a difficult concept to measure. Presence is reported to be recognized and valued

by both patients and nurses. Paterson and Zderad (1976) confirm this importance and describe presence as "the gift of one's self in interhuman relating". The general analysis of presence gives the following informational criteria for uses of presence. Roget's Thesaurus (1985) produces more information about presence by summarizing definitions and uses of the term presence. Table 2 is a summary of the informational uses of presence.



Table 2

Informational Uses of Presence

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Summarization of Definitions and Uses of Presences

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1. Indicates proximity in time or space
  2. A person's manner of carrying self (countenance)
  3. A supernatural influence felt to be near by
  4. Being at hand (Be-ing)
  5. As a noun
    - attendance
    - permeation
    - fusion
    - blend
  6. As a verb
    - assist
    - dwell
    - fill
    - permeate
    - engage
    - junction
  7. As an adjective
    - peopled
    - inhabited
    - moored
    - actualized
  8. As an adverb
    - everywhere
    - in person
- 

Further literary analytical discussion is provided by Nouwen, (1979) in his book The Wounded Healer when he refers to the question, "how do you make your own wounds available as a source of healing?" He writes that we do so by becoming interconnected through offering compassion and

affirmation as well as availability of our own being and engaging in deep human encountering. Nouwen (1979) explores sustenance as the constant interplay between absence and presence. Persons can experience presence through meaningful absence and memory of presence. Closeness grows in the continuous interplay between presence and absence. In memory we are able to be in touch with each other's spirit; with that realness in each other which enables an always deepening communication (Nouwen, 1979).

#### Model Case

Utilizing the analysis criteria (Walker and Avant, 1983) a model case was developed by Hines (1987) which included the provisional attributes of presence. The model case (Hines, 1987) illustrates the story of David who was in the hospital, originally, to have two very large groin tumors (melanomas) removed. The surgeon managed to remove one of the tumors in an October hospitalization, but David wasn't strong enough physically to stay in surgery and have the other tumor removed. One large groin tumor was left and was still angrily growing. David's nurse facilitated his recovery from the October surgery by monitoring him post operatively, coordinating the discharge process from the hospital, teaching his wife Louise to change dressings

in their motel room across the street from the medical center and spending time with both David and Louise.

Conversations were light, purposeful or with depth and sometimes there was silence. At times the nurse and Louise would go out to eat and leave David to rest. Sometimes the nurse and Louise managed to wash David's and Louise's car since it was a frequent request of David's. David finally was well enough to travel back to New York to recuperate and to think about returning to the medical center located in the midwest in March to have the other groin tumor removed. They stated "that they also wanted the same nurse along with, of course, their surgeon" (Hines, 1987).

David and Louise arrived back to the medical center in March to have the right groin tumor removed since the other surgical scar had healed and David had no other evidence of progressive disease. His goal was more mobility and less pain in whatever time he had left for him and Louise. In the process of getting David ready for the second surgery he developed a fluid overload from hyperalimentation and a chest x-ray was performed. At that time a lung tumor, interpreted as metastasis, was noted on x-ray. The surgeon told David he could not do the second surgery as planned because his body was not free of other disease. David and Louise had been visited by the surgeon between October and

March in their New York home and they had reminded him to please contact their nurse to care for them, when they arrived in March. The surgeon had not followed through but David and Louise were sitting in the lobby of the medical center and the nurse was walking through the lobby at that time and so they restarted their nurse-patient relationship (Hines, 1987).

David was discouraged about the cancellation of the second surgery but also realistic. David left the medical center and prepared to leave for New York. Louise and the nurse discussed the travel plans and complications that could occur on the trip to New York. David was weak, somewhat immobile, experiencing pain and disappointed. The tumor was also growing rapidly in the area of the femoral artery. One such complication occurred before Louise and David could begin the trip home. David had a femoral bleed from tumor erosion. Louise reported that she and he together took a towel and used pressure to stop the bleeding as they called the ambulance to transport them one block from the motel to the medical center emergency room. Louise stated "I could see David trying to make up his mind about stopping the bleeding or just letting himself die" (Hines, 1987).

At the medical center David was stabilized and

scheduled for a hemi-pelvectomy as a means to control the bleeding. David's brother arrived at the medical center from New York and Louise and David's brother, John, were there for the surgery. The nurse arrived at 7:00 a.m. the day of surgery and stayed with the family until 11:00 p.m. at night. During this time the nurse helped David get onto the cart for surgery and accompanied the family and David to the surgical suite elevator. The nurse supplied coffee for the family, answered questions, went to the recovery room to see David after the six hour surgery and reported David's progress to the family as requested by them.

There were periods of silence as well as discussion of concerns of the family. The nurse responded to the family as they requested and as she anticipated and intuited their needs. Mutual flow of feelings and honest discussion centered around David's strength, death, pain, complications and future events. When David was finally resting the family and the nurse went to eat some food, and then the family settled into their rooms at the motel and the nurse drove forty miles home at 11:00 p.m. During that driving time the nurse reflected on the day and felt invigorated yet tired. The nurse called the next day to hear how David was and the family verified that he was progressing as expected (Hines, 1987).

The nurse went to care for David during the next month. The mutual accomplishments during that time were going to the hospital courtyard in a wheel chair for David, making some tape recording's for David's children from a previous marriage, Louise's realization and acceptance of David's impending death, the nurse's convincing the physician that a no-code order was desired and needed, and keeping David's customized Cadillac car spotless and washed. David's instructions for his death included no ministers (he was an atheist) and the fact that he wanted Louise to have him cremated after he died. David was afraid Louise might weaken and not have him cremated, he therefore enlisted the nurse's help to ensure that he could go back to New York in his car. He had repeatedly refused to be air ambulated back to New York to interact with his family before he died (Hines, 1987).

One month after the hemi-pelvectomy David died (after announcing the time as "this evening"). Louise and the nurse complied with David's instructions and David was cremated late that evening after dying about 10:00 p.m. The morning after David died the nurse arrived at the motel to help Louise, her mother, and David's son pack the car for the trip back to New York. Of course, there was David in a wrapped box with an orchid flower on the top ready to

go home to New York in his car. The nurse considers this experience of great value and utilizes the subject content of the case to illustrate nursing interventions of presence in classroom instructions and discussions (Hines, 1987).

The lengthy model case includes the provisional critical attributes of presence as proposed by Hines (1987). The nurse spent time with the patient and family. The time was not only clock time but obviously meaningful and lived. The utilization of time indicated a willingness to wait and availability. The transactional speaking with, being with and doing with were conveyed by the nurses actions of getting the patient on the cart, discussion, explanation, and checking on the patient along with eating with the family before traveling home. The concerns of the family were recognized and valued and the unconditional positive regard was recognized as mutuality. This was manifested in what is and is not the patient's state of being, weighted against the standard of what ought to be with the intention of doing something about the difference, characterized by advocacy and mutuality (Hines, 1987).

The nurse made a commitment and obviously placed value on the encounter by arranging to take her time and deal with their pain. The connectedness is illustrated by the nurse's and patient's engagement in the dying, atheist,

cremation and car care covenants. The sustaining memory of David lingers on from year to year as a blending of an action beyond the ordinary where meaning and making a difference in another's life was exchanged (Hines, 1987).

### Concept Derivation

Hines (1987) utilizing Walker and Avant's (1983) concept derivation process reviewed new orientations derived from a parent field. The parent field chosen by Hines (1987) was physiological inflammatory processes and wound healing (Porth, 1986). Table 3 represents this process and the logical similarities between physiological processes and whole person exchange in a nursing situation. This process clarified the focusing event as an antecedent to presence in a nursing situation which facilitates presence between two persons. However, it also clarified the idea that presence occurs between humans in interaction not requiring a focusing event. The broad aspects of the concept of presence were truly illustrated as an exchange in whole person relating regardless of a specific focusing crisis. Other antecedents to presence were identified as caring, self-awareness, commitment to helping, knowledge (expertise), skills of listening, touching and other-awareness (Gardner, 1985; Hines, 1987). Consequences of presence in a nursing situation were identified as support,



comfort, growth, sustained assistance, encouragement,  
motivation and invigoration (Gardner, 1985; Hines, 1987;  
Pettigrew, 1988).

Table 3

Clustering of Physiological Processes of Inflammation and  
Wound Healing with Provisional Attributes Presence

Physiological Processes	Provisional Attributes of Presence
1. Vasoconstriction (narrowing)	-time -unconditional positive regard -transaction
2. Vasodilation (filling)	-time -transaction -encounter which is valued -sustaining memory
3. Increased vessel permeability	-time -encounter which is valued -connectedness -sustaining memory
4. Migration	-time -transaction
5. Walling off of wound area (enclosure)	-time -connectedness -sustaining memory
6. New tissue formation (healing) granulation formation of new vessels and collagen	-transaction -connectedness -sustained memory -time -unconditional positive regard in that right kind of tissue and what ought to be
7. Epithelialization migration proliferation	-time -an encounter which is valued -connectedness -unconditional positive regard -transaction

(table continues)

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Physiological Processes	Provisional Attributes of Presence
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8. Wound contracture	-unconditional positive regard -transaction -time -connectedness -sustaining memory

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Hines (1988) further synthesized the content and reasoning related to the provisional attributes of presence as illustrated in Table 4.

Table 4

Logical Configuration of Presence as a Phenomenon

Attribute	Element
1. Time with another	<ul style="list-style-type: none"> <li>-past time</li> <li>-present time</li> <li>-future time</li> <li>-use of time (lived time)</li> <li>-significant moments in time</li> <li>-availability (characterized by staying power and willingness to wait)</li> </ul>
2. Unconditional positive regard	<ul style="list-style-type: none"> <li>-affirmation</li> <li>-concern</li> <li>-safety</li> <li>-respect for humans (personhood)</li> <li>-consistency</li> <li>-trust</li> </ul>
3. Transactional speaking with, being with, doing with	<ul style="list-style-type: none"> <li>-non-verbal communication behavior</li> <li>-verbal communication behavior</li> <li>-expert knowledge, skills and attitudes</li> <li>-caring</li> </ul>
4. Encounter which is valued	<ul style="list-style-type: none"> <li>-choice</li> <li>-risk</li> <li>-investment of self</li> <li>-action beyond the ordinary</li> </ul>

(table continues)

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Attribute	Element
<hr/>	
5. Connectedness (essence linking)	-vulnerability -hospitality -intersubjectivity
6. Sustaining memory	-absence of time, place or person -enduring impact -memorable impression -comforting resolution

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The extensive systematic review of presence incorporated in the thorough concept synthesis, analysis, and derivation procedures suggested by Walker and Avant (1983) supply a composite picture of the proposed main attributes of presence.

#### Philosophical Foundations Influencing Presence

When a group of students were asked "What do you think presence means?" they responded with notions such as (1) here, (2) being, (3) existing, and (4) special anatomy (classroom discussion, 1990). According to Breisach (1962) themes that emerge in existentialist philosophy include: (1) the importance of the individuality of man, (2) awareness, (3) creating meaning, (4) questioning, (5) experiencing, (6) accepting responsibility and (7) making choices and being open to others as individuals. The emphasis is placed on the individual, his awareness and

authentic being.

The American Heritage Dictionary (1976) defines existentialism as a body of ethical thought current in the 19th and 20th centuries, centering on the uniqueness of and separateness of man in a world indifferent or even hostile to persons. Awareness of the special realities of each individual as the person relates to his environment including others is identified as the primary process of existence. As awareness is increased the human potential in each individual is released.

Bugental (1967) postulates that through awareness we can estimate our relation to the world.

The world of relation has the four following characteristics: (1) we are limited in our awareness of ourselves and the world, (2) we can act in ways that affect awareness of ourselves and the world, (3) we have a choice about which action to take and not to take and (4) while each of us is alone in one sense, in another we are all related" (Bugental, 1967, p.15).

Bugental (1967) supplies the basic orientation of the humanistic existentialist belief by explaining that the existential philosophy emphasizes

caring vs. detachment, values meaning more than procedures, looks to human vs. non-human validation, accepts the relativism of all knowledge and relies heartily on the experiencing of the human being for interpretive meaning and reality (p. 25).

The being is the process of life that is existence.

Bugental (1967, p. 27) states "the be-ing is the process of self aware existing". Bugental (1967, p.28) suggests that much of the be-ing in an individual's life is in relation to others even though man is existentially alone. The relationship described by Bugental (1967, p.27) includes the general terms of "encounter, genuine encounter, confirmation, involvement, dialogue and engagement with each other".

Buber (1970) writes about the I-Thou relationship which he says facilitates be-ing. Buber (1970) interprets the need for human awareness of the self and others, and tells of the uniqueness of others coming into being by relating to others. Each human being chooses his involvement of himself in his situation for the unfolding of human moreness. The be-ing in relation to others implies consciousness of one's own values and self with regard to others.

Some persons may take a sharp interest in objects and others may think more of them than they think of themselves. Experiencing modes are described by Buber (1970) as "I-I, I-It, We-We, and Us-Them". Another experiencing mode for encountering is "I-Thou (You)". This experiencing is an awareness of the other person in the relation as a significant individual who has meaning and

makes a difference as an individual person. The I-It experiencing is the exact opposite and the relation awareness is that an individual is treated as a thing or object as opposed to a unique other person. The persons in this relationship would be alienated from self and each other. In the true existential philosophy the individual with choices, actions, contingencies, and meaning is authentically recognized as a unique being in the here and now by self and others.

The approach for presence with a self and another is based in the context of existentialism as a philosophy. The elements of human dialogue in the nurse/patient situation and relationship include the recognition and choice of each person for authenticity of be-ing. A person who is alienated would relate to others as objects as well as treating self as an object. This would be un-authentic existence even though the person would be deeply involved in the world, inwardly the person would be indifferent and disconnected or separate. In another context, the relation or encountering could be considered as "I-Process" to "I-Process" evolvment of persons in a situation (Bugental, 1967). As presence happens, the "I-Process" of each in the situation is enhanced to a state of more be-ing.

The technical skill and problem solving expertise of



the nurse particularly would be enfolded in a whole person to whole person relationship. The nurse and patient would consider each other's "beings" and thus more than intellect, dexterity, technical competence, social skills, tone of voice, surgical procedure, disease, symptom, and test. Ferlic (1968) summarized the basic tenets of Marcel and Buber and relates them to a nursing context. The basic notions of Marcel's existentialist view include commitment, situations, giving and receiving and love. Buber's view adds instinct of communion for sharing and mutuality, "one-sided" inclusion, dialogue and distance and relation (Ferlic, 1968). The values of participation vs. detachment, involvement and engagement vs. alienation or distance, and commitment vs. apathy are recounted.

According to Ferlic (1968, p.31) "presence involves closeness, perception, awareness, and involvement - not refusal to see or really be with the patient". The being may be limited by the patient or the situation yet because of the presence of the nurse there is the dialogue. The patient may be limited to some degree yet this level of presence would still be significant because the unfolding of more being for each person.

#### Theological Foundations and Presence

Steere (1967) approached the idea of presence as an

indication of an encounter with other persons. He proposed that presence is more than physical locatability and defined presence as

a readiness to respect and to stand in wonder and openness before the mysterious life and influence of the other...a power to influence, to penetrate, to engage with the other; a willingness to be vulnerable enough to be influenced by, to be penetrated by, and even to be changed by the experience (p.9).

Steere (1967) discussed the cost of presence as "more than all-thereness; the absence of elsewhere, as earnestness, involvement, forever on call, openness, and action beyond the ordinary" (1967, p.12). Steere (1967, p. 11) describes a kind of relating as "two solitudes" that protect, touch and greet each other through sustenance, suffering, forgiveness, and reconciliation and love.

Nouwen (1977) from a theological view discussed aspects of presence by explaining three areas. He identified the wounds, the healing and the healer. The concept of memory is introduced into lived experiences. The facing of a wounded condition is related to presence by facing the unpleasantness, suffering or distress by being available. We can be healed by letting our wounds be available and by remembering and sharing them as part of our life stories (Nouwen, 1977). Healers are called upon to convert, not so much by what we do, but who we are.

Nouwen (1977) suggests that we have not made connections for healing because we are too preoccupied in abilities, skills, techniques, projects and programs and so we have lost touch.

Nouwen (1979) proposes that we make our own wounds available as a source of healing and that by being present, we can restore the broken connection and become interconnected. He also describes further sources of healing presence as offering compassion and affirmation, availability of our own being, engaging in deep human encounters and risking inner being and in doing so becoming vulnerable.

To summarize, an article by Avery (1986) is utilized. A theological context is used to define presence as a way of being with the patient in such an empathetic manner that the patient knows the chaplain shares some of the pain or joy. A caregiver is with the patient at the person's most vulnerable time. Characteristics of presence are identified as touching, silence, intimacy, caring, listening and reflective response.

Hospitality is related as a means to pay attention to the patient in that we make room internally for another (Avery, 1986). Presence involves a reciprocity which is excluded from any relation of subject to object or of

subject to subject-object (Marcel, 1948). In other words, the subject-subject is valued in presencing and people are not treated as objects (things). Subject-object may occur when a subject-subject is in the past, but only as more being not as a thing.

Avery (1986) indicates that presence involves other components such as availability, intersubjectivity, growth of self because of vulnerability, listening to people and responsibility. Intersubjectivity is defined as mutual openness and response, with binding unity of shared experiences. Presence is a way of being with another person when the other is feeling vulnerable and empty. The person utilizing presence as an intervention would be an available conscientious listener and participate in mutual openness, wishing, feeling, perceiving and thinking together to produce growth (Avery, 1986).

#### Humanistic Nursing and Presence

The elements of the framework for humanistic nursing include incarnate men (patient and nurse) meeting (being and becoming) in a goal-directed (nurturing well-being and more-being) intersubjective transaction (being with and doing with) occurring in time and space (measured as lived by patient and nurse) in a world of men and things (Paterson and Zderad, 1976, p.19)

Paterson and Zderad (1976) describe humanistic nursing practice that proposed nurses consciously and deliberately approach nursing as an existential experience. Much of

nursing involves doing something observable (techniques and procedures) and that this aspect is more easily discerned and discussed. These aspects can be measured, counted and charted. Presence, according to Paterson and Zderad (1976), is a known way of being with another person that can be felt more easily than it can be described.

Paterson and Zderad (1976) describe a kind of "being with" or a "being there" that is really a kind of doing for that involves the nurse's active presence. To "be with", in the more broad sense, requires turning one's attention to the patient, being aware of and open to the here and now shared situation, and communicating one's availability. Paterson and Zderad (1976) describe presence as "a mode of being available in a situation with the whole of one's unique individual being; a gift of self which can only be given freely, invoked or evoked" (p. 122).

Human encounters range from the trivial to the extremely significant (Paterson and Zderad, 1976). Within a day's activity, the nurse may experience many levels of presencing. The client may want the nurse to perform a function, answer a request, or go clear to the other end of the scale of being recognized as a presence or a "thou" in genuine lived encountering. Nursing activities bring a nurse and patient in close physical proximity, but this in

itself does not produce connectedness in which man relates to another as a "presence" rather than a thing. Presence has a different quality of intimacy, sense of regard or responsibility for what is interpreted as the patient's vulnerability. Mutuality of presence means a reciprocal flow to openness in dialogue with the wholeness of one's being. It is felt as a flow between two persons with different modes of being in a situation (Paterson and Zderad, 1976, p.31).

Paterson and Zderad (1976) describe a certain unpredictability and spontaneity associated with lived human dialogue. The genuine presence that occurs in dialogue is characterized by a certain openness, trust, receptivity, readiness of availability, and self giving. Nurses, by being present, can come to know, accept, and value more of self, as they become more through lived dialoguing and intersubjectivity. A nurse can receive, and develop the nurse's own potential as well as others by being present where the nurse is. The relating involved in presence is responsibly chosen and invested (Paterson and Zderad, 1976).

#### Measurement Status of Presence

The description of presence in the nursing, existential, and theological literature provided impetus

for Pettigrew, (1988) to proceed with systematic phenomenological clarification of the phenomenon known as presence. Pettigrew (1988, p.19) asked the question; "What are the essential elements of the lived-experience of the meaningful presence of a nurse as experienced by family and friends of a terminally-ill cancer patient?" The intent of Pettigrew's study was to verify and clarify the subtleties of the presence phenomenon as they were reported in the literature. "The elements from the literature included: silence, touch, empathetic listening, self-giving, reciprocity, emotional vulnerability, intersubjectivity, physical attendance, spiritual support and countenance." (Pettigrew, 1987, p.19).

Pettigrew (1988) reported the results of the study as findings revealing

that the nurse's presence evolved around a focusing event related to a change in the patients status, and that presence was demonstrated through actions of nursing care, verbal affirmation, listening, countenance, eye contact and demeanor, a sense of action beyond the ordinary, unrestricted availability, compassion, valuing of personhood and staying power (p.49).

Presence was further described by Pettigrew (1988) as an intersubjective and reciprocal experience that is intangibly discerned and characterized by the nurse's vulnerability and personal investment of self. Presence was commonly referred to as 'being there' and was considered a privilege to be entered into only upon the invitation of permission of the one suffering. Presence was hindered by emotional distancing and fears of emotional dependency and overextension or inadequacy (p.115).

The persons in the phenomenological descriptive study of the phenomenon of presence reported outcomes of the presencing as memorable, enduring, and trust building. Other outcomes were increased self-esteem, increased hope and coping strength, a sense of being heard, a decrease in isolation and loneliness, and health even though they were suffering (Pettigrew, 1988, p.205).

During the same time Hines (1987, 1988a) proceeded with the concept synthesis, analysis, and derivation procedures for systematic development of presence as a concept. A measurement strategy was devised for instrument development of the concept of presence (Hines, 1988b). Using scale measuring strategies recommended by Jennings (1988) and Waltz, Strickland and Lenz, (1984) one hundred thirty five items were generated from a composite of literary definitions, observable indicators, and presence experiences. At least seven to eight items were developed for each subconcept. The related factors and provisional



attributes were included as the subconcepts in the scale. The Measurement of Presence Scale (MOPS) item development followed suggested procedure (Jennings, 1988) for initial scale production.

Content validity was estimated by utilizing a panel of judges or experts to rate the proposed scale items. The content validity judges were selected by Hines (1988) as having knowledge of the item sampling and content domain. The selected judges were considered experts in aspects of interhuman relating, presence and nursing practice. The judges were the following: Josephine Paterson, DNSc, RN; Loretta Zderad, PhD, RN; Barbara Dossey, MN, RN; Jan Pettigrew, PhD, RN; Sheryl Cleveland, PhD, RN; Jean Watson, PhD, RN; Sarah Westrich, RN-C; Janet Harris, RN-C; Jeanne Daffron, PhD, RN; and Don Murdock, MA in Counseling and Divinity. After the return of judges ratings and comments the Measurement of Presence Scale was resized to 60 items. A 70% expert panel agreement on an item was desired and adhered to for item inclusion in the scale (Hines, 1988b).

Next the revised 60 item Measurement of Presence Scale (MOPS) was tested on 92 persons over age thirty who worked in hospitals in a central midwest area. Most of the sample consisted of practicing nurses and pastoral care givers who

voluntarily agreed to participate in the self report testing of the Measurement of Presence Scale (MOPS). The purpose of this was to (1) estimate construct validity based on the items in the Measurement of Presence Scale using factor analysis, (2) measure internal consistency, and (3) perform item analysis on each statement in the scale using the scores of participants in the top and bottom quartiles.

Ninety-two total instruments were returned from the purposive sample of nurses, pastoral care givers and hospital personnel tested in the pilot study. It was anticipated that at least sixty respondents would return the instrument for minimal number requirements in testing this instrument. After data entry and analysis, the results of the pilot study revealed a Cronbach's Alpha of 0.8888 which indicates acceptable reliability for new instruments and indicates the homogeneity of all items in the instrument. The factor analysis revealed 20 factors which loaded with an Eigen value of greater than one. The major factors which loaded together were examined for the following:

1. The statement had to load on a factor at or above a positive or negative .40 level.

2. The statement had to have content consistent with similar statements that loaded on the same factor.

The pilot study revealed more factors than originally had been included in the Measurement of Presence Scale (MOPS), but several of the factors have been noted to have similar content and meaning. In addition, in order to determine item validity of the Measurement of Presence Scale (MOPS) an item analysis was performed on each of the 60 statements included in the Measurement of Presence Scale (MOPS). The item analysis compared the participants' scores in the top and bottom quartiles on each item on the proposed subscale using chi square test of independence. Most of the items successfully discriminate between the top and bottom quartiles of scores at a significant level for the proposed subscales.

#### Summary

In summary, many descriptions have been used throughout the existentialist, theological, and nursing literature to illustrate the phenomenon of presence. Meaningful encountering has been acknowledged and supported as a nursing intervention that is linked to more being through these various descriptions, indicators, and behaviors.

The provisional attributes of presence developed by

Hines (1987) provided a comprehensive summary from nursing as well as other disciplines. The provisional attributes were (1) time with another, (T), (2) unconditional positive regard, (UPR), (3) transactional speaking with, being with, doing with, (TR), (4) encounter which is valued, (EV), (5) connectedness (C) and (6) sustaining memory (SM). The common threads are related to being through relationship with self and others to form more being.

With these concepts in mind further exploration of presence using the methodological format with quantifiable aspects was initiated. Therefore, this study sought to answer the question, "What are the psychometric properties (reliability and construct validity) of the Measurement of Presence Scale (MOPS) when testing Registered Nurses in midwest, west and southern regions?"

### CHAPTER III

#### PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This exploratory study utilized a methodological design based on correlational methods to estimate initial reliability and construct validity of the Measurement of Presence Scale (MOPS). Methodological studies "address the development, validation, and evaluation of research tools or techniques" (Polit and Hungler, 1987). Burns and Grove (1987) described the methodological study as "developing the validity and reliability of instruments to measure constructs used as (variables) in research." Instrument development methodologies advocated by Jennings (1988) and Waltz, Strickland and Lenz (1984) were utilized to estimate the support for reliability and validity of the Measurement of Presence Scale (MOPS).

#### Setting

The settings for this study were varied to facilitate testing of Registered Nurses. Hospitals, clinics and organizations where nurses meet and work were utilized in the study. Individual registered nurses who voluntarily agreed to participate in the study from these settings were included. Setting selections were based on location, time, and cooperation.

### Population and Sample

The target population for this study was Registered Nurses. A purposive sample of Registered Nurses who agreed to participate in the study was tested. The criterion for inclusion in the study was met by Registered Nurses in the midwest, west and southern regions of the United States who worked or met in a selected facility.

A sample of 300 is considered minimally sufficient for developing an instrument which contains 60 items (Nunnally, 1978; Burns & Grove, 1987; Jennings, 1988). According to Jennings (1988), a study with 300 participants will meet minimal criteria of 5 subjects per instrument item. The Measurement of Presence Scale (MOPS) had 60 items that were tested.

Kerlinger (1986) recommends a large sample size for factor analyzing an instrument. A large sample reduces measurement and sampling error variance. The large sample size increases the reliable identification of factors, factor loadings and underlying concepts. Kerlinger (1986) writes that factor loadings are unstable in smaller samples. In general most authors (Nunnally, 1978; Kerlinger, 1987; Jennings, 1988 & Burns and Grove, 1987) recommend as large a sample as is possible to ensure more precise data, item discrimination, and factor analysis.

Therefore, 324 Registered Nurses were tested.

#### Protection of Human Subjects

Permission to conduct the study was granted from the Texas Woman's University Graduate School (Appendix A). This study was exempt from the Texas Woman's University Human Subjects Review Committee because it involved only the administration of a self report questionnaire. The rights of the individual participants were protected by (1) providing information to the participants regarding the purposes of the study, (2) maintaining confidentiality of data collection forms, (3) protecting voluntary participation and withdrawal behaviors (4) reporting only group results of the study, and (5) seeking institutional or organizational permission. The participants in this study indicated informed consent by completing and returning the study questionnaire.

#### Instrumentation

The researcher developed an instrument to measure presence in humans as part of a logical sequence for scholarly inquiry. Pettigrew's (1988) qualitative study provided an exhaustive description of the characteristics of presence and Hines (1987) systematically examined the concept of presence to identify provisional attributes of presence as (1) time with another, (T), (2) unconditional

positive regard, (UPR), (3) transactional speaking with, being with, doing with, (TR), (4) encounter which is valued, (EV), (5) connectedness (C) and (6) sustaining memory (SM).

Through systematic examination of related factors of presence using Blalock's conceptualization strategy the factors were related logically. No research instruments are available to measure presence and the instrument generation and development process was initiated by this researcher.

#### Content Validity - Description of the Measurement of Presence Scale Item Development

Jennings (1988) recommends that after the schematic model is developed a format for scale development be selected. The Likert scale format for the Measurement of Presence Scale was selected to provide equal interval continuum data and a more statistically robust measure (Jennings 1988). The measure was considered a norm referenced measure because the researcher wanted to make fine distinctions between persons with differing levels of presence (Waltz, Strickland & Lenz, 1984).

One hundred thirty five items referencing the related factors as subscales were developed which were believed to include descriptions from the theoretical sampling domain



(Nunnally, 1978). The items were written to represent the content reviewed in the literature, analysis, synthesis, and derivation, theoretical relationships, and substantive experience. The items included the relational factors of presence as subscales. Jennings (1988) describes this procedure as content validity.

All 135 items in the Measurement of Presence Scale (MOPS) were submitted to a panel of 11 experts who analyzed the items for sampling and item validity. The experts were persons who had described presence as an interactive process and were knowledgeable nurses and a spiritual counselor (named in a preceding chapter). The nurse experts had written books or articles about presence or a related topic and the pastoral care counselor was knowledgeable about human relations and existentialist philosophy. The experts' assistance was requested through correspondence and all except 1 returned the Measurement of Presence Scale (MOPS) item evaluation.

The researcher reviewed the expert judgments and the instrument was resized to 60 items. The retain rate for an item was set at 70% agreement for retention in the instrument. In the resized Measurement of Presence Scale (MOPS) there are 9 time with another items, 10 unconditional positive regard items, 10 transaction items,

12 encounter which is valued items, 12 connectedness items and 7 sustaining memory items.

#### Pilot Study - Description

A pilot study with a purposive sample of 92 voluntary participants was conducted to evaluate and test the properties of the Measurement of Presence Scale (MOPS) instrument items. The sample consisted of 66 nurses, 14 pastoral care counselors and 12 other hospital personnel practicing in two different hospitals in a midwest area. The respondents read an explanatory letter, signed a consent form, completed the Measurement of Presence Scale (MOPS) and a personal characteristics data sheet. As an initial step the researcher elected to focus on Measurement of Presence Scale (MOPS) reliability and construct validity using item discrimination and exploratory factoring for the pilot study analysis.

The pilot sample consisted of 70 females and 21 males with a mean age of 42 years. The majority were married. More than half of the sample were nurses who worked in a hospital setting. Most of the rest of the respondents were pastoral care counselors. Writings about presence were found mainly in the theological and nursing literature and the logical testing of these related care groups was completed in the pilot study.

Pilot Study - Reliability Estimations of the Measurement of Presence Scale

The Measurement of Presence Scale (MOPS) data was tested for reliability using the Statistical Package for Social Sciences (SPSS-X) computer program. The Cronbach's Alpha correlation coefficient was selected to determine internal consistency (homogeneity) of the items in the Measurement of Presence Scale (MOPS). According to Jennings (1988), Kerlinger (1986), and Waltz Strickland & Lenz (1984) the Cronbach's Alpha correlates each item with each other item on the scale for an overall measure which gives estimates of the extent to which all items in a scale or subscale measure the same variable. Cronbach's Alpha is a state of the art estimation of reliability (Jennings, 1988) because it compares all possible item to item correlations, requires one testing and is easily programmed for computer analysis (Waltz, Strickland, & Lenz, 1984)

The reliability coefficient for the overall Measurement of Presence Scale (MOPS) in the 92 respondent pilot study was promising. The 60 item Measurement of Presence Scale (MOPS) reliability was 0.8888. The lowest acceptable standard for internal consistency reliability in a newly developed instrument is .70 (Nunnally, 1978). High item inter-correlations were indicated by the 0.8888

overall alpha coefficient for the Measurement of Presence Scale (MOPS).

Further reliabilities for the subscales were determined and are shown in Table 5.

Table 5

Measurement of Presence Scale-Subscales Pilot Study Alpha Coefficients

Subscale	Number of Items	Alpha
Time with another	9	0.3223
Unconditional positive regard	10	0.3670
Transactional speaking with, being with, doing with	10	0.6098
Encounter which is valued	12	0.7073
Connectedness	12	0.6458
Sustaining memory	7	0.6456
Total Scale	60	0.8888

The reliability estimations in Table 5 indicate acceptable internal consistency for the proposed subscales of transaction, encounter which is valued, connectedness and sustaining memory. The lower alpha correlation coefficients for time and unconditional positive regard indicate lower correlations of those subscale items. The lower numbers indicate that the items do not correlate as

highly as recommended. The researcher tested a larger sample in the major study and examined subscale reliability again. Other considerations were to rewrite the subscales of time and unconditional positive regard or delete those two subscales. This was not done because the total Measurement of Presence Scale (MOPS) reliability was acceptable at that point and it was believed a larger sample would improve the reliability of these two subscales.

#### Pilot Study - Construct Validity Estimations of the Measurement of Presence Scale

Construct validity for the 92 case pilot was estimated and ordered through the process of principal component analysis (PCA) and factor analysis (FA) using the SPSS-X computer programs. The goal of the principal component and factor analysis was to "determine which variables (items) in the scale formed coherent subsets that were relatively independent of each other" (Tabachnick and Fidell, 1989). The principal component analysis and varimax rotation for factor analysis produced 20 factors with Eigen values of 1 or greater. A criteria of 0.4000 was set as the minimal correlation (sort blank) and the number of items required for each factor was 3. When this criteria was applied the factors produced by varimax rotation totaled 12, and the

factors produced by principal component analysis totaled 7.

Although the items which loaded together had similar content and loaded above 0.4000, it was decided that a larger sample size would illustrate more clearly the similarities and trends found in the pilot study. The six subscales included by the researcher in the pilot study were retained in the present study as they were delineated for the pilot. Kerlinger (1986) recommends a large sample size for factoring an instrument and the pilot findings indicated a need to increase the sample size to more clearly delineate stable factors and components.

#### Pilot Study - Face Validity and Personal Characteristics Data

The entire 60 item Measurement of Presence Scale (MOPS) was examined for errors, appearance and clarity. Items were corrected using this criteria and the word "usually" in the stem of two items was deleted. Usually is one of the choices on the Likert continuum used for the Measurement of Presence Scale (MOPS) and it was felt that the word "usually" in the item was confusing. Also two spelling errors were corrected. The personal characteristics information was revised to be congruent with the proposed sample of Registered Nurses (Appendix B).

### Pilot Study - Summation

The pilot study revealed an internal consistency reliability of the Measurement of Presence Scale (MOPS) using SPSS-X Cronbach's Alpha of 0.8888. The principal components analysis (PCA) and factor analysis (FA) produced 20 factors. Using criteria of three items per factor the number of correlated items was reduced to 7 for PCA and 12 for FA with a factor loading of 0.4000 or greater. Forty-eight of the items included in the 60 item Measurement of Presence Scale (MOPS) discriminate successfully between upper and lower quartile groups by subscale score using t-tests and chi square test of independence.

The results of the pilot study indicated a need for a larger sample to ensure accurate estimation of psychometric properties. The Measurement of Presence Scale (MOPS) instrument was revised to eliminate obvious grammatical error and then retested using a larger sample, to explore accurate estimation using SPSS-X computer program reliability, item analysis, principal component and factor analysis.

### Data Collection

Data was collected at consenting hospitals, clinics, and organizations. The participants were individual Registered Nurses who voluntarily agreed to participate and

complete the Measurement of Presence Scale (MOPS). The participants were approached by the researcher or informed alternate and asked to complete the Measurement of Presence Scale (MOPS) and personal characteristics form individually and collectively.

The data collection procedure for this study involved reading an explanatory letter, the administration and completion of the self-report Measurement of Presence Scale (MOPS) and the personal characteristics data sheet. The instrument was administered in group and single settings to participants who were Registered Nurses living in the midwest, west and southern regions of the United States. Participants read and individually completed the scale and personal characteristics data sheet. The researcher or informed alternate requested the completion of the Measurement of Presence Scale (MOPS) and personal characteristics form either in writing or verbally.

#### Treatment of Data

The analysis of data utilized the Statistical Package for the Social Sciences (SPSS-X) (Norusis, 1988). The research hypothesis guided the data analysis.

#### Personal Characteristics

Use of frequencies and measures of central tendency were utilized to illustrate the profile of the Registered



Nurses who participated in the study. The personal characteristics of interest were: (1) age, (2) gender, (3) marital status, (4) number of children, (5) education, (6) area of nursing practice, (7) living arrangements, (8) income level, (9) employment, and (10) area of habitation.

### Hypotheses

Following data collection, the data was entered into the SPSS-X computer package program. The data was analyzed for internal consistency and construct validity (factor analysis).

#### Hypothesis Number One (1)

When testing Registered Nurses, the internal consistency reliability for the Measurement of Presence Scale (MOPS) was greater than ( $>$ ) .70.

#### Hypothesis Number Three (3)

When testing Registered Nurses the subscale internal consistency reliability (time with another, unconditional positive regard, transactional speaking with, being with, doing with, encounter which is valued, connectedness, and sustaining memory) of the Measurement of Presence Scale (MOPS) was greater than ( $>$ ) .60. Cronbach's Alpha correlation coefficient was utilized to estimate and clarify internal

consistency of the Measurement of Presence Scale (MOPS). The Internal consistency estimated the extent to which all items on the scale or subscale measured the same variable (Kerlinger, 1986; Shelly, 1984). Jennings (1988) asserts that the Cronbach's Alpha is the state of the art for estimating internal consistency reliability.

#### Hypothesis Number Two (2)

When testing Registered Nurses the critical elements in the sixty item Measurement of Presence Scale were mutually exclusive. Principal component analysis and factor analysis (varimax rotation) were utilized to estimate underlying theoretical processes of the Measurement of Presence Scale (MOPS) and subscales. The six subscales were estimated and examined for mutually exclusive properties. Factor loadings above 0.4000 were analyzed for consistency with hypothesized subscales to provide support for construct validity. Adequate and pure factor loadings were examined for theoretical constructs.

The design for an exploratory methodological study was implemented to estimate internal consistency and construct

validity for the Measurement of Presence Scale (MOPS). The outlined procedures ensured a minimally adequate voluntary sample size.

The pilot study for the Measurement of Presence Scale (MOPS) provided initial internal consistency estimates and revealed a total of 20 factors with Eigen values above 1. The findings from the pilot study indicated a need for a larger sample for factoring and ordering of the proposed subscales in the Measurement of Presence Scale (MOPS). Data analysis procedures and methods were described, related to pilot study results, and organized to further clarify and order the Measurement of Presence Scale (MOPS).

## CHAPTER IV

### ANALYSIS OF DATA

This exploratory methodological study was designed to utilize correlational methods to estimate initial reliability and construct validity of the Measurement of Presence Scale (MOPS). The data analysis for the Measurement of Presence Scale (MOPS) included the use of Cronbach's Alpha to estimate internal consistency, reliability and the use of factor analysis to estimate construct validity. The participants are described, the hypotheses are examined, and the findings are presented.

#### Description of Participants

Three hundred-twenty-four Registered Nurses participated in the study. The personal characteristics and demographic data included age, gender, marital status, number of children, education, area of nursing practice, living arrangements, employment, and area of habitation.

The ages of the participants were grouped, with the mean age group between 35 and 39 years. One-hundred-one participants were in this age group. Sixty-two participants were in the 40-44 age group. These two age groups accounted for 51% of the 324 respondents. Two hundred-ninety-eight were female (94.3%) and 18 (5.7%) were

male. Two hundred-twenty-two were married; 69.4% of the participants. Two-hundred-twenty-nine participants had children. Two hundred-sixty-eight participants lived with family or family and pets (83.8%). The participants income level ranged from under \$12,100 (0.6%) to \$30,000 and above (78.6%). The respondents reported living in five geographical states. The nominal data are presented in Table 6.

Table 6

Personal Characteristics of Participants

Variable	Frequency	Valid Percent
<u>Age Group - Years</u>		
Under 30	42	13.1
30 - 34	45	14.1
35 - 39	101	31.6
40 - 44	62	19.4
45 - 49	25	7.8
50 - 54	19	5.9
55 - 59	19	5.9
60 - 64	06	1.9
65 - 69	01	.3
Totals	320	100.0
<u>Gender</u>		
Females	298	94.3
Males	18	5.7
Totals	316	100.0
<u>Marital Status</u>		
Widowed	06	1.9
Married	222	69.4
Single	46	14.4
Separated	06	1.9
Divorced	40	12.5
Totals	320	100.0*
<u>Children</u>		
None	71	23.7
One	44	14.7
Two	100	33.3
Three or more	85	28.3
Totals	300	100.0

(table continues)

Variable	Frequency	Valid Percent
<u>Living Arrangements</u>		
Alone	31	9.7
Family	111	34.7
Friend	11	3.4
Pets	10	3.1
Family and Pets	157	49.1
Totals	320	100.0
<u>Income</u>		
Under \$12,000	02	0.6
\$12,000 - \$19,999	07	2.2
\$20,000 - \$29,999	58	18.5
Above \$30,000	246	78.6
Totals	313	100.0*
<u>State of Habitation</u>		
Missouri	186	57.9
Kansas	57	17.8
Texas	55	17.1
Utah	14	4.3
Tennessee	9	2.8
Totals	321	100.0*

Note. \* Differences in addition due to rounding.

With regard to nursing education, nursing practice and employment, the respondents were generally employed (99.4%) with most nurses practicing in the medical surgical area (33.6%). Twenty-eight percent (28%) of the respondents were critical care nurses. Educational levels varied from Associate Degree in Nursing (25.1%) to Doctor of Philosophy in Nursing (0.6%) and Doctor of Philosophy in another area

(0.9%). The nursing practice interest, employment status, and educational level data are presented in Table 7.



Table 7

Educational Level, Nursing Practice Area and Employment Status

Variable	Frequency	Valid Percent
<u>Education Level</u>		
AA-AD-Nursing	80	25.1
Diploma-Nursing	76	23.8
BS-BSN-Nursing	88	27.6
MS-MSN-Nursing	47	14.7
Phd-Nursing	02	0.6
Phd-Other	03	0.9
Non-nursing Degree	23	7.2
Totals	319	100.0*
<u>Nursing Practice</u>		
Critical Care	91	28.6
Medical Surgical	108	34.0
Psychiatric	17	5.3
Pediatric	07	2.2
Maternal	12	3.8
Neonatal	04	1.3
Emergency Room	09	2.8
Community	07	2.2
Oncology	06	1.9
Home-health	09	2.8
Other	48	15.1
Totals	318	100.0
<u>Employment Status</u>		
Part-time	60	18.8
Full-time	258	80.9
Retired	01	0.3
Totals	319	100.0

Note. \* Differences in addition due to rounding.

### Findings

The purpose of this inquiry was to test and explore the Measurement of Presence Scale (MOPS). The psychometric properties of internal consistency reliability and construct validity were estimated and related as a means of systematic scholarly inquiry about the phenomenon of presence. The hypotheses were specifically stated as the following:

1. When testing Registered Nurses the internal consistency reliability for the Measurement of Presence Scale (MOPS) was greater than ( $>$ ) .70.
2. When testing Registered Nurses the critical elements in the sixty item Measurement of Presence Scale (MOPS) were mutually exclusive.
3. When testing Registered Nurses the subscale internal consistency reliability of the Measurement of Presence Scale was greater than ( $>$ ) .60.

The hypotheses were tested using Cronbach's Alpha internal consistency reliability, principal components analysis and factor analysis. Computer assistance consisting of the Statistical Packages for Social Sciences (SPSS-X) (Norusis, 1988) was utilized.

### Reliability Estimations of the Measurement of Presence Scale

The Measurement of Presence Scale (MOPS) was analyzed for reliability using the Statistical Package for Social Sciences (SPSS-X) computer program. The Cronbach's Alpha correlation coefficient was selected to determine internal consistency. Cronbach's Alpha is the state of the art estimation of reliability (Jennings, 1988) because it compares all item to item correlations, requires one testing and is easily programmed. In the present study the reliability coefficient for the overall Measurement of Presence Scale (MOPS) was 0.9324. Alpha correlation coefficients for each subscale were determined. The correlations are presented in Table 8.

Table 8

Measurement of Presence Scale Subscale Alpha Correlation Coefficients

Subscale	Number of Items	Alpha
Time with another	9	0.5251
Unconditional positive regard	10	0.6140
Transactional speaking with, being with, doing with	10	0.7756
Encounter which is valued	12	0.8347
Connectedness	12	0.7657
Sustaining memory	7	0.6653
Total Scale	60	0.9324

The internal consistency reliability for the total Measurement of Presence Scale (MOPS) would be a higher correlation if items 11, 19, 26, and 31 were deleted. The Cronbach's Alpha would be 0.9336, 0.9340, 0.9349 or 0.9360, respectively. The internal consistency reliability for the subscales was acceptable with the exception of the time with another (T) subscale.

Deletion of item numbers 19 and 31 produced a Cronbach's Alpha of 0.6754 for the time with another (T) subscale. Deletion of item number 26 from the unconditional positive regard (UPR) subscale produced a

Cronbach's Alpha of 0.6866. Hypotheses one and three were estimated satisfactorily using the participant data in this study. Table 9 illustrates the scale-subscale Cronbach's Alpha coefficients obtained when item numbers 19, 31 and 26 are deleted.

Table 9

Measurement of Presence Scale - Subscale with Maximized Alpha Correlation Coefficients

Subscale-Scale	Number of Items	Alpha
Time with another	7	0.6754
Unconditional positive regard	9	0.6866
Transactional speaking with, being with, doing with	10	0.7756
Encounter which is valued	12	0.8347
Connectedness	12	0.7657
Sustaining memory	7	0.6653
Total Scale	57	0.9365

Factor Analysis and the Measurement of Presence Scale

The data from the 324 respondents was tested using principal components and factor analysis to estimate initial construct validity. The SPSS-X computer program was utilized to perform these procedures. First, the factor correlation matrix was examined and the correlations

within the matrix were determined to be below 0.30. These loadings indicated more pure factors and limited shared variance or overlap between the factors. The varimax rotation was then examined for extraction of common factors and latent dimensions. The factor loading criteria was previously set at 0.4000, with the minimal number of variables (items) loading on a factor at 3. Results of the varimax factor analysis rotation of the Measurement of Presence Scale (MOPS) are presented in Table 10.

Table 10

Results of the Varimax Factor Analysis of the Measurement  
of Presence Scale (MOPS)

Factor/Item	Designated Subscale	Factor Loading
<u>Factor One:</u>		
<u>Item</u> Q46	(T)	0.5459
Q34	(EV)	0.5453
Q39	(EV)	0.5432
Q52	(EV)	0.5316
Q50	(EV)	0.5247
Q32	(UPR)	0.5019
Q02	(UPR)	0.4918
Q14	(UPR)	0.4750
Q28	(EV)	0.4576
Q47	(UPR)	0.4004
<u>Factor Two:</u>		
<u>Item</u> Q51	(C)	0.7361
Q53	(C)	0.7279
Q60	(C)	0.6343
Q35	(SM)	0.4231
Q45	(EV)	0.4132
<u>Factor Three:</u>		
<u>Item</u> Q03	(Tr)	0.6592
Q15	(Tr)	0.5947
Q16	(EV)	0.5665
Q55	(UPR)	0.4663
<u>Factor Four:</u>		
<u>Item</u> Q30	(SM)	0.6460
Q24	(SM)	0.6008
Q41	(SM)	0.5816
Q12	(SM)	0.4886
<u>Factor Five:</u>		
<u>Item</u> Q54	(EV)	0.6435
Q29	(C)	0.5697
Q56	(C)	0.5350

(table continues)

Factor/Item	Designated Subscale	Factor Loading
<u>Factor Six:</u>		
<u>Item</u> Q57	(C)	0.6829
Q58	(C)	0.6544
Q59	(EV)	0.4440
<u>Factor Seven:</u>		
<u>Item</u> Q07	(T)	0.7138
Q27	(TR)	0.4334
Q36	(T)	0.4004
<u>Factor Eight:</u>		
<u>Item</u> Q11	(C)	0.7130
Q17	(C)	0.6157
Q43	(UPR)	0.5015
<u>Factor Nine:</u>		
<u>Item</u> Q12	(SM)	0.4738
Q05	(SM)	0.7315
Q06	(SM)	0.6483
<u>Factor Ten:</u>		
<u>Item</u> Q48	(TR)	0.5304
Q10	(EV)	0.5288
Q08	(UPR)	0.5181
Q13	(T)	0.4781
<u>Factor Eleven:</u>		
<u>Item</u> Q25	(T)	0.6522
Q38	(TR)	0.6298
Q26	(UPR)	0.4365
<u>Factor Twelve:</u>		
<u>Item</u> Q19	(T)	0.6116
Q42	(T)	0.5992
Q44	(TR)	0.4267

The factor analysis procedure produced twelve mutually exclusive factors with factor loadings of 0.4000 or greater. All twelve factors had three items or more. The



sustaining memory (SM) subscale remained and is illustrated by Factor 4 and Factor 9. Other factors, although mutually exclusive on the varimax rotation did not completely reflect the proposed subscales. Hypothesis two was partially supported.

The Measurement of Presence Scale (MOPS) as developed contained six subscales reflecting the provisional attributes described by Hines, (1987) (Appendix B). They were: time with another, (T), unconditional positive regard, (UPR), transactional speaking with, being with, doing with, (TR), encounter which is valued, (EV), connectedness, (C) and sustaining memory, (SM). The original subscales and items are illustrated in Table 11. The designated subscales and the factors produced by factor analysis (FA) were not identical but appear to have common elements for interpretation.

Table 11

Measurement of Presence Subscales - Original ItemDesignation

Subscale	Original Item Designation
<u>Time with another (T)</u>	
Q 01	I spend time with others to show I care.
Q 07	I use time to contemplate relationships.
Q 13	I follow hunches in taking time to get to know someone.
Q 19	It takes time to get to know someone and become friends.
Q 25	I have had conversations with others about the use of time.
Q 31	I move through the day and get everything on my schedule accomplished.
Q 36	I like to invest my time in others as well as myself.
Q 42	If another person I knew needed something completed on a deadline, I would help them do the project.
Q 46	I am willing to spend time listening to others.
Total Items 09	

Unconditional positive regard (UPR)

- Q 02 I respect people because they are human beings.
- Q 08 I am caring to others.
- Q 14 I feel concern for others.

(table continues)

Subscale	Original Item Designation
Q 20	I offer advice in relationships.
Q 26	I am comfortable with white lies if I think another person will benefit.
Q 32	I take note of people in my surroundings.
Q 37	I avoid distractions in conversations.
Q 43	People are generally fair to one another.
Q 47	Others tell me confidential information about themselves and trust me to be quiet about it.
Q 55	I demonstrate my real self in dialogue (talking) with others.

Total Items 10

Transactional speaking with, being with, doing with (TR)

- Q 03 In meeting people, I can establish understanding.
- Q 09 When with others I am able to feel intrigued by them and their situation.
- Q 15 In meeting people I am able to feel comfortable with them.
- Q 21 Relationships with others reflect many growth possibilities to me.
- Q 27 I feel good when someone shares their innermost thoughts with me.
- Q 33 I am able to help others by helping them to use problem solving skills.
- Q 38 While at work, I have made suggestions to improve the situation or solve a problem.

(table continues)

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Subscale

Original Item Designation

---

Q 44 I am willing to meet new people and put them at ease.

Q 48 I am able to say what I honestly think and feel to others (coworkers, friends, family, customers, clients.)

Q 49 I am able to focus on another's development and learning.

Total Items 10

Encounter which is valued (EV)

Q 04 I feel I have a choice in developing a relationship with another person.

Q 10 In a relationship I would want to hear truth vs. deception.

Q 16 I feel richness in interactions and relationships with others.

Q 22 I try to get to know new persons.

Q 28 I choose to become involved with other people.

Q 34 I find something good in others.

Q 39 I am interested in sharing with others.

Q 45 Others have helped me to be a better person.

Q 50 I think it is important to pay attention to other people's behavior and attitudes.

Q 52 It is important to listen to others.

Q 54 I can identify 3 people who have helped my learning and growth as a person.

(table continues)

---

Subscale	Original Item Designation
<hr/>	
Q 59	I like to invest myself in other's development and growth.
Total Items 12	

Connectedness (C)

Q 05 In my life, I can remember or have had an experience with another person involving unforgettable helpfulness/helplessness.

Q 11 I feel stale in relationships with others.

Q 17 I feel flat in relationships with others.

Q 23 I am willing to help people who need help to ease despair or a problem.

Q 29 I am able to laugh at something humorous in the midst of a sorrowful event.

Q 40 It is important to relate to others in the situation of life experience they are in.

Q 51 I have had conversations with others about hope, love, caring, faith, and wishes.

Q 53 I have had conversations with others about death and life.

Q 56 In my life knowing another has produced growth in my attitude.

Q 57 I like to draw conclusions based on sharing of ideas.

Q 58 At times I haven't been able to reason out certain discussions but I've really felt good about them.

(table continues)

---

Subscale	Original Item Designation
<hr/>	
Q 60 I have had conversations with others about stupidity, mistakes, pressure, expectations, and disappointment.	
	Total Items 12
<u>Sustaining Memory (SM)</u>	
Q 06 Precious moments to me are when I remember happy times with loved ones who have died (includes pets).	
Q 12 Those who are gone from me because of death can be thought about and remembered in my mind.	
Q 18 I think about the good aspects of my life that have been changed by moving or separation from familiar surroundings.	
Q 24 I think of happy times in the past when I am having a good time now.	
Q 30 When a loved one is visiting somewhere else I think about them and miss them.	
Q 35 I miss my friends when they don't call and I usually give them a call.	
Q 41 I experience sadness when I think about the past and yet I also experience happiness when I think about the past.	
	Total Items 07

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Tentative interpretation of the factors and subscales was accomplished by examining the descriptive meanings of the subscale concepts, the strength of the factor loading, the deletions from the reliability estimations and item analysis, and the ability of the item to reflect content

from the factor subscale concept domain. Several of the 12 factors contained similar designated subscale items. These were grouped and examined (see Table 10). Factor number 8, 11 and 12 were ignored because they did not meet the predetermined criteria of three items per factor after deletions for reliability and item analysis. Factor number 4 and 9 were designated as sustaining memory subscales which represented past memories and person or event memories. The tentative reinterpretation of the factor subscale identification is illustrated in Table 12.

Table 12

Tentative Interpretation of the Measurement of Presence  
Scale (MOPS) Factor-Subscale Results

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Factor One: Valuing/Attending to Self and Others

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<u>Item</u>	<u>Factor Loading</u>
Q46 I am willing to spend time listening to other persons.	0.5459
Q34 I find something good in others.	0.5453
Q39 I am interested in sharing with others.	0.5432
Q52 It is important to listen to others.	0.5316
Q50 I think it is important to pay attention to other people's behavior and attitudes.	0.5247
Q32 I take note of people in my surroundings.	0.5019
Q02 I respect people because they are human beings.	0.4918
Q14 I feel concern for others.	0.4750
Q28 I choose to become involved with other people.	0.4576
Q47 Others tell me confidential information about themselves and trust me to be quiet about it.	0.4004

(table continues)



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Factor Two: Connecting

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<u>Item</u>	<u>Factor Loading</u>
Q51 I have had conversations with others about hope, love, caring, faith, and wishes.	0.7361
Q53 I have had conversations with others about death and life.	0.7279
Q60 I have had conversations with others about stupidity, mistakes, pressure, expectations, and disappointment.	0.6343
Q35 I miss my friends when they don't call and I usually give them a call.	0.4231

---

Factor Three: Transacting

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<u>Item</u>	<u>Factor Loading</u>
Q03 In meeting people, I can establish understanding.	0.6592
Q15 In meeting people I am able to feel comfortable with them.	0.5947
Q16 I feel richness in interactions and relationships with others.	0.5665
Q55 I demonstrate my real self in dialogue (talking) with others.	0.4663

(table continues)

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Factor Four: Enduring Memory From the Past

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<u>Item</u>	<u>Factor Loading</u>
Q30 When a loved one is visiting somewhere else I think about them and miss them.	0.6460
Q24 I think of happy times in the past when I am having a good time now.	0.6008
Q41 I experience sadness when I think about the past and yet I also experience happiness when I think about the past.	0.5816
Q12 Those who are gone from me because of death can be thought about and remembered in my mind.	0.4886

---

Factor Five: Engaging for Growth

---

<u>Item</u>	<u>Factor Loading</u>
Q54 I can identify 3 people who have helped my learning and growth as a person.	0.6435
Q29 I am able to laugh at something humorous in the midst of a sorrowful event.	0.5697
Q56 In my life knowing another has produced growth in my attitude.	0.5350

(table continues)

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Factor Six: Encountering

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<u>Item</u>	<u>Factor Loading</u>
Q57 I like to draw conclusions based on sharing of ideas.	0.6829
Q58 At times I haven't been able to reason out certain discussions but I've really felt good about them.	0.6544
Q59 I like to invest myself in other's development and growth.	0.4440

---

Factor Seven: Availability

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<u>Item</u>	<u>Factor Loading</u>
Q07 I use time to contemplate relationships.	0.7138
Q27 I feel good when someone shares their innermost thoughts with me.	0.4334
Q36 I like to invest my time in others as well as myself.	0.4004

---

Factor Eight: Person or Event Sustaining Memory

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<u>Item</u>	<u>Factor Loading</u>
Q12 Those who are gone from me because of death can be thought about and remembered in my mind.	0.4738

(table continues)

Q05 In my life, I can remember or have had an experience with another person involving unforgettable helpfulness/helplessness.	0.7315
Q06 Precious moments to me are when I remember happy times with loved ones who have died (includes pets).	0.6483

---

Factor Nine: Disclosing and Enclosing

---

<u>Item</u>	<u>Factor Loading</u>
Q48 I am able to say what I honestly think and feel to others (coworkers, friends, family, customers, clients.)	0.5304
Q10 In a relationship I would want to hear truth vs. deception.	0.5288
Q08 I am caring to others.	0.5181
Q13 I follow hunches in taking time to get to know someone.	0.4781

---

The Measurement of Presence Scale (MOPS) was tentatively interpreted conceptually to reflect the SPSS-X computer program Factor Analysis using the varimax rotation results (Norusis, 1988). The newly created subscales are (1) valuing/attending to self and others, (2) connecting, (3) transacting, (4) enduring memory from the past, (5) engaging for growth, (6) encountering, (7) availability, (8) person or event sustaining memory, and (9) enclosing/disclosing.

### Additional Findings

The possible range of scores on the Measurement of Presence Scale (MOPS) was 60 to 300. In this study the observed range of scores was 151 to 285 with a mean of 228.1. The midpoint of the scale is 180. The higher mean for the sample of Registered Nurses was expected because nursing is an interactive process. The mode was 226.0 and the median was 227.0. The standard deviation was 18.87 and the skewness was .090. The standard error of the skew was .135.

Item analysis between the upper and lower quartile groups by subscale score and total score using t-tests and chi square test of independence revealed that items 19, 26, and 31 do not discriminate between the upper and lower groups in this study. All other items discriminate significantly.

Subscale correlations showed a moderate to high correlation between the subscales and the total Measurement of Presence Scale (MOPS). All were significant at the 0.01 level of significance. The correlations and their significance are presented in Table 13.

Table 13

Correlation Coefficients for Subscales and the Total  
Measurement of Presence Scale (MOPS)

Scale	MOPS	T	UPR	TR	EV	C	SM
MOPS	1.0	.78**	.79**	.85**	.90**	.87**	.74**
T	.78**	1.0	.54**	.61**	.64**	.62**	.53**
UPR	.79**	.54**	1.0	.67**	.66**	.58**	.52**
TR	.85**	.61**	.67**	1.0	.75**	.66**	.52**
EV	.90**	.64**	.66**	.75**	1.0	.75**	.57**
C	.87**	.62**	.58**	.66**	.75**	1.0	.56**
SM	.74**	.53**	.52**	.52**	.57**	.56**	1.0

Note. \*\* - Significance Level .01

The correlations between the subscales were positive and in the moderate correlation range indicating a relationship between the subscales. The moderate range correlation indicated different aspects of the phenomenon reflected in the subscales. The higher correlations of the subscales with the Total Measurement of Presence Scale (MOPS) indicated a strong correlation between the subscales and the total scale. The subscales correlated well with the total scale.

### Summary of Findings

The results of the study indicate an acceptable level of internal consistency for the subscales of time with another (T), unconditional positive regard (UPR), transactional speaking with, being with, doing with (TR), encounter which is valued (EV), connectedness (C), sustaining memory (SM) and the total Measurement of Presence Scale (MOPS). Using varimax rotation 12 factors were demonstrated which partially reflect the designated theoretical dimensions. These factors were reduced to nine.

The item analysis revealed that all items except 19, 26 and 31 discriminate between upper and lower quartile groups using t-tests and chi square test of independence. The subscales correlated with the total Measurement of Presence Scale (MOPS) at a medium to high level with the encounter which is valued, (EV), subscale being the highest at 0.9009. These findings provide support for the initial estimations of internal consistency and construct validity of the Measurement of Presence Scale (MOPS).

## CHAPTER V

### SUMMARY OF THE STUDY

This study, using a methodological design, estimated the elements of the phenomenon of presence. Presence has been systematically described, analyzed and derived and phenomenologically investigated. The purpose of the study was to test and explore the psychometric properties of the Measurement of Presence Scale (MOPS) which was developed by the researcher. The initial internal consistency reliability and construct validity estimations were explored. The explorations of presence focused on the methodological domain and illustrated elements of presence through instrumentation data.

Three hypotheses to examine and validate the Measurement of Presence Scale (MOPS) were proposed. Hypotheses for reliability estimations were supported. The factor analysis procedure demonstrated 12 mutually exclusive elements of presence from the data. When criteria of three items for each factor and a factor loading of at least 0.40 was applied the mutually exclusive pure factors were reduced to 9. The hypothesis relative to construct validity was partially supported.

This chapter summarizes and discusses the findings of



the study. The conclusions and implications derived from the study results and recommendations for further research are included.

#### Summary

This exploratory study utilized a methodological design based on correlational methods to estimate initial reliability and construct validity of the Measurement of Presence Scale (MOPS). Paterson and Zderad's conceptualization (1976) of the humanistic situation provided the frame of reference for the study. Within this open humanistic framework "nursing is viewed as a form of human dialogue" (Paterson and Zderad, 1976, p. 23). Attributes which related to the essential structure of presence were identified and defined through systematic theory analysis and construction. Methodological measurement theories and strategies further guided the evolution and testing of the Measurement of Presence Scale (MOPS).

The concept of presence was described and provisional attributes were clarified through the processes of analysis, synthesis, and derivation. The provisional attributes of time with another (T), unconditional positive regard, (UPR), transactional speaking with, being with, doing with, (TR), encounter which is valued, (EV),

connectedness, (C), and sustaining memory, (SM), were identified and defined. Using these attributes, as subscales, instrument items were generated and a self-report, interval level, norm referenced scale was developed.

One hundred thirty-five items reflecting the attributes were submitted to a panel of experts for content analysis. The 135 item instrument format was also rated. Using a criteria of 70% expert panel agreement on an item for inclusion in the instrument, the Measurement of Presence Scale (MOPS) was resized to 60 items. Pilot testing was conducted. The sample consisted of 92 practicing nurses and pastoral care givers who voluntarily agreed to participate. The data from the pilot study was analyzed and the reliability and validity estimations of the resized Measurement of Presence Scale (MOPS) were satisfactory. The Measurement of Presence Scale (MOPS) was grammatically refined and tested with a larger group of Registered Nurses.

Three hundred twenty four Registered Nurses from the midwest, west, and southern regions of the United States completed the self-report Measurement of Presence Scale (MOPS) testing. Questionnaire data was numbered, coded and entered into the computer data set. Statistical analysis

for reliability and validity along with nominal data frequencies and means was accomplished using the SPSS-X computer program. Item analysis was also accomplished using subscale and total instrument scores for upper and lower quartile groups, t-tests and chi square test of independence.

Hypotheses for internal consistency reliability using Cronbach's Alpha for the Measurement of Presence Scale (MOPS) and the designated subscales were satisfactorily estimated and supported. The internal consistency for the Measurement of Presence Scale was acceptable (Alpha = 0.9324). The internal consistency reliability for the subscales was satisfactorily estimated and was greater than .60.

The hypothesis relative to the mutually exclusive elements in the Measurement of Presence Scale (MOPS) was partially supported. The computer program factor using varimax common factoring produced nine mutually exclusive subscales (elements) which met specified criteria. The resulting subscales item composition varied from the forecasted subscales. The tentative interpretations of the produced subscales was accomplished.

#### Discussion of Findings

The testing of the generated Measurement of Presence

Scale (MOPS) with a group of 324 Registered Nurse respondents produced the following results:

#### Reliability

Based on the data set in this study the internal consistency reliability of the Measurement of Presence Scale (MOPS) and the designated subscales was satisfactory. Hypotheses number one and three were supported. The correlation of the items in the subscale met minimal reliability standards for a new instrument. The internal consistency reliability for the subscales was greater than .65 when low correlating items were deleted. Nunnally (1978) recommends .70 as the internal consistency reliability in newly developed instruments. The total Measurement of Presence Scale (MOPS) met this developmental criteria. The .65 reliability results for the designated subscales were acceptable when the abstract nature of the elements was noted.

#### Validity

Based on the data set in this study the items in the Measurement of Presence Scale (MOPS) have significant item validity. All items but number 19, 26, and 31 discriminated at a significant level between respondents in the upper and lower quartile groups by subscale score and total score using t-tests and chi square test of

independence.

Factor analysis procedures used to estimate construct validity produced nine mutually exclusive factors which met predetermined criteria. The proposed designated subscale items were rearranged by the varimax rotation procedure to produce new subscales. The logically interpreted subscales are (1) valuing/attending to self and others, (2) connecting, (3) transacting, (4) enduring memory from the past, (5) engaging for growth, (6) encountering, (7) availability, (8) person or event sustaining memory and (9) disclosing/enclosing.

The newly produced subscales were interpreted by examining the descriptive meanings of the designated subscale concepts, the strength of the factor loading, the deletions from the reliability estimations, and the ability of the item to reflect content from the factor subscale content domain. Hypothesis number two was partially supported. The subscales elements are mutually exclusive, but are not the pre-study designated subscales. This is noted as an limitation to construct validity as hypothesized. However the revelation of other subscale dimensions from the data set was recognized as evidence in support of construct validity.

The process of the study revealed the complexity of

the phenomenon of presence as an interactive process. The methodological procedures verified the conceptual difficulty in clarifying and ordering the elements of presence. For instance factor loadings on the first factor produced by the varimax rotation combined the old subscale designations of unconditional positive regard (UPR) and encounter which is valued (EV). There is reason to believe that valuing within one's self enables the self to value others and so the subscale was reconceptualized to indicate self value and other value which would be acted upon by attending. Other subscales were logically named utilizing the same processes.

#### Correlational Findings

The designated subscales in the Measurement of Presence Scale (MOPS) correlated at a moderate level (.50 - .75). The items on the subscales appeared to come from the same conceptual domain yet were different from one another. The subscale to total Measurement of Presence Scale (MOPS) correlations were highly correlated (.74 - .90). The expected higher correlations indicated that the items were from the same conceptual domain with no singularity. The factor correlation matrix produced low correlations (below 0.30) and the varimax rotation was then selected for interpretation of the factors.

### Demographic and Personal Characteristics Data

The respondents in the study were mostly female, married with household incomes of \$30,000 and over. They were in the middle adult age range. One-half were educated at the Bachelors degree level or above. Most were employed full time in critical care or medical surgical nursing practice. A regression analysis performed on the data from this study using the Measurement of Presence Scale (MOPS) scores and the nominal data indicated no predictors between scores and personal characteristics of the respondents except for marital status and income.

### Conclusions and Implications

Statistical findings in this study tend to support initial reliability and validity estimations of the Measurement of Presence Scale (MOPS). Further testing of the instrument is needed after review and revision of items for clarity and content. A larger group of respondents is desired for extensive exploration of the original Measurement of Presence Scale (MOPS). At least 300 more participants are recommended for the next test.

The results of the study tend to support the analysis, synthesis derivation and theory construction conceptualizations as previously outlined. The factors (new subscales) are pure and according to Kerlinger (1986)

this is a rare occurrence. Reconceptualization of the newly created subscales (factors) is needed to more clearly order the attributes of presence.

After the increased sample size testing is accomplished the final instrument can be tested using other validity approaches. The first testing of the Measurement of Presence Scale (MOPS) provided initial validation. Successive validation procedures are indicated for instrument maturation.

Further successful testing and revisions of the Measurement of Presence Scale (MOPS) would provide the opportunity to test contrasted groups for further validation of the instrument. In research, more propositions could be tested. The proportions linking presence to hope, comfort and well-being could be explored and tested and the results utilized in nursing practice situations.

Reliability estimations are needed for the newly created subscales (factors) as well as the total produced scale from these items. The scale items should be evaluated for content and clarity. The initial testing produced elements of presence which aided in systematic scholarly inquiry. The newly interpreted subscales provided another reliability and construct validity



estimation of the attribute of presence.

#### Recommendations for Further Research

Based on the findings, conclusions and implications of this study, the following recommendations for further research are considered important to the orderly inquiry and future development of the Measurement of Presence Scale (MOPS). The following recommendations for further study are identified:

1. Examine the items on the 60 item Measurement of Presence Scale (MOPS) for clarity and meaning.
2. Increase the sampling of Registered Nurses by another 300 respondents for the current Measurement of Presence Scale (MOPS). Combine the pilot and current study data sets and estimate reliability and construct validity.
3. Estimate the reliability and construct validity of reinterpreted subscales (factors) and the total items included in these created subscales.
4. Generate and test new items after reconceptualization of the phenomenon of presence and the provisional attributes.
5. Estimate discriminant validity by testing a similar conceptual instrument with the Measurement of Presence Scale (MOPS)

6. Conduct a study with a contrasted group sample using the Measurement of Presence Scale (MOPS) and examine differences and correlations in the groups. The groups to consider would be nurses, computer operator technicians and laboratory technicians.
7. Eventually, conduct a correlational study to test the relationship between presence and well-being (growth).

Instrument development involves an orderly inquiry and the staged progressive process incorporated in the further study recommendations.

## References

- Avery, W.O. (1986). Toward an understanding of ministry of presence. The Journal of Pastoral Care. 40, 342-353.
- Benner, P. (1984). From novice to expert. Menlo Park, CA: Addison-Wesley.
- Blalock, W.O. (1969). Theory construction. Englewood Cliffs, NJ: Prentice Hall.
- Breisach, E. (1962). Introduction to modern existentialism. New York: Grove Press.
- Buber, M. (1965). The knowledge of man. (M. Friedman, Ed. and Trans.). New York: Harper and Row.
- Buber, M. (1970). I and thou. (W. Kaufman, Trans.). New York: Charles Scribner and Sons.
- Bugental, J.F.T. (1967). The search for authenticity. New York: Holt, Rinehart, & Winston.
- Burns, N. & Grove, S.K. (1987). The practice of nursing research: Conduct, critique and utilization. Philadelphia: W.B. Saunders.
- Ferlic, A. (1968). Existential approach in nursing. Nursing Outlook. 16 (10), 30-33.
- Gardner, D. (1985). Presence. In G. Bulechek & J.C. McCloskey. Nursing interventions: treatments for nursing diagnosis. (pp. 316-324). Philadelphia: W.B. Saunders.
- Hines, D. (1987). The concept development of presence in nursing science. Unpublished manuscript. Summer. Texas Woman's University.
- Hines, D. (1988a). Strategies for theory construction applied to the concept of presence. Unpublished manuscript. Fall. Texas Woman's University.

- Hines, D. (1988b). Theoretical background, measurement strategy and instrument development of the concept presence. Unpublished manuscript. Fall. Texas Woman's University.
- Jennings, G. (1988). Instrumentation validity and reliability. Family and Consumer Studies class handout. Summer. Texas Woman's University.
- Kerlinger, F.N. (1986). Foundations of behavioral research. (3rd ed.). New York: Holt, Rinehart and Winston.
- Kramer, M. (1990). Holistic nursing. In Chaska, N.L. The nursing profession. (pp. 245-254). St. Louis: C.V. Mosby.
- Marcel, G. (1948). The philosophy of existence. (M. Harari, Trans.). London: Harvill Press Ltd.
- Meleis, A.I. (1985). Theoretical nursing, development and progress. Philadelphia: J.B. Lippincott.
- Morehead, P. (ed.). (1985). Rogers College Thesaurus. New York: Signet Books.
- Morris, W. (1976). The American heritage dictionary. Boston: Houghton Mifflin.
- Newman, M. (1979). Theory development in nursing. Philadelphia: F.A. Davis.
- Newman, M. (1986). Health as expanding consciousness. St. Louis: C.V. Mosby.
- Norusis, M.J. (1988). Introductory Statistics Guide SPSSX. Chicago: SPSSX Inc.
- Nouwen, H. (1979). The wounded healer. Garden City, N.J.: Image Books.
- Nunnally, J.C. (1978). Psychometric theory. New York: McGraw Hill.
- Parse, R. (1981). Man - living - health - a theory of nursing. New York: John Wiley & Sons.

- Paterson, J.G., & Zderad, L.T. (1976). Humanistic Nursing. New York: John Wiley and Sons.
- Peplau, H. (1952). Interpersonal relations in nursing. New York: G.P. Putnam's Sons.
- Pettigrew, J. (1988). A phenomenological study of the nurse's presence with persons experiencing suffering. Unpublished doctoral dissertation. Spring. Texas Woman's University.
- Pettigrew, J. (1987). A phenomenological study of the nurse's presence with persons experiencing suffering. Unpublished doctoral dissertation proposal. Spring. Texas Woman's University.
- Polit, D.F. & Hungler, B.P. (1987). Nursing research: Principles and methods. (3rd ed.). Philadelphia: J.B. Lippincott.
- Porth, C.M. (1986). Pathophysiology (2nd ed.). Philadelphia: J.B. Lippincott.
- Rogers, M.E. (1970). An introduction to the theoretical basis of nursing. Philadelphia: F.A. Davis.
- Shelley, S.I. (1984). Research methods in nursing and health. Boston: Little, Brown & Co.
- Steere, D. (1967). On being present where you are. (pamphlet) Lebanon, PA: Sowers Printing.
- Tabachnick, B.G., & Fidell, L.S. (1989). Using multivariate statistics. (2nd ed.). New York: Harper and Row.
- Travelbee, J. (1971). Interpersonal aspects of nursing. (2nd ed.). Philadelphia: F.A. Davis.
- Walker, L.O., & Avant, K.C. (1983). Strategies for theory construction in nursing. East Norwalk, N.J.: Appleton-Century-Crafts.
- Waltz, C., Strickland, V., & Lenz, E. (1984). Measurement in nursing research. Philadelphia: F.A. Davis.

## **APPENDICES**

## APPENDIX A

### Approval Letter from the Graduate School

TEXAS WOMAN'S UNIVERSITY  
DENTON DALLAS HOUSTON  
THE GRADUATE SCHOOL  
P.O. Box 22479, Denton, Texas 76204 817/898-3400, 800-338-5255



November 28, 1990

Ms. Doris Hines  
Rt. 1, Box 341  
Agency, MO 64401

Dear Ms. Hines:

I have received and approved the Prospectus for your research project. Best wishes to you in the research and writing of your project.

Sincerely yours,

*Leslie M. Thompson*  
Leslie M. Thompson  
Dean for Graduate Studies  
and Research

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cc Dr. Helen Bush



## APPENDIX B

Explanation of the Study, Measurement of Presence Scale  
(MOPS) and Personal Characteristics Form

## EXPLANATION OF STUDY

Dear Participant:

My name is Doris R. Hines and I am a doctoral candidate in nursing at Texas Woman's University in Denton, Texas. I am requesting your assistance in development of a measurement instrument for nursing research. The instrument is called the MOP Scale and stands for Measurement of Presence Scale (MOPS).

It is believed that nurses interact beneficially for persons and this instrument is designed to measure interactive processes of people. In the future, this instrument might be used to promote the nurse's interactive presence with you in a health-illness situation for your benefit.

In answering the questionnaire, you have a choice to respond or not respond to any of the questions that you find difficult or uncomfortable. You have the right to stop at any time or to complete as many or as few of the questions as you wish. There are no right or wrong answers.

Please answer the questions which should take approximately 30-40 minutes of your time. Your name will not be on the questionnaire and you will not be identified in any way unless you wish to be.

I will be glad to answer any questions you have regarding this study. Please feel free to contact me at the address listed on this explanation.

Doris R. Hines, Phd, RN  
Route 1, Box 341  
Agency, Missouri 64401  
(816) 253-9443

COMPLETION OF THIS QUESTIONNAIRE  
IS INTERPRETED AS CONSENT TO PARTICIPATE

MEASUREMENT OF PRESENCE SCALE (MOPS)

DORIS R. HINES, 1988

**DIRECTIONS:** Using the following scale for each statement, put an "X" on the line that most applies to you in your relationships with others.

A = Always  
U = Usually  
S = Sometimes  
R = Rarely  
N = Never

	A	U	S	R	N
1. I spend time with others to show I care.	—	—	—	—	—
2. I respect people because they are human beings.	—	—	—	—	—
3. In meeting people, I can establish understanding.	—	—	—	—	—
4. I feel I have a choice in developing a relationship with another person.	—	—	—	—	—
5. In my life, I can remember or have had an experience with another person involving unforgettable helpfulness/helplessness.	—	—	—	—	—
6. Precious moments to me are when I remember happy times with loved ones who have died (includes pets).	—	—	—	—	—
7. I use time to contemplate relationships.	—	—	—	—	—
8. I am caring to others.	—	—	—	—	—
9. When with others I am able to feel intrigued by them and their situation.	—	—	—	—	—
10. In a relationship I would want to hear truth vs. deception.	—	—	—	—	—
11. I feel stale in relationships with others.	—	—	—	—	—

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	A	U	S	R	N
12. Those who are gone from me because of death can be thought about and remembered in my mind.	—	—	—	—	—
13. I follow hunches in taking time to get to know someone.	—	—	—	—	—
14. I feel concern for others.	—	—	—	—	—
15. In meeting people I am able to feel comfortable with them.	—	—	—	—	—
16. I feel richness in interactions and relationships with others.	—	—	—	—	—
17. I feel flat in relationships with others.	—	—	—	—	—
18. I think about the good aspects of my life that have been changed by moving or separation from familiar surroundings.	—	—	—	—	—
19. It takes time to get to know someone and become friends.	—	—	—	—	—
20. I offer advice in relationships.	—	—	—	—	—
21. Relationships with others reflect many growth possibilities to me.	—	—	—	—	—
22. I try to get to know new persons.	—	—	—	—	—
23. I am willing to help people who need help to ease despair or a problem.	—	—	—	—	—
24. I think of happy times in the past when I am having a good time now.	—	—	—	—	—
25. I have had conversations with others about the use of time.	—	—	—	—	—
26. I am comfortable with white lies if I think another person will benefit.	—	—	—	—	—

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	A	U	S	R	N
27. I feel good when someone shares their innermost thoughts with me.	—	—	—	—	—
28. I choose to become involved with other people.	—	—	—	—	—
29. I am able to laugh at something humorous in the midst of a sorrowful event.	—	—	—	—	—
30. When a loved one is visiting somewhere else I think about them and miss them.	—	—	—	—	—
31. I move through the day and get everything on my schedule accomplished.	—	—	—	—	—
32. I take note of people in my surroundings.	—	—	—	—	—
33. I am able to help others by helping them to use problem solving skills.	—	—	—	—	—
34. I find something good in others.	—	—	—	—	—
35. I miss my friends when they don't call and I usually give them a call.	—	—	—	—	—
36. I like to invest my time in others as well as myself.	—	—	—	—	—
37. I avoid distractions in conversations.	—	—	—	—	—
38. While at work, I have made suggestions to improve the situation or solve a problem.	—	—	—	—	—
39. I am interested in sharing with others.	—	—	—	—	—
40. It is important to relate to others in the situation of life experience they are in.	—	—	—	—	—
41. Sometimes I experience sadness when I think about the past and yet I also experience happiness when I think about the past.	—	—	—	—	—

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	A	U	S	R	N
42. If another person I knew needed something completed on a deadline, I would help them do the project.	—	—	—	—	—
43. People are generally fair to one another.	—	—	—	—	—
44. I am willing to meet new people and put them at ease.	—	—	—	—	—
45. Others have helped me to be a better person.	—	—	—	—	—
46. I am willing to spend time listening to other persons.	—	—	—	—	—
47. Others tell me confidential information about themselves and trust me to be quiet about it.	—	—	—	—	—
48. I am able to say what I honestly think and feel to others (coworkers, friends, family, customers, clients.)	—	—	—	—	—
49. I am able to focus on another's development and learning.	—	—	—	—	—
50. I think it is important to pay attention to other people's behavior and attitudes.	—	—	—	—	—
51. I have had conversations with others about hope, love, caring, faith, and wishes.	—	—	—	—	—
52. It is important to listen to others.	—	—	—	—	—
53. I have had conversations with others about death and life.	—	—	—	—	—
54. I can identify 3 people who have helped my learning and growth as a person.	—	—	—	—	—
55. I demonstrate my real self in dialogue (talking) with others.	—	—	—	—	—

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	A	U	S	R	N
56. In my life knowing another has produced growth in my attitude.	—	—	—	—	—
57. I like to draw conclusions based on sharing of ideas.	—	—	—	—	—
58. At times I haven't been able to reason out certain discussions but I've really felt good about them.	—	—	—	—	—
59. I like to invest myself in other's development and growth.	—	—	—	—	—
60. I have had conversations with others about stupidity, mistakes, pressure, expectations, and disappointment.	—	—	—	—	—

## PERSONAL CHARACTERISTICS

Please answer the following questions by placing an (x) in the appropriate line or filling in the blanks.

1. AGE : (1) Under 30 \_\_\_\_\_ (2) 30-34 \_\_\_\_\_  
 (3) 35-39 \_\_\_\_\_ (4) 40-44 \_\_\_\_\_  
 (5) 45-49 \_\_\_\_\_ (6) 50-54 \_\_\_\_\_  
 (7) 55-59 \_\_\_\_\_ (8) 60-64 \_\_\_\_\_  
 (9) 65-69 \_\_\_\_\_ (10) 70-74 \_\_\_\_\_  
 (11) 75-79 \_\_\_\_\_ (12) Above 80 \_\_\_\_\_
2. GENDER : (1) Female \_\_\_\_\_ (2) Male \_\_\_\_\_
3. MARITAL STATUS : (1) Widowed \_\_\_\_\_ (2) Married \_\_\_\_\_  
 (3) Single \_\_\_\_\_ (4) Separated \_\_\_\_\_  
 (5) Divorced \_\_\_\_\_
4. NUMBER OF CHILDREN : \_\_\_\_\_
5. EDUCATION :  
 (1) High School Diploma \_\_\_\_\_ (2) No High School Diploma \_\_\_\_\_  
 (3) AA/AD - Nursing \_\_\_\_\_ (4) Diploma - Nursing \_\_\_\_\_  
 (5) BS/BSN - Nursing \_\_\_\_\_ (6) MS/MSN - Nursing \_\_\_\_\_  
 (7) Phd/Nursing \_\_\_\_\_ (8) Phd/Other \_\_\_\_\_  
 (9) College degree other than nursing \_\_\_\_\_
6. AREA OF NURSING PRACTICE :  
 (1) Critical Care \_\_\_\_\_ (2) Medical-Surgical \_\_\_\_\_  
 (3) Psychiatric \_\_\_\_\_ (4) Pediatrics \_\_\_\_\_  
 (5) Maternal/Child \_\_\_\_\_ (6) Neonatal \_\_\_\_\_  
 (7) Emergency Room \_\_\_\_\_ (8) Community Health \_\_\_\_\_  
 (9) Home Health \_\_\_\_\_ (10) Oncology \_\_\_\_\_  
 (11) Other (please specify) \_\_\_\_\_
7. LIVING ARRANGEMENTS :  
 (1) Lives Alone \_\_\_\_\_ (2) Lives With Family \_\_\_\_\_  
 (3) Lives With Friend \_\_\_\_\_ (4) Lives With Pets \_\_\_\_\_  
 (5) Lives With Family and Pets \_\_\_\_\_
8. INCOME LEVEL :  
 (1) Under \$12,000 \_\_\_\_\_ (2) \$12,000 - \$19,000 \_\_\_\_\_  
 (3) \$20,000 - 29,999 \_\_\_\_\_ (4) \$30,000 & Over \_\_\_\_\_
9. EMPLOYMENT :  
 (1) Unemployed \_\_\_\_\_ (2) Part-time \_\_\_\_\_  
 (3) Full-time \_\_\_\_\_ (4) Retired \_\_\_\_\_
10. WHAT STATE DO YOU LIVE IN? \_\_\_\_\_