

PATIENT-CONSUMER PERCEPTIONS AND RESPONSES TO
PROFESSIONAL NURSING CARE: INSTRUMENT DEVELOPMENT

by

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This dissertation is dedicated to
my parents, Michael and May Killeen,
my husband, Thomas Dudley,
and my children, Maureen, Eileen, and George.

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CHAPTER ONE

INTRODUCTION

Overview

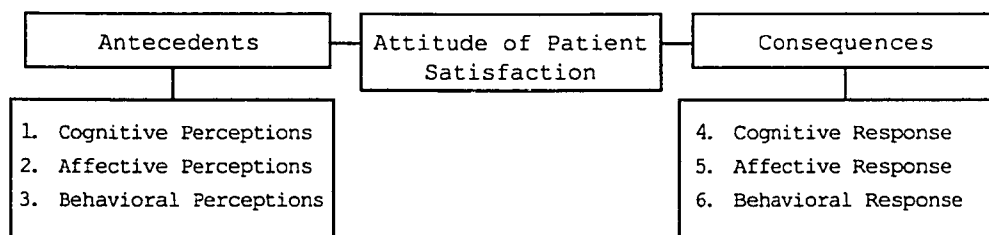
We live in an intensely competitive health care environment in the 1990's. The consumer is obviously very important in this environment as public demand for a restructured, consumer-driven, health care system escalates. Consumer-oriented health care reflects a shift from private professional control and central decision making to the emergence of consumer choice in the use of health resources (Havighurst, 1986). Competitive forces are stronger and there are more opportunities for meaningful consumer choices. The patient satisfaction survey is one mechanism for translating diverse consumer desires into improved provider performance. Patient satisfaction monitoring programs are becoming more important in hospital quality management (Brightbill, 1990). There is a critical need for valid and reliable instruments to measure satisfaction with nursing care separate from hospital satisfaction surveys. What patients experience in their interactions with professional nurses and what they think of those experiences is important. Those experiences may determine, as much or more than others, how they use and benefit from the health care system. This research is significant as the resulting instruments will differ from methods to measure patient satisfaction with nursing care in hospital settings previously described in the literature.

This was a methodological study. The conceptualization of patient satisfaction was guided by Imogene King's (1971, 1981) systems framework for nursing. Researchers have viewed patient satisfaction in hospitals as patient evaluations or judgments of care and services (Meterko,

Nelson & Rubin, 1990; Ware, Snyder, Wright & Davies, 1983). An alternative conceptualization of patient satisfaction was offered in this study. That is, correlates distinct from the attitude of patient satisfaction were studied. The three component, cognitive-affective-conative (behavioral) model found in psychology (Greenwald, 1968, Rosenberg & Hovland, 1960) is an attitude formation structure no longer in favor according to Olson & Zanna (1993). "Rather than assuming that all attitudes necessarily have affective, cognitive, and behavioral components, however, recent researchers have focused on these domains as correlates of attitudes" (Olson & Zanna, 1993, p.120).

Individuals are thinking, feeling, reacting human beings according to King's (1981) systems framework for nursing. Collins (1975), who developed a patient satisfaction with nursing care instrument, viewed patient satisfaction as the client's response to his care. The approach selected for this dissertation was to focus on the antecedents (perceptions) and consequences (responses) that form the cognitive, affective, and behavioral correlates of the patient satisfaction construct (Figure 1).

Figure 1. Six perceptions and response concepts.



Rather than defining or measuring patient satisfaction directly, it was considered an unmeasurable, intervening variable. This tripartite (cognitive, affective, conative) view of attitude formation and

attitudinal responding was asserted by Eagly & Chaiken (1993). By separately defining and measuring cognitive (thinking), affective (feeling), and behavioral (reacting) perceptions and responses of human beings, a more precise group of six concepts was proposed to replace the construct of patient satisfaction.

Traditionally, health care professionals have not viewed a patient as a consumer. However, an individual may be a consumer of nursing services in addition to other services. It is reasonable to view a patient as a consumer and to label him/her a particular consumer type using the term "patient-consumer" (Dr. David Williams, personal communication, July 24, 1992; Soffer, 1978). Therefore, the title, "patient-consumer perceptions and responses to professional nursing care," reflected a marketing perspective in this study.

This methodological study was designed to develop and test six instruments consistent with an alternative conceptualization of patient satisfaction composed of cognitive, affective, and behavioral perceptions and responses to professional nursing care. The instruments were also designed to measure patient-consumer perceptions of nurses' role performance, thereby identifying role dimensions responsible for favorable or unfavorable patient-consumer perceptions. The assessment of patient-consumer perceptions and responses to nursing care was proposed as an improved method of measuring the patient perspective of nursing beyond the current patient satisfaction surveys used in hospital settings.

Statement of the Problem

The author identified the need for the study of alternate concepts, patient-consumer perceptions and responses to nursing care,

following observations of the important role of patient satisfaction monitoring in several hospitals. Valid measurement of patient satisfaction has become a serious financial issue in hospitals for two reasons. First, unfavorable patient satisfaction ratings may prompt high-cost decisions. Some examples are: renovation programs and trendy amenities to provide a positive environmental image, lowered managerial raises tied to low satisfaction ratings, and sacrificed monies, once available for professional continuing education, for "guest relations" programs.

Second, satisfaction surveys may affect a hospital's standing as a provider of managed care within various health plans. Patient satisfaction data are important to employer purchasers of health care plans who must decide which health plans to keep and drop (Weisman & Kock, 1989). Ultimately, hospitals could lose contracts with health plans based on patient satisfaction data that may not be valid. This is reflective of the future of patient satisfaction measurement which is strongly directed to increasing accountability of health care organizations through the U.S. health care industry's "report card" movement (Packer-Thursman, 1995). Sets of performance measures will include data on satisfaction with care allowing comparison among health care organizations.

While hospitals emphasize the importance of patient satisfaction surveys, the significance, validity, and usefulness of the patient satisfaction concept has been seriously questioned in the literature (Hunt, 1977; Ware, Davies-Avery & Stewart, 1978; Willson & McNamara, 1982; Pascoe & Attkisson, 1983). Researchers of satisfaction with medical care have identified the need to address both systems and

methodological issues underlying the measurement of patient satisfaction. The need for improved methods and increased reliability and validity of patient satisfaction measures is particularly acute (Lebow, 1974; Locker & Dunt, 1978; Ware, Davies-Avery & Stewart, 1978; Willson & McNamara, 1982). Nurse researchers have called for further research to develop sound patient satisfaction measures related to nursing care (Hinshaw & Atwood, 1981; Ventura, Fox, Corley & Mercurio, 1982). It was evident from the literature that the existing measures do not provide an adequate basis for health care decisions. The urgent need for sound satisfaction measures related to nursing care is discussed below.

The Need for Knowledge of Patient-Consumer Perceptions and Responses
Need In the Discipline

"Human response to health and illness is central to nursing science" (Mitchell, Gallucci & Fought, 1991. p. 154). Henderson (1985) stated "the essence of nursing involves holistic health and care adjusted to the clients' perception of their needs" (p.6). Mitchell, Gallucci & Fought suggested that specific human responses can be seen as measurable phenomena. The range of responses of individual humans needed to be better explained and understood. The study of consumer perceptions of nurses' role performance and responses to nursing services addresses the individual's human response while in the situational transition of hospitalization guided by a nursing theoretical framework.

In a holistic context, patient perceptions of nurses' professional roles and responses to nursing services should be measurable from more than a cognitive perspective alone. King (1981) viewed human beings as reacting beings with not only the ability "to think," but also "to

feel," and "to choose between alternative courses of action" (p.19). Accordingly, this dissertation focuses on cognitive, affective, and behavioral dimensions of human perceptions and responses.

Nurses' professional roles may influence client perceptions based on the theoretical perspective of King's (1981) systems framework. Patients' responses to nurses and nurses' responses to patients in terms of patient-nurse interactions are central to King's goal of nursing which is "to help individuals maintain their health so they can function in their roles" (p.3). Though patients' and nurses' perceptions of each other has been widely researched, empirical evidence of patients' perceptions and responses to nurses' professional roles of teacher, advocate, friend, and skilled caregiver in a patient satisfaction context is limited. In future studies, information gained from measurement of patient-consumer perceptions of nurses' professional roles and responses to nursing services could lead to increased nursing knowledge of human perceptions and responses.

Need In the Profession

The cost of nursing care and the complex health care cost containment issues make it incumbent upon nurses to understand the effects of variations in health care practices on cost and patient outcomes. Patient outcomes research provides information pertinent to health care policy regarding provision of high-quality, cost-effective, and consumer-oriented care. Patient satisfaction was identified as the most common patient outcome measure used by researchers of quality from 1983 through 1989 (Ingersoll, Hoffart, & Schultz, 1990).

The importance of patient outcomes research to the care of the public was recognized by the national initiative for medical

effectiveness/patient outcomes research in the creation of the federal department, the Agency for Health Care Policy and Research (AHCPR). The Omnibus Budget Reconciliation Act of 1989 (P.L. 101-239) established the AHCPR to study and enhance the effectiveness, appropriateness, and quality of care (Agency for Health Care Policy and Research, 1990). Since 1989, AHCPR has made a major investment and major advances in patient outcomes research.

The importance of patient outcomes research has escalated with the emergence of consumer choice as a principle in health care reform. Consumers need to be able to make informed decisions about their health care based on cost and quality outcomes. One source of outcome information for consumers is patient satisfaction findings. Improved data from patient satisfaction surveys are critical for informed health consumer decision making.

The nursing profession has recognized the importance of outcome measurement in evaluating care from the time of Florence Nightingale who gathered mortality statistics during the Crimean War. A century later, Flaskerud stated, "Since the mid-1970's, nurse researchers and theorists have chosen to adopt and focus on patient outcomes as the most direct and useful measure of the effectiveness of nursing action" (1986, p. 251). However, the involvement of the nursing profession in development of health care outcome indicators has lagged far behind medicine and threatens exclusion from a national database despite pleas from nursing leaders for almost two decades (Block, 1975; Lang & Clinton, 1984; Lang & Marek, 1990; Ozbolt, 1991). Medical effectiveness indicators have not addressed those outcomes that nursing is closely identified with, i.e., self-care and coping effectiveness, quality of life, functional status,

and patient satisfaction. "Without the inclusion of nursing indicators, the validity of attempts to measure national health care quality is compromised" (Marek, 1989, p.6). A long range goal for the profession of nursing is to strengthen the visibility of nursing in patient outcome research.

Recently, there are more nurse researchers promoting patient outcomes research (Heater, Becker, & Olson, 1988; Kolcaba, 1992). Their work shows that "outcome focused research has become a priority in nursing" (Ingersoll, Hoffart, & Schultz, 1990, p.231). Jennings (1991) described nursing-sensitive patient outcomes as patient driven, sensitive to the effects of nursing care and relevant to the integrity of the health care system. Patient satisfaction is one type of outcome indicator used to measure the quality of nursing care (Marek, 1989). Johnson, Bellinger, Maas, & Kelly (1992) selected "patient satisfaction with nursing care" as the first nursing-sensitive patient outcome to be piloted in a nursing-sensitive patient outcomes classification study.

In addition to patient satisfaction, *patient intentions* to reuse or recommend nursing services is recognized as an outcome of nursing and hospital care (Anderson, 1982; Lang & Marek, 1992; Woodside, Frey & Daly, 1989). Intentions are important as intermediate outcomes or mediators of attitudes and behavior. Intentions were found to be the immediate predictors of behavior (compliance with the medical regimen) for the prescriptions of diet, smoking, activity, and stress reduction by Miller and associates (1985, 1988, 1989, 1992). Patient intentions to act will be considered, for purposes of this research, a behavioral response of consumers. Behavioral response is one of the three response correlates of the attitude of patient satisfaction addressed in this

dissertation.

Measurement is the next step in the development of nursing-sensitive patient outcomes. At the Patient Outcomes Research Conference sponsored by the National Center for Nursing Research in 1991, Hinshaw stated, "The sensitive, valid, and reliable measurement of patient outcomes is a critical area for study. New measures need to be developed - operative indicators of nursing-sensitive outcomes that reflect strong psychometric characteristics such as sensitivity, validity and reliability" (Hinshaw & Atwood, 1992, p.10).

In summary, patient outcomes research is important to consumers and to the nursing profession. Patient outcomes research in this study includes patient-consumer outcomes which specifically refer to outcomes that emphasize the patient's perspective and consider patient preferences. The nursing profession's challenge is to determine its contribution to patient outcomes. The development of instruments to measure consumer perceptions and responses to nurses will assist in the assessment of the effectiveness of professional nursing care. In the long term, this effort may help define nursing's contribution to the outcome of patient satisfaction with health care.

Need In Nursing Management

Assessment of patient satisfaction has long been a concern of hospital managers, including nurse managers. Now satisfaction (patient, nursing staff, and physician) is one of the eighteen proposed elements in the Nursing Management Minimum Data Set (NMMDS). The NMMDS is a set of minimum elements the nurse administrator needs to manage nursing services (Gardner Huber, Delaney, Crossley, Mehmert, & Ellerbe, 1992). Assessing patient satisfaction has become a major task for nurse

managers due to the increasing emphasis on patient and family involvement and quality improvement by the Joint Commission on Accreditation of Healthcare Organizations (1994).

Nursing managers lack data-based patient feedback as a management tool. A hospital patient satisfaction survey appears to provide a large amount of information for nursing managers to use to improve quality and market nursing services. However, the aspects of nursing covered in hospital surveys focus mainly on service or technical quality, dealing with issues such as noise, promptness in answering call lights, etc. The author has observed that hospital survey data are generally too skewed and undifferentiated to provide useful information on which to base valid managerial decision making. Furthermore, the sample size for each nursing unit is frequently too small to draw conclusions.

Nursing managers could reinforce and promote professional nursing behaviors among nursing staff if they had information from a measure of professional role performance. If the perceptions and responses of patients were more reliably and validly measured, managers could do a better job of identifying satisfied and dissatisfied patients and which nurse behaviors they rated positively or negatively. As first line managers and others weigh the cost of Registered Nurse (RN) hours as opposed to non RN hours per patient day against other factors, favorable consumer responses may be the key deciding factor in retaining budgeted RN positions.

Ongoing monitoring of patients' ratings of a hospital's nursing services provides managers with improved data. This information may be used to identify nursing behaviors in need of modification through organizational or managerial interventions. Also, accurate patient

satisfaction information is useful for marketing purposes. An instrument identifying the percent of patient-consumers who would reuse and/or recommend the hospital's nursing care could be a useful marketing tool for nursing managers.

There has been little change in information available to managers since 1978 when Ware, Davies-Avery & Stewart stated:

virtually nothing is known about the validity of patient satisfaction ratings in distinguishing art of care from technical aspects of the quality of care. Yet, if valid patient satisfaction measures could be constructed for that purpose, they could provide one cost-effective solution to the urgent but unsolved methods problems in quality of care assessment. (p. 12)

Patient-consumer information as measured by the study instruments may have greater utility for quality evaluation and marketing decision-making for nursing managers than current hospital survey approaches.

Need In Clinical Practice

Nurse clinicians also need data-based information about patient-consumers' perceptions, feelings, and subsequent behaviors in reaction to their nursing care. For example, Cleary, Keroy, Karapanos & McMullen (1989) found in one satisfaction study that 47% of surgical patients said their pain was worse than expected. This finding suggests that, in order to have satisfied surgical patients, they need to be better prepared for the level of pain to expect or for coping with pain after surgery.

Patients' feelings about nurses' performance during hospitalization may vary based on many influencing factors. Understanding the patient's perceptions and responses to nursing care

and the factors that influence them may be useful. For example, a nurse might better assess the patient by considering prior experiences, sociodemographic variables, and the role of other satisfaction influencing factors.

It is also important for clinicians to know if negative attitudes about hospital nursing care are associated with lessened behavioral intentions for reuse of nursing services. Weak intentions to recommend or reuse nursing services may be related to poor compliance with nurses' teaching or lack of follow-up with nurse-referred services. If this attitude-intentions-behavior linkage is found in future satisfaction with nursing studies, clinicians can identify the most effective assessment and intervention strategies for producing satisfied and healthy patient-consumers.

The patient-consumer perceptions and response instruments that were developed and tested in this research may provide clinicians with needed information about the effects of nursing role-related interventions.

Need in Nursing Education

The nursing profession is an active advocate for the patient-consumer, therefore, recognition of the patient as a particular type of consumer has recently begun in the nursing literature (Black, 1992; Carter & Mowad, 1988; Shamansky, Schilling & Holbrook, 1985). Nurse educators are in a pivotal position to convey useful knowledge about the patient as a consumer to students. However, little information is available in the literature regarding patient-consumers' perceptions and responses to nursing care. Although the general public respects nurses more than any other healthcare provider, according to a 1990 opinion

survey by pollster Peter Hart (American Nurses Association, 1991), little specific information on the public's views about nurses is known.

Educators need information about patient-consumers to keep curricula abreast of health policy initiatives involving patient-consumers. Ongoing feedback from practice settings could be useful to nurse educators. However, information on patient satisfaction from hospital settings generally is not trustworthy due to a lack of valid instruments.

In summary, the discipline of nursing needs knowledge of measurement of patient-consumer perceptions and responses to identify the relationships of these perceptions and responses to professional nurses' behaviors. Knowledge gained in this area will be useful to nurse scientists and ultimately for those engaged in nursing administration, education, and practice.

Purpose

The purpose of this dissertation was to develop and test measures of six patient-consumer concepts, Cognitive Perceptions of Nurses' Role Performance (CPNRP), Affective Perceptions of Nurses' Role Performance (APNRP), Behavioral Perceptions of Nurses' Role Performance (BPNRP), Cognitive Response to Nursing Services (CRNS), Affective Response to Nursing Services (ARNS), and Behavioral Response to Nursing Services (BRNS). Measures of these concepts were developed as an alternative to traditional patient satisfaction instruments in order to serve as management and research tools for nursing. The instruments were developed from the perspective of King's (1971, 1981) systems framework for nursing. Specifically, the purposes of the study were to:

1. derive professional role dimensions of patient-consumer

cognitive perceptions of nurses' role performance in a hospital setting for content purposes in instrument development.

2. derive professional role dimensions of patient-consumer affective perceptions of nurses' role performance in a hospital setting for content purposes in instrument development.

3. derive professional role dimensions of patient-consumer behavioral perceptions of nurses' role performance in a hospital setting for content purposes in instrument development.

4. identify the patient-consumer's cognitive response to professional nursing care in terms of a hospital's nursing services for content purposes in instrument development.

5. identify the patient-consumer's affective response to professional nursing care in terms of a hospital's nursing services for content purposes in instrument development.

6. identify the patient-consumer's behavioral response to professional nursing care in terms of behavioral intentions to reuse or recommend a hospital's nursing services for content purposes in instrument development.

7. establish the reliability and validity of the six instruments.

8. differentiate between patient-consumer perceptions and responses to professional nursing care and satisfaction with nursing care.

9. examine the relationship of patient characteristics (sociodemographic factors, past experiences with nurses) and cognitive, affective and behavioral patient-consumer perceptions and responses.

Significance

Consumer-oriented health care reflects a shift to a more

competitive market for health care services. This psychometric assessment study is significant for society in general and nursing in particular because it addresses the importance of informed consumer choice in the health care system. Consumer choice is visible in hospital settings as "patient satisfaction surveys" found in quality assessment monitoring and marketing studies. Use of a more reliable, valid, and sensitive predictor of service quality than the general patient satisfaction surveys in popular use is indicated because of the cost-laden managerial decisions driven by customer considerations. Since satisfaction with nursing is the major predictor of satisfaction with hospital care (Abramowitz, Cote & Berry 1978), use of a measure of satisfaction with nursing care as either a proxy or a complement for a measure of satisfaction with hospital care appears indicated.

Research on the image of nursing (Kalish & Kalish, 1987) suggests that the public's expectations of nurses and nursing care often fail to reflect the goal of nursing as a profession described by King (1981). King stated that "the goal of nursing is to help individuals maintain their health so they can function in their roles" (p.3-4). Current measures of patients' satisfaction with nursing care are limited since they are based on stereotypic public expectations of nurses and these are likely to be quite different from what the profession would like patient-consumers to expect. The study instruments are based on professional roles as intended by the profession. They will be useful because they provide measures of the extent to which the patient-consumer responds to nursing care. In addition, asking patient-consumers about their perceptions and responses to professional nursing roles provides a means for learning the extent to which recently hospitalized

patients expect nurses to function as professionals. This information is needed by the nursing profession to decide where to target efforts in educating the public about nurses and nursing care.

Nursing-sensitive outcomes, influenced by a nursing systems framework, have utility for linking with similarly influenced nursing interventions. King's (1981) framework guided the development of the six patient-consumer perceptions and response instruments that measure nursing-sensitive outcomes. The use of nursing models to guide development of instruments to measure nursing interventions and outcomes may be one way to help close the gap between nursing theory and practice. This dissertation's focus of instrument development and testing was selected to contribute in future studies to supporting or altering King's (1981) systems framework or theory for nursing. A future program of research based on a patient-consumer perspective to examine relationships between expectations, disconfirmation of expectations, and patient-consumer perceptions and responses to nursing care has relevance to human perceptions and responses knowledge in nursing.

Reliable and valid measurement tools must be available if nurses are to evaluate patient perceptions and responses as outcomes of their care. This study's findings suggest predictions about those nursing interventions most closely associated with specific outcomes. For example, the patient's intentions to reuse or recommend nursing services is a broad nursing-sensitive outcome of nursing interventions. The behavioral response of the patient's intentions to act may be linked with the patient's perceptions and responses (cognitive and affective) to nursing care received.

There is little understanding of patient perceptions and responses

and the professional nursing roles that influence them following a hospitalization period. Patients are left with feelings about the nurses' performance during an episode of care. These feelings may be based on many factors that influence patient perceptions of nurses' role performance. Findings of this research will reveal if patient-consumer perceptions and responses reflect differences in professional nurses' role performance or in the characteristics of subjects studied. If consistent relationships between patient-consumer characteristics and patient-consumer perceptions and responses are found, then nursing roles might be modified accordingly. For example, nursing roles might be modified for older, male, or patients with selected diagnoses. If, however, relationships between patient characteristics and responses are nonexistent or inconsistent and poor measurement is not the reason, then other reasons for group differences besides patient characteristics might be sought (Fox & Storms, 1981) such as role expectations.

Finally, use of these instruments for nurse development and quality assessment tools by nursing managers is important to the nation's health care. The profession of nursing is predicted to have a demonstrated impact on society's health in the total health-care delivery system (American Nurses Association, 1995a). Consumer perceptions of and demands for quality in health services will play a major role in organizational survival of hospitals in the future. Registered nurses will be a key component of hospital survival in a reformed health care environment as consumers judge hospitals on the basis of quality as well as cost (Prescott, 1993). Beginning in 1994, JCAHO required all institutions to have a mechanism in place to measure patient satisfaction. Thus, the ability to define, measure, and

influence patient-consumer perceptions and responses to professional nursing care as an observable facet of the quality of care is critical for hospitals.

Conceptual Structure

The conceptual model concepts and propositions used to guide the concepts of the research are King's (1981) systems framework and Eagly and Chaiken's attitude model (1993), which is conceptually consistent with King's framework.

King's Systems Framework

The systems framework for this dissertation was based on Imogene King's (1971, 1981) systems framework for nursing. King (1981) based her framework on the overall assumption: "The focus of nursing is human beings interacting with their environment leading to a state of health for individuals, which is an ability to function in social roles" (p. 143).

King's systems framework (1981) is composed of three dynamic interacting systems: personal systems, interpersonal systems, and social systems. "The goal of this system is to help individuals, groups, and society maintain health as they interact in their environment. Each of the three systems are elements in the total environment" (King, 1992, p.20). Individuals, or personal systems, are described as social, sentient, rational, reacting, perceiving, controlling, purposeful, action-oriented, time-oriented, sexual, spiritual beings (King, 1981, 1990). The interpersonal system consists of "two, three, or more individuals interacting in a given situation" (King, 1976, p.54). King (1981) defined a social system as "an organized boundary system of social roles, behaviors, and practices developed to maintain values and

the mechanisms to regulate the practices and rules" (p.115). She stated the goal of nursing is to "help individuals maintain their health so they can function in their roles" (pp. 3-4). King's open systems framework for nursing "along with identified concepts, provide(s) a way of organizing one's knowledge, skills, and values" (1989, p. 152). Six of King's concepts or terms, *individuals, perception, role, decision making, nursing situation, and past experiences* influenced the development of the instruments in this study.

Individuals

"Individuals are called personal systems" (King, 1981, p.10). "Persons exhibit some common characteristics, such as the ability to perceive, to think, to feel, to choose between alternative courses of action, to set goals, to select the means to achieve goals, and to make decisions" (p.19). King, therefore, saw individuals as thinking, feeling, reacting human beings. She stated, "a major thesis of the framework is that each human being perceives the world as a total (italics added) person in making transactions with individuals and things in the environment" (p.141).

Perception

Perception is a basic concept in King's systems framework. It is the "process of organizing, interpreting, and transforming information from sense data and memory" (King, 1981, p.24). Emotions may distort or close the person's perceptual field. Perception is intentionally subjective, "perception is each human being's representation of reality" (p.20). King asserted that perception is "central in human experience" (p. 88) and "a major concept because it influences behavior" (p.47). She stated "the patient's perception of the role of the nurse or the

physician and his expectations of them in the performance of the role often influences his behavior" (1971, pp 95-96). King stated she believes cognition, feelings, and intentions are encompassed within the concept of perception (personal communication, Jan.4, 1994). This is consistent with her view of personal systems as thinking, feeling, and acting individuals (1971, 1981).

Role

Role is a "set of behaviors expected when occupying a position in a social system" (King, 1981, p.93). Roles are characterized as dynamic, as involving interpersonal relationships, and as a way to give and receive information. In general, the concept of role is a global one. King differentiated role expectations and role performance as two components of the concept of role. She stated "role expectations and role performance of nurses and clients influence transactions" (p.147). Role behaviors expected of nurses by patients are "those of care giver, teacher, friend, and advocate" (p. 94). "A patient may view the nurse as the one who cares, who gives information that is helpful, who is a friend" (p.92).

King has used patient terms in identifying four roles of nurses: "caregiver," "teacher," "friend," and "advocate" (1981, p .94). Three of the four roles are similar to dimensions of patient satisfaction found in existing nursing patient satisfaction tools of Hinshaw & Atwood (1982), La Monica, Oberst, Madea & Wolf (1986), and Risser, (1975) (See Table 1):

Table 1

King's Roles and Nursing Literature Instrument Dimensions

King's Roles	Nursing Literature Instrument Dimensions
Caregiver	Technical-professional
Teacher	Educational relationship
Friend	Trusting relationship; Intrapersonal
Advocate	-----

No measures of patient satisfaction with nursing were found that separately address the fourth role named by King, the "advocate" role. Advocate role of the nurse. The nurse advocate role evidenced by responsibilities of commitment to the client's care and safety and protection of the client from incompetent, unethical or illegal practices is supported by ANA's Code for Nurses (1976). King made some statements that reflect the advocate role. She stated "allied health professionals have expectations of nurses, in such roles as information gatherer, coordinator of services for the patient, (and) provider of functions when allied professionals are not available" (1981, p.94). Also, "nurses play strategic roles in the process of human growth and development and in helping individuals cope with disturbances in their health" (p.13). King did not expand on the advocate role but her emphasis on mutual goal-setting to achieve client goals is related to the advocate role (personal communication, Jan. 4, 1994).

Whether the ready-for-discharge hospital patient of today expects a nurse to function in an advocate role is unknown. Generally, the advocate role is discussed within the nursing profession's context. "Patient advocacy deals with the rendering of quality care as determined

by the caregiver based on professional standards" (Carter & Mowad, 1988, p.76). Part of the new holistic paradigm in nursing includes the nurse supporting healing and growth through "caring, touching, teaching, guiding, and *empowering* (italics added) within relationships" (Johnson, 19909, p.132). Keen-Payne (1988) refers to the nurse in a patient advocate role as a "surrogate consumer" responsible for educating patients to be consumers in the health care system. This includes addressing prevention and self-care of minor problems, ways to evaluate providers, and to systematically seek information for informed decision making about health or health care.

The evolving discharge planner/case manager role within hospital nursing can be viewed as congruent with King's advocate role. "The fundamental focus of case management is to integrate, coordinate, and *advocate* (italics added) for individuals, families, and groups requiring extensive services" (Bower, 1992, p. 3). As more patients experience case management by professional nurses, the awareness of the advocate role will increase among patient-consumers. In summary, for this study the advocate role is formulated as behaviors of role modeling, relating, coordinating, and speaking for the client according to the nursing profession's standards. For this study, the advocate role is formulated as behaviors in the perceptions instruments that reflect King's (1981) perspective on mutual goal setting and goal attainment and also facilitation and protection behaviors.

Decision Making

Decision making is a personal process that involves subjective behaviors; it is individual and situational (King, 1981). "Decisions are goal-directed" (p.132). The "goal may be implicit in behavior that is

observed or verbalized" (p. 151). Behavior is considered to be quite different from intentions. Decision making is analogous to behavioral intentions. The concept of behavioral intentions is considered behavior because (a) it is behavior that is verbalized and (b) it is used in the sense of conation, "indicating how a person does, would or plans to act with respect to the object" (Ajzen, 1989, p. 244). The study concept of Behavioral Response is partially defined as one's intention to reuse or recommend nursing services. This implies the client's willingness to carry out positive health-related behaviors in the future. Evidence of intentions to use services associated with satisfaction is found in Pascoe's (1983) review of the literature on patient satisfaction in primary health care. "Findings consistently indicate that dissatisfaction is associated with intention to switch services and self-report of having terminated services" (p.198).

In this instrument development study, the definition of behavioral intentions also includes intentions to achieve health-related goals. Miller, Johnson, Garrett, Wikoff, & McMahon (1982) use behavioral intentions as client outcomes at the time of discharge to predict future behavior in maintaining health goals.

Nursing Situations

King (1981) described characteristics, functions, and behaviors of nurses in all types of nursing situations. She defined a nursing situation as "the immediate environment, spatial and temporal reality, in which nurse and client establish a relationship to cope with health states and adjust to changes in activities of daily living if the situation demands it" (p.2). She included client goals and goal setting when discussing a nursing situation, "there is some kind of goal setting

in each nursing situation" (p.3). Essential variables in nursing situations include: geographical place, perceptions, communications, expectations, mutual goals of nurse and patient, and the nurse and patient as a system of interdependent roles. Nursing situations are primarily located within health care systems, such as the hospital.

Past Experiences

"Each (person) brings *past experiences* (italics added), present needs, expectations, and goals that influence perceptions in the interactions" (King, 1981, p.84). Past experiences and health system environmental factors, including temporal-spatial relationships, influence perceptions. King states "these and other factors in the environment of health care systems may influence perceptions of the care giver and perceptions of the recipients of care" (p.26).

These six concepts/terms from King (1981) provided the basis for the development of the concepts to be measured. The concept of *role performance* was derived from King's concept of *role* within King's conceptualization of *perception*. The concept of behavioral response based on *decision-making* was expanded to add cognitive and affective concepts consistent with King's view of individuals as thinking, feeling, and acting human beings (1971, 1981). King confirmed the identification of concepts that are linked to components of study concept definitions and the relationship of the study concepts with hers (personal communication, April 16, 1994) as follows in Table 2:

Table 2

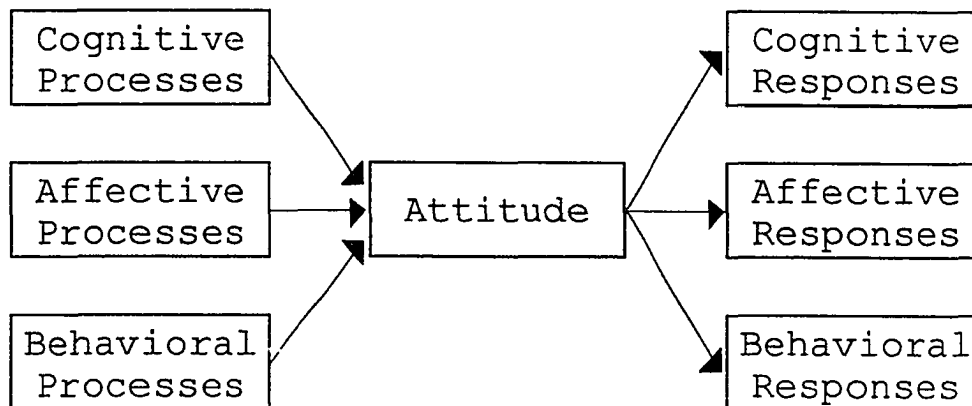
Linkages between King's (1981) Concepts and Study Concepts

King's Concepts	Components of the Study Concepts
Individuals	Thinking, feeling, acting patient-consumers
Perception	Cognitive, affective, and behavioral perceptions
Role	Nurses' role performance perceived by patient-consumers
Decision making	Behavioral response of intentions to act
Nursing situation	Nursing care in the hospital setting
Past experiences	Patient characteristic of past experiences with nurses

Eagly & Chaiken (1993) Attitude Model

Recently, an analysis of the nature of attitudes was presented by social psychologists Eagly & Chaiken (1993) based on an extensive review of the literature. They proposed that an attitude, as an inferred state, is formed as "a product of cognitive, affective, and behavioral processes" (p.15). Therefore, stimuli that denote the attitude object are observable antecedents of an unobservable attitude. Antecedents include cognitive, affective, and behavioral informational processes. Responses that express evaluation and therefore reveal people's attitudes are observable consequences of a attitude. Evaluative responses can be divided into three classes - cognitive, affect, and behavior (Figure 2).

Figure 2. Eagly & Chaiken (1993) Attitude Model.



Note. From The Psychology of Attitudes (p. 10, 15), by A.H. Eagly and S. Chaiken, 1993, Harcourt Brace Jovanovich, Inc. Copyright 1993 by Harcourt Brace Jovanovich, Inc. Adapted with permission.

Together these correlates of processes (perceptions) and responses form a limited tripartite idea, namely, that "attitudes can be formed primarily or exclusively on the basis of any one of the three types of processes" (p.16).

Cognitive Perceptions

Theoretical perspectives and empirical findings in the attitude research area support the model of correlates of attitude approach in this study. The assumption that attitudes derive from a process of cognitive learning is implicit in much of attitude research (Eagly & Chaiken, 1993). For example, as people gain direct or indirect information about the attitude object, they form beliefs according to the expectancy-value theory (Fishbein & Ajzen, 1975).

Affective Perceptions

Affective perceptions as one basis of attitude formation appeared

in the classical conditioning model of attitude change (Eagly & Chaiken, 1993). From this perspective, the latent attitude of patient satisfaction is a product of the pairing of an attitude object (i.e., RN - a conditioned stimulus) with a stimulus (e.g., caring act) that elicits an affective response (unconditioned stimulus). Also, need fulfillment can be a stimulus for affective perceptions (Eagly & Chaiken, 1993).

Behavioral Perceptions

Behavioral perceptions derive from research by Bem (1967a, 1967b, 1972) who determined that attitudes are determined primarily by previous behaviors. Bem proposed a theory of self-perception which explains that people tend to infer attitudes that are consistent with their prior behavior. For example, if a patient recalls smiling at a nurse, he believes he was favorably disposed toward some aspects of that nurse's care.

Cognitive Response

"Evaluative responses of the cognitive type are thoughts or ideas about the attitude object" (Eagly & Chaiken, 1993, p.11). They may be overt (verbal statements of beliefs) or covert (inferred or perceived). The attributes associated with the attitude object (e.g., an RN) "express positive or negative evaluation and therefore can be located . . . on an evaluative continuum" (p.11).

Affective Responses

"Evaluative responses of the affective type consist of feelings, needs, emotions, and sympathetic nervous system activity that people experience in relation to attitude objects" (Eagly & Chaiken, 1993, p. 11). Like cognitive responses, they may range from extremely positive to

extremely negative. Eagly & Chaiken take the position with others that evaluation and affect are conceptually distinct. Evaluation is treated as an intervening state between stimuli and responses elicited by stimuli. Affect is "one type of responding by which people express their evaluations" (p.12).

Behavioral Responses

"Evaluative responses of the behavioral (or conative) type consist of the overt actions that people exhibit in relation to the attitude object" (p.12). Also, behavioral responses can be regarded as including *intentions* to act.

Eagly & Chaiken's (1993) viewpoint of attitude is synergistic. "The different classes of evaluative responses impinge on one another and exist in an interactive, cooperative relation" (p.666). They state, "experience in any one of these domains - cognitive, affective, or behavioral - tends to elicit responses in the other domains" (p.667). Eagly & Chaiken's extensive review showed that discriminant validity of the three classes has been demonstrated "only sometimes." Therefore, the set of perceptions and responses concepts combined as one instrument with the three classes represented may measure patient-consumer satisfaction with nursing care adequately rather than needing the six distinct cognitive, affective, and behavioral instruments.

Patient Characteristics

Patient satisfaction is a multidimensional construct with many influencing factors. Patient-consumer characteristics relevant to cognitive, affective, and behavioral perceptions and responses will be examined in relation to perceptions of nurses' role performance and responses to nursing services. Specifically, information on patients'

past experiences with registered nurses and sociodemographic factors (age, gender, race, marital status, education, type of health insurance, income) will be collected. The contribution of these variables to each of the perceptions and response measures will be identified.

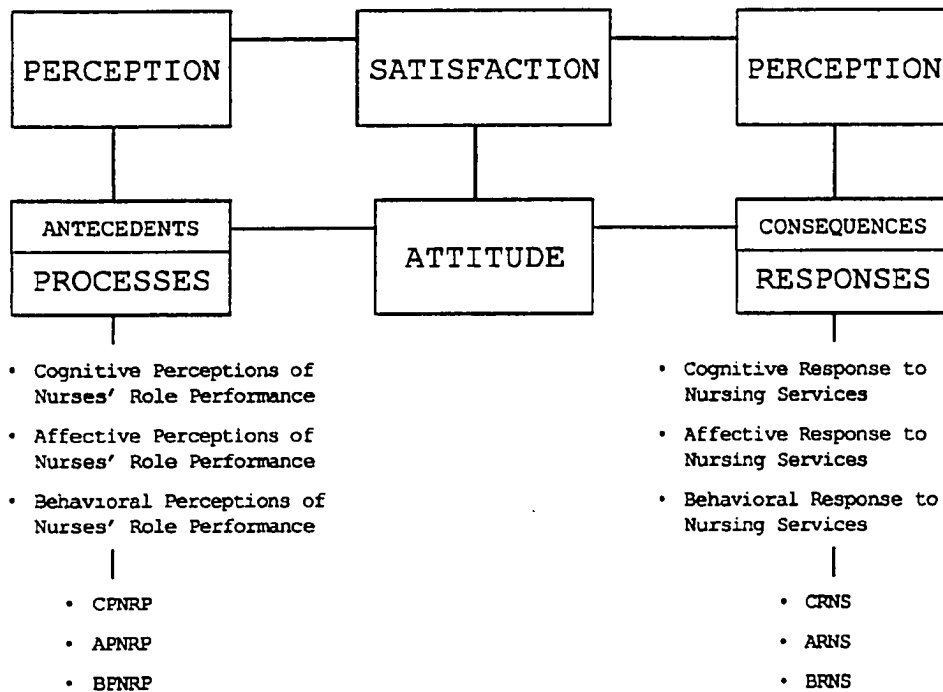
Theoretical Structure

The theoretical approach of this research was theory derivation (Walker & Avant, 1983). Since patient satisfaction is accepted as an attitude (Ware, Snyder, Wright & Davis, 1983), the tripartite correlates of the Eagly & Chaiken (1993) attitude model were transposed from the field of social psychology to patient satisfaction in the field of nursing and reformulated within King's (1981) systems framework as cognitive, affective, and behavioral patient-consumer perceptions and response concepts.

Concepts of the Conceptual Model

King's concepts. King's conceptual model for nursing provided the overall framework for the development of a midrange theory of patient satisfaction (See figure 3).

Figure 3. Patient-Consumer perceptions and response measurement conceptualization.



The concepts of perception and satisfaction from her work provided the organizing concepts for the theory. According to King, satisfaction is a subset of perception. Although King (1990) stated that *satisfaction*, an undefined concept in King's 1981 book referring to patients or nurses, was no longer in her theory of goal attainment, she recently stated that she views "*satisfaction as perception*" (personal communication, Jan. 4, 1994). King further identified that "*perception is a comprehensive concept and encompasses cognitive, affective, and behavioral aspects*" (personal communication, Jan. 4, 1994). King stated she believes "*perceptions and attitudes are different,*" and that "*an attitude is a result of experiences*" (personal communication, Jan. 4, 1994). King

defined perception as "a process of organizing, interpreting, and transforming information from sense data and memory" (1981, p.24).

Eagly & Chaikens' concepts. Eagly & Chaiken (1993) defined an attitude as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (1993, p.1) The antecedents to attitude are processes based on information, experience, or stimuli that denote an attitude object (Eagly & Chaiken). The consequences of attitudes are evaluative responses according to Eagly & Chaiken. Eagly and Chaiken's concepts of attitude, processes, and responses are consistent with King's concepts of satisfaction and perception. King identified the nature of satisfaction to be that of an attitude (personal communication, Jan. 4, 1994) This was supported by a thorough review of the literature. Eagly & Chaikens' concept of antecedents or processes as "a process of organizing, ..and transforming information" (1981, p.24) is consistent with King's definition of perception. Eagly & Chaikens' concept of consequences or evaluative responses is consistent with the part of King's definition of perception that is "...interpreting...information from sense data and memory" (p.24). Eagly and Chaiken (1993) further divided processes and responses into cognitive, affective, and behavioral classes. This is consistent with King's view of individuals as thinking, feeling, reacting human beings. Eagly & Chaiken's attitude model directly links with King's systems framework concept of perception. The new, mid-range concepts of cognitive, affective, and behavioral perceptions and responses were derived from King's systems framework concept of perception. The Eagly and Chaiken attitude model provided additional support for the six concepts which added further specificity to the

concepts of King's model. The midrange theoretical structure was developed and used to guide the content for instrument development which was the focus of this study. With the use of the tripartite view of attitudinal responding and attitude formation (Eagly & Chaiken, 1993), perceptions and responses were defined and measured independently and yet together comprise, at a higher level of abstraction, the single construct of attitude. It is possible that adding emotional and behavioral perceptions and responses of patient-consumers may provide more insight than cognitive perceptions and responses alone in deciding attitudes toward nurses and nursing services. Furthermore, the use of diverse human perceptions and responses, that is, cognitive, affective and behavioral, is more holistic and fitting with the nursing profession's social contract with the public (American Nurses Association, 1995b) than cognitive consumer perceptions and responses alone.

Assumptions

Six assumptions were made for this midrange theory which guided the study.

1. Patient-consumers evaluate nurses and nursing services based not only on their rational beliefs but also on affective and behavioral perceptions and responses.
2. Role performance of nurses is the actual object of patient-consumer perceptions and responses.
3. Patient-consumers can separate nurses' role performance and environmental influences.
4. Patient-consumers use an averaging process in evaluating nurses' role performance.

5. Performance of roles by Registered Nurses is "professional nursing care" as defined by state nurse practice acts.

6. Patient-consumers respond to professional role behaviors of professional nurses.

Assumption One

A central assumption of this study was that patients evaluate nurses and nursing services based not simply on rational calculations of perceived performance but also on the basis of their feelings and intentions. Stereotypes of nurses may also influence the public's ideas about nurses as an occupational group (Kalisch & Kalisch, 1987) and consequently, patients' feelings.

Patients' cognitive perceptions, that is, judgments based on cognition, have been the primary focus of patient satisfaction instruments. Affective perceptions and responses of patients to providers have been largely ignored in patient satisfaction instrument development. Bagozzi (1983) found that affective consumer responses depend not merely on perception but also on prior learning about the attitude object and a high degree of involvement with a product or service. Therefore, affective patient-consumer perceptions and responses to nursing may be more important than previously realized since they are associated with patients' prior knowledge of nurses and a high degree of nurse-patient involvement in the emotion-laden context of hospitalization.

Assumption Two

The second assumption was that *role performance of nurses* is the actual object of patient-consumer responses. In other words, evaluation of nurses' role behavior is offered as an appropriate way to view the

attitude object.

This assumption was made because role performance was viewed by the author as the most meaningful way to categorize professional nursing behaviors. Patient have expectations of nurses' roles, how nurses are supposed to act derived from direct experience and from television, books, and movies. Furthermore, there is a long tradition of describing nursing by means of the roles assumed by nurse caregivers in clinical practice (Skipper & Leonard, 1965). King stated, "an explanation of types of role behaviors expected of nurses will help nurses and others see the complexity of their professional role" (1981, p .94).

Finally, nurses' role performance as the object of patient-consumer evaluation was selected because patient-consumer evaluations are based on interactions with more than one nurse. King (1981) viewed role performance as a series of dyadic patient-nurse interactions. Patient interaction with only one nurse or even with a consistent group of two or three nurses does not typically occur during a hospitalization episode. As long as "nurses" refers to all nurses who interacted with the patient-consumer, role performance can be consistently evaluated.

Assumption Three

The other assumption addresses the question of the stimuli that denote the attitude object of nurses' roles. This assumption states that, the client's feelings about nurses can be separated from his/her feelings about the hospital's physical environment." It is recognized that patients do pay attention to the physical environment. Obstetrical patients provide the most striking evidence of this. The emphasis on homelike birth settings within the hospital setting has existed since the seventies. Differences in satisfaction between alternative and

traditional birth settings have been consistently displayed (Cohen, 1981; Littlefield & Adams, 1987). Other researchers found that satisfaction with care providers is distinct from satisfaction with the physical environment among maternity patients (Chan & Juzwishin, 1984; Seguin, Therrien, Champagne, & Larouche, 1984). A paradox in the philosophy of Family-Centered Maternity Care (Killeen, 1987) is the belief of nurses that a beautiful birth experience can occur in a sterile delivery room and a dehumanizing experience can occur in a fanciful, well-decorated birth room. This paradox is explained by assuming the ability of the clients to distinguish feelings about the environment from feelings about the care givers. In 1954 Karl Meninger stated "a hospital building is only a shell in which the meaning of a hospital can be realized. So what is the meaning of this hospital? The meaning of this hospital is embodied in the fabric of the personalities, the human beings, who work together in it" (cited in Curtin, 1987). Though the physical environment does contribute in important ways to patient satisfaction, the third assumption is that patient-consumers, when questioned, can separate nurses' role performance from environmental influences.

Assumption Four

There are several ways to answer the question, "How does the client integrate a series of interactions with nurses into a judgment about nurses in general, in order to answer a specific item in a questionnaire?" The first possibility might be a lowest or highest common denominator model, that is, selection of the worst or best nurse role performance as representative of all nurses encountered. A second possibility may be that positive and negative interactions are each

summed and the one with a larger number prevails. Finally, the patient-consumer may use an averaging process in evaluating nurses' role performance.

In earlier research on formation of global impressions about stimulus persons, Mullen (1984) reports that the averaging model was superior to the adding model, "applied to the consumer behavior context, the averaging model suggests that the consumer will average the values of multiple pieces of information to derive a global product impression (p. 66). This model is consistent with the author's understanding from those that review returned patient satisfaction questionnaires. Repeated reviews of patients' comments show that very positive or negative encounters with one nurse are set aside and every effort is made to give a fair, "average" reply (personal communication, G. Miller, August, 1993).

Assumption Five

The fifth assumption is that enactment of professional nursing roles by RNs is "professional nursing care." King presented an image of a nurse as a professional (1971, 1981). Furthermore, she confirmed that she means "Registered Nurses" when she uses the term "nurses" because "that is what the licensure states is a nurse" (personal communication, Dec., 13, 1993). Linking "nurses' role performance" to RNs is consistent with RN functions in the nursing profession's definition of nursing as the "diagnosis and treatment of human responses to actual or potential health problems" (American Nurses Association, 1980).

Legal regulation of the practice of nursing in the state of Michigan is based on the definition of nursing in the Michigan Public Health Code, 1878 PA 368. This state statute recognizes registered

nurses as fully licensed health professionals (Michigan Board of Nursing & Michigan Nurses Association, 1992). Licensed Practical Nurses (LPNs) or unlicensed (nursing assistant role) personnel are non-professional staff who are delegated responsibility for nursing activities by RNs. By legal definition, RN care is professional nursing care. In all delivery of nursing care models, accountability and responsibility for patient care rests with the RN. However, the quality of nursing care may vary with the staff mix (the proportion of RN, LPN, Nurse Assistant or others). If care is planned, carried out, and evaluated by RNs, including care that is delegated to others, the care is assumed to be "professional nursing care."

Assumption Six

A sixth assumption is that questionnaire items referring to activities enacted in *professional* roles of nurses, i.e., by Registered Nurses (RNs), elicit responses by patient-consumers. This assumption is important because if patient-consumers do not recognize the professional role items then public stereotyping of nurses may be more entrenched than the profession realizes. Accordingly, Solomon, Surprenant, Czepiel & Gutman (1985) found that in service encounters, types of dyadic interaction are likely to be evaluation free if roles are enacted according to expectations (1985). On the other hand, "a large portion of the meaning that people assign to entities in their world is evaluative in nature" (Eagly & Chaiken, 1993, p. 4). The professional roles of nurses that patient-consumers were assumed to respond to in the proposed instruments are described in the ANA Standards of Clinical Practice (American Nurses Association, 1991).

Definitions

Theoretical (Th) and Operational (Op) Definitions

The patient-consumer perceptions and response concepts, definitions, and examples are:

1. (Th): Cognitive perceptions of nurses' role performance: patient-consumer evaluations of nurses' role performance based on knowledge type information from direct personal experience during a specific hospitalization (i.e., a patient's factual report of his/her experience with professional nursing care).

(Op): The patient-consumer's total score on the Cognitive Perceptions of Nurses' Role Performance (CPNRP) instrument.

2. (Th): Affective perceptions of nurses' role performance: patient-consumer evaluations of nurses' role performance based on feelings/emotions type information and fulfilled and unfulfilled need experiences from direct personal experience during a specific hospitalization (i.e., a patient's feelings about his/her experience with professional nursing care).

(Op): The patient-consumer's total score on the Affective Perceptions of Nurses' Role Performance (APNRP) instrument.

3. (Th) Behavioral perceptions of nurses role performance: patient-consumer evaluations of nurses' role performance based on own behavior (self-perception) in terms of interactions with nurses during a specific hospitalization (i.e., a patient's perception of his/her behavior in relation to his/her experience with professional nursing care).

(Op): The patient-consumer's total score on the Behavioral Perceptions of Nurses' Role Performance (BPNRP) instrument.

4. (Th) Cognitive response to nursing services: patient-consumer

summary evaluation based on his/her judgment about the totality of experiences with the services provided by nurses during a specific hospitalization.

(Op): The patient-consumer's total score on the Cognitive Response to Nursing Services (CRNS) instrument.

5. (Th) Affective response to nursing services: patient-consumer summary evaluation based on liking or disliking the services provided by nurses during a specific hospitalization.

(Op): The patient-consumer's total score on the Affective Response to Nursing Services (APNS) instrument.

6. (Th) Behavioral response to nursing services: patient-consumer summary evaluation based on intentions to live a healthy lifestyle or to reuse or recommend a hospital because of the services provided by nurses during a specific hospitalization.

(Op): The patient-consumer's total score on the Behavioral Response to Nursing Services (BRNS) instrument.

Research Questions

1. Do the instruments, (Cognitive Perceptions of Nurses' Role Performance (CPNRP); Affective Perceptions of Nurses' Role Performance (ARNRP); Behavioral Perceptions of Nurses' Role Performance (BPNRP); Cognitive Response to Nursing Services (CRNS); Affective Response to Nursing Services (ARNS); and Behavioral Response to Nursing Services (BRNS), demonstrate acceptable levels of internal consistency and test-retest reliability?

2. Are face and content validity of the instruments supported?

3. Is construct validity supported by convergence between the CPNRP and the Patient Satisfaction Instrument (PSI) (Hinshaw & Atwood,

1982) and divergence between both the APNRP and BPNRP and the PSI?

4. What is the nature of the factors which comprise the CPNRP, APNRP, and BPNRP instruments?

5. Are patient characteristics related to the levels of cognitive affective, and behavioral perceptions of nurses' role performance and cognitive, affective, and behavioral responses to nursing services?

CHAPTER TWO

LITERATURE REVIEW

The need for the study of the phenomena, patient-consumer perceptions and responses to nursing care, is based on two broad areas of weakness in patient satisfaction research: (a) conceptual problems related to patient satisfaction's nature, definition, importance, purpose, and object to be measured and (b) methodological problems, particularly the lack of reliable and valid measurement tools for assessing patient satisfaction with nursing care in hospitals. To adequately critique the usefulness of the concept of patient satisfaction, the broad literature on consumer and patient satisfaction will be summarized regarding these conceptual and methodological issues.

Conceptual Problems with Patient Satisfaction

Nature of Patient Satisfaction

The basis for a patient satisfaction definition lies in an explication of the nature of the phenomena. Some researchers considered consumer satisfaction a mediator of preexposure and postexposure attitudes (LaBarbera & Mazursky, 1983) or an antecedent of the attitude named "service quality" (Bitner, 1990; Bolton & Drew 1991). However, most consider it an attitude (Bagozzi, 1988; Ware, Snyder, Wright, & Davies, 1983). As an attitude, it has been viewed by various researchers as having structure that is (a) cognitive, (b) affective, © cognitive and affective, and (d) cognitive, affective, and behavioral in nature.

Structure

Cognitive. Most marketing researchers held that consumer satisfaction is primarily cognitive (LaBarbera & Mazursky, 1983; Oliver, 1980) arising from discrepancies between prior expectations and actual

performance (Cardozo, 1965; Oliver, 1980; Olshavsky & Miller, 1972. Hunt (1977), the editor of papers from research symposia on the conceptualization and measurement of patient satisfaction, concluded that "satisfaction/dissatisfaction isn't an emotion, it's the evaluation of an emotion, and as such it becomes a quasi-cognitive construct" (p.460).

Fishbein's expectancy-value model has been analyzed as a basis for understanding aspects of consumer behavior (Cohen, Fishbein, & Ahtola, 1972). Fishbein and Ajzen (1975) postulated that the sum strength of our beliefs and their concurrent, affective evaluation of the beliefs, combine to decide attitudes toward performance of an action. Bagozzi (1988) criticized Fishbein and Ajzen's model for not addressing unreasoned actions as well as reasoned actions and for lumping responses together in a single cognitive index. Copley (1988), in a study on the relationships between beliefs, attitudes, intentions, and participation in an hypnotic induction, had findings which only partially supported the Fishbein and Ajzen model. Aside from attitude structure research, there is consumer research based on Fishbein & Ajzen's (1975) theory. For example, Mazis, Ahtola, & Klippel (1975) envisioned satisfaction as an interaction of evaluation (good vs. bad attributes) and beliefs. Their findings supported the Fishbein model for understanding consumers' cognitive structures. However recently, Ajzen (1989) has espoused the three-component attitude model discussed later in this paper.

Affect. Greenwald, who once supported the three component, affective-cognitive-conative model (1968), more recently defined attitude as "an affect associated with a mental object" (1989,p.432). Furthermore, he believed that cognitive elements played a lesser role

than affective components in influencing future behavior. Others have operationalized consumer and patient satisfaction as a purely affective concept (Cronin & Taylor, 1992; Linder-Pelz, 1982; Swan, Sawyer, Van Matre, & McGee, 1985). In a study of potential blood donors among a college sample of faculty, students, and staff (N=284), Bagozzi (1983) found evidence for the affective response model of attitudes for those donors with some prior learning or experience. Cognitive responses were short-lived and influenced intentions to donate only among those donors without prior experience. In both current and past donors, behavioral intentions were a function of affective reactions. Furthermore, emotional reactions predicted intentions to donate blood no matter how long in the past one had last given.

Cognitive-Affective. Based on an extensive literature review, Pascoe (1983) assumed that satisfaction consists of a cognitive evaluation and an emotional reaction to the structure, process, and outcome of services. Likewise, Bagozzi & Burnkrant (1979) found theoretical support in psychology for a two component, affective-cognitive attitude model. Empirical evidence from the entire set of results by Breckler and Wiggins (1989) covering seven attitude domains confirmed that affect and evaluation (identified as a cognitive component) are distinct in the structure of attitudes. Pfaff (1977) described a cognitive and an affective model in conceiving the Index of Consumer Satisfaction. Within his cognitive model, consumer satisfaction was viewed "as the inverse of the difference between the ideal and action combination of attributes" (p.40). In contrast, in Pfaff's "affective model" the "individual evaluates goods and services not simply on the basis of some kind of rational calculus but also on the

basis of subjectively felt needs, aspirations, and experiences" (p.41). Pascoe (1983) concludes, "rather than being interactive, cognitions and affective responses may instead be quasi-independent predictors of satisfaction, each weighted according to individual patient differences" (p.186).

Cognitive-Affective-Behavioral. Attitude theory also includes a framework for the multi component view of attitude structure: cognition, affect, and conation (or behavioral). "The three-component definition (of attitude) has achieved widespread adoption and almost no criticism" (Greenwald, 1989, p.6). The definition referred to by Greenwald is Rosenberg & Hovland's (1960), "We here indicate that attitudes are predispositions to respond to some class of stimuli with certain classes of responses and designate the three major types of responses as cognitive, affective, and behavioral" (p.3).

In the verbal response mode, three responses are used to infer attitudes according to Ajzen (1989). Cognition responses are "expressions of beliefs" and "reflect perceptions of, and information about the attitude object" (pp. 242-243). Affective responses are "expressions of feelings toward the attitude object" (p. 242). "Responses of a conative nature are behavioral inclinations, intentions, and commitments, and actions with respect to the attitude object" (p.244). "The three components are defined independently and yet comprise, at a higher level of abstraction, the single construct of attitude" (p. 245).

Market researchers, Hawkins, Best, and Coney, state "an attitude is the way we think, feel, and act toward some aspect of our environment" (1989, p.433). The basis for a substantial amount of

marketing strategy is that all three components tend to be consistent, that is, a change in one attitude component tends to produce related changes in the other components. However, marketing research studies have found only a limited relationship among the three components, particularly between the cognitive and behavioral components (Day & Deutscher, 1982; Loken & Hoverstad, 1985; Smith & Swinyard, 1983; Wells, 1985). Hawkins and associates point to several explanations for the degree of apparent inconsistency among components: lack of need, inability to acquire, failure to consider alternatives, weakly held affective and cognitive components that may be altered at the point of sale, failure to take into account desires of others in the household, and inaccurate or incomplete measures of cognition or affect. More recently, an analysis of the nature of attitudes has been proposed by social psychologists Eagly & Chaiken (1993) based on an extensive review of the literature. They view attitude as "an inferred state, with evaluative responses divided into three classes (cognitive, affective, and behavioral)" (p. 10). They also propose the idea that attitudes are formed as "a product of cognitive, affective, and behavioral processes" (p.15). Together these correlates of processes and responses form a limited tripartite idea, namely, that "attitudes can be formed primarily or exclusively on the basis of any one of the three types of processes" (p.16).

Cognitive perceptions. Theoretical perspectives and empirical findings in the attitude research area support the model of correlates of attitude approach in this study. The assumption that attitudes derive from a process of cognitive learning is implicit in much of attitude research (Eagly & Chaiken, 1993). As people gain direct or indirect

information about the attitude object, they form beliefs according to the expectancy-value theory (Fishbein & Ajzen, 1975).

Affective perceptions. Attitude formation on the basis of affective or emotional experiences appeared in the classical conditioning model of attitude change (Eagly & Chaiken, 1993). From this perspective, the latent attitude of patient satisfaction is a product of the pairing of an attitude object (i. e., RN - a conditioned stimulus) with a stimulus (e.g. caring) that elicits an affective response (unconditioned stimulus).

Behavioral perceptions. Behavioral perceptions derive from research by Bem (1967a, 1967b, 1972) who determined that attitudes were determined primarily by previous behaviors. He proposed a theory of self-perception which explains that people tend to infer attitudes that are consistent with their prior behavior. For example, if a patient recalls smiling at a nurse, he believes he was favorably disposed toward some aspects of that nurse's care.

Cognitive response. "Evaluative responses of the cognitive type are thoughts or ideas about the attitude object" (Eagly & Chaiken, 1993, p.11). They may be overt (verbal statements of beliefs) or covert (e.g. inferred or perceived). The attributes associated with the attitude object (i.e. RN) "express positive or negative evaluation and therefore can be located by psychologists on an evaluative continuum" (p.11).

Affective response. "Evaluative responses of the affective type consist of feelings, needs, emotions, and sympathetic nervous system activity that people experience in relation to attitude objects" (Eagly & Chaiken, 1993, p. 11). Like cognitive responses, they may range from

extremely positive to extremely negative. Eagly & Chaiken (1992) take the position with others that evaluation and affect are conceptually distinct. Evaluation is treated as an intervening state between stimuli and responses elicited by stimuli. Affect is "one type of responding by which people express their evaluations" (p.12).

Behavioral response. "Evaluative responses of the behavioral (or conative) type consist of the overt actions that people exhibit in relation to the attitude object" (p.12). Also, behavioral responses can be regarded as including intentions to act.

The extent of matching between cognitive, affective, or behavioral processes by which an attitude is acquired and those cognitive, affective or behavioral responses that the attitude object subsequently elicits is not known according to Eagly & Chaiken (1992). They speculate that some sort of matching tends to occur, i.e., an attitude acquired via a cognitive route might tend to elicit primarily cognitive responses, etc. Based on Eagly and Chaiken's (1993) model, "responses within each of the three categories should relate more strongly to other responses within that category.

In summary, several views of the attitude structure of consumer satisfaction exist. Thus far, there is no overwhelming empirical evidence for one view of the theoretical nature of the concept of consumer satisfaction. Exploring knowledge of dimensions of patient satisfaction may provide insight into its conceptual nature.

Dimensionality

There is discussion throughout the literature on dimensions of patient satisfaction. In an extensive review of the literature over 25 years, Ware and associates (1978) found that patient satisfaction has

been conceived of mainly as a global concept. If there are distinct features of providers or services that cause differences in patient satisfaction, then a valid satisfaction measure should be multidimensional (Ware, Snyder, Wright & Davies, 1983). The trend is to view patient satisfaction as a multidimensional concept (Hall & Dornan, 1988) although evidence of multidimensional satisfaction scales is scarce in the literature.

Physician provider dimensions. In several medical studies of satisfaction, provider variables, i.e., physician-patient interaction, formed one or more broad dimensions and nonprovider variables, i.e., accessibility-availability, formed other dimensions (Counte, 1979; Hulka & Zyzanski, 1982; Cassel & Thompson, 1970, 1971; Weinberger, Greene, & Mamlin, 1981; Zastowny, Roghmann, & Hengst, 1983). For example, Ware and associates' (1978) Patient Satisfaction Questionnaire reliably differentiated five dimensions of satisfaction with medical care (Pascoe, Attkisson, & Roberts 1983; Roberts, Pascoe, & Attkisson, 1983). Humaneness was one provider dimension and was not further differentiated into specific behaviors. The other subscales, Availability, Finances, Facility and Continuity related to the previously mentioned broad dimension of availability/accessibility.

Three research teams provided evidence of micro physician provider-oriented dimensions in their instruments. DiMatteo & Hays (1980) found empirical evidence of three dimensions of physician behavior that were highly correlated with satisfaction, communication ($r = .68$), affective care ($r = .73$), and technical care ($r = .72$). They also correlated highly with each other suggesting that patients do not distinguish among the dimensions of physician conduct. Vuori, Aaku,

Aine, Erkkö, & Johansson (1972) categorized physician behavior variables by instrumental, expressive, and communicative groups but no clear picture by group was found. Wolf, Putnam, James & Stiles (1978) tested a carefully developed instrument, the Medical Interview Satisfaction Scale. They found cognitive (patient education), affective (treatment relationship) and behavioral (professional behavior, physical exam, diagnostic procedures, treatments) types of physician interactions with patients. Using the same tool, Rowland-Morin & Carroll (1990) found that 27% of the variance ($p = <.01$) in patients' satisfaction scores was attributable to a physician's language style.

Pascoe (1983) conducted an extensive analysis of the literature on dimensions of general patient satisfaction. He concluded that there is evidence for multiple dimensions of provider behavior that affect patient satisfaction among physician studies but not among studies of Risser's (1975) original or later measures of satisfaction with nursing. Efforts to identify provider-oriented dimensions in nursing instruments will be explored.

Nurse provider dimensions. Risser (1975) initially defined four content dimensions of patient attitude toward nurses and nursing care to guide item development (a) technical-professional, (b) intra-interpersonal, (c) trusting relationship, and (d) educational relationship. "Intrapersonal" referred to a nurse's personal characteristics, e.g., appearance, friendliness, confidence. "Interpersonal" were the social aspects of nursing care (Risser, 1975). These a priori dimensions were derived by Risser from the medical satisfaction literature and the nurse characteristics and nurse behaviors from the nursing literature.

In Risser's first trial of her instrument, the Risser Patient Satisfaction Scale, the intrapersonal dimension correlated equally highly with other groups of items. She concluded that "the patient may only be able to form attitudes concerning his interaction with the nurse (p.48) and not about the personal characteristics of the nurse. These intrapersonal items were then incorporated into other areas and the potential scales were reduced to three. All three of the final scales concerned social interaction (interpersonal dimension) with the nurse: technical-professional area; educational relationship area; and trusting relationship area.

La Monica, Oberst, Madea & Wolf (1986) used Risser's (1973) definition of satisfaction with care and her conceptualization of three aspects of performance in developing their satisfaction instrument. Results from repeated investigations of the Risser instrument (Hinshaw & Atwood, 1982; Risser, 1975; Ventura, Fox, Corley & Mercurio, 1982) and the LaMonica Oberst Patient Satisfaction Scale (LOPSS) (La Monica, Oberst, Madea & Wolf 1986; Munro, Jacobsen, & Brooten, 1994) show no reliable differences among the subscales except for the responses of two of Hinshaw and Atwood's heterogenous subsamples. Therefore, the likelihood of separate dimensions being measured by these two well known nursing patient satisfaction instruments, the Risser Patient Satisfaction Scale and the LOPSS, is questionable. No other satisfaction instruments were found that indicate separate dimensions of nurses' performance.

Professional Nurse Role Dimensions

The literature includes many studies on patients' perceptions of nurses that provide potential ideas for micro professional role

dimensions. Here they are categorized according to Risser's nurse provider dimensions and compared to King's (1981) nurse roles which form the basis for the proposed cognitive, affective, and behavioral perceptions instruments.

Technical-professional. Risser's dimension of technical-professional included role functions of nurse knowledge, physical care for the patient, and expertise in implementing medical care. This dimension is analogous to the "caregiver" role of King (1981).

Studies of patient perceptions of important nurse caring behaviors using the Caring Assessment Instrument (Care-Q) identified the most important care behaviors were technical-professional (Allanach & Golden, 1988, Larson, 1984; Mayer, 1986). These were competent clinical skills showing monitoring and following through, i.e., knowing how to give injections, start IVs, manage equipment and when to call the physician. These studies using the Care-Q instrument support the importance of the technical quality of nursing care to the patient.

Market researchers and nurses have studied attributes of professional appearance and professional demeanor (Booms & Nyquist, 1981; Hinshaw & Oakes, 1977). Nurse attributes like gentleness, confidence, and efficiency are nonverbal cues that may be used by the patient in forming beliefs or judgments about technical expertise. Cues facilitated prediction of the other's role in service encounters (Solomon, Surprenant, Czepiel & Gutman, 1985). However, measures of nonverbal cues did not correlate significantly with satisfaction with technical care in two medical studies by DiMatteo, Taranta, Friedman & Prince (1980).

In a study of quality nursing care, patients and their families

identified practice, nurse, and, to a lesser extent, practice setting attributes (Taylor, Hudson, & Keeling, 1991). Nurse attribute items reflecting personal qualities (courteous, friendly, nice, caring, etc.) were mentioned by 81% and those reflecting proficiency (knowledgeable, technically competent) were mentioned by 56% of respondents. No patient satisfaction studies that examine the relationship between personal qualities, nonverbal or otherwise, with technical-professional expertise were found. Nevertheless, personal qualities and proficiency items form most of the items in hospital satisfaction surveys. Further research on dimensions of patient satisfaction instruments may determine if patients judge technical expertise based on provider appearance and demeanor or if separate dimensions are possible. Therefore, the need exists for more study of the technical-professional dimension of nurses' performance.

Intra-interpersonal. In contrast to technical competence, Risser's dimension of intra-interpersonal focused on the nurse's personal characteristics and social interaction. Caring behaviors were deemed extremely important to discharged patients in a grounded theory study that examined perceptions of patients about care expected and care received (Rempusheski, Chamberlain, Picard, Ruzanski & Collier, 1988). Caring behaviors of nurses in various settings were associated with patient satisfaction (Cronin & Harrison, 1988; Duffy, 1990; Handelesman, 1991; Keane, Chastain & Rudisill, 1987, Larson, 1987; Riemen, 1986).

Risser (1975) incorporated items from the intra-interpersonal dimension into other areas based on correlation coefficients and item content. Similarly, Risser's proposed "intrapersonal" dimension will be integrated with the "trusting relationship" dimension to reflect King's nurse role of "friend" in the development of the study instruments. The

interpersonal (social interaction) part of Risser's proposed dimension will be found in all four of King's roles.

Trusting relationship. The trusting relationship dimension developed by Risser (1975) had elements of both the "friend" (discussed above) and "advocate" roles of the nurse identified by King (1981). Risser conceptualized the trusting relationship as "verbal and nonverbal communication measures" (1975. p.47).

Black (1992) summarized documented expectations of consumers that fall within the domain of nursing care. Besides "competent practitioners" and "information and education," consumers expect other behaviors: "partners in care...responsiveness...sensitivity to needs...and individualized care" (p.315). Black's expected behaviors reflect Risser's trusting relationship and King's (1981) "advocate" role of the nurse. Black also summarized from the literature professional behaviors of nurses that are *most important* to patients. Of the six most important nurse behaviors, "demonstration of competency...interpersonal relationship skills...effective communication...sharing of education and information...demonstration of courtesy and respect ...and responsiveness to needs" (p.318-320), the latter two appear to reflect Risser's trusting relationship and, in part, King's (1981) "advocate" role dimension.

Hinshaw & Oakes (1977) in a small scale theoretical-modeling study investigated which nurse characteristics define quality nursing care for clients, nurses, and physicians. Cooperation with others was estimated to have the strongest influence ($b = 0.55$) on clients' quality care definitions. The specific aspect of cooperation with others perceived as important by clients was "Willingness to Help Patients." Competency in

Technical Skills ($b = .38$) and Personalized Care ($b = .22$) were also represented. The nurse as an Informational Source ($b = -.01$) was not significant. Willingness to Help Patients is separate from these categories and appears to fit within the category of the advocate role dimension.

In a Canadian study of parents' perceptions of maternity nurses, Field (1987) summarized comments from semi-structured interviews as nurse behaviors that enhanced or detracted from the mothers' satisfaction with care. "Making parents feel their care was personalized was important, creating a feeling of respect for them as individuals" (p. 195). The failure to respect the rights and dignity of the parents was a constant theme among negative comments. Respecting the patient, preparing the patient for the consumer role, and acting on the patient's behalf is the subject of discourses on the nurse's role as an advocate in the consumerism context (Carter & Mowad, 1988; Keen-Payne, 1988).

No satisfaction studies were found that included a specific focus on the advocate role of the nurse apart from the communication and interaction aspects found throughout the items in Risser's (1975) tool.

Educational-relationship. Adom & Wright (1982) and Icenhour (1988) examined hospital and ambulatory patients' perceptions of the teaching provided by nurses. Findings showed that variations in the teaching role of the nurse had a major influence on patients' perceptions and quality care. Adom & Wright found that only 75% of patients voiced satisfaction with one (group teaching) of three teaching methods, individual, group, or combined individual and group teaching. Patients did not recognize the nurse's individual teaching activities as such. Icenhour found that the use of professional nurses for patient educational assessment and

structured teaching instead of informal teaching made it possible to attain quality criteria.

Two other studies specifically investigated the effect of the nurse "teacher" role on expectation fulfilment. Oberst (1984) tested an expectations framework with three aspects of expectations: care outcomes, role (RN and others), and system performance. The probability sample was too small (N=20) to do statistical significance analysis. "Expectation of care met" had a small to moderate correlation with quality nursing care ($r=.32$). The correlation of satisfaction, measured as care expectations met, with diagnostic-treatment information and self-care information was higher, ($r=.69, .63$). However, the subjects did not recognize nurses' roles in providing self-care information as distinct from physicians. Alexander (1990), using a small (N=18) convenience sample, found that 81.2% of clients believed that nurses fulfilled important objectives of teaching about breast cancer. These studies taken together provide support for the "teacher" role of the nurse as identified by King (1981).

Risser's original four dimensions of patient attitude toward nurses have continued to form broad areas of investigation. Nurse characteristics and behaviors from the patient's perspective that fit within Risser's categories have been identified in the nursing literature. Empirical evidence exists in the published nursing literature for three (caregiver, teacher, friend) of four of King's (1981) role characteristics of nurses from patient's perceptions. King's advocate role has not been studied separately as a dimension in satisfaction instruments.

In summary of the psychological nature of patient satisfaction, no

clear consensus on its structure or dimensionality exists despite the large volume of research on the concept. There is some support for provider dimensions in the medical satisfaction psychometric literature though not in the nurse satisfaction literature. Descriptive studies in the nursing literature provide support for a framework of patient-oriented dimensions of nurses' role performance consistent with King's systems framework for nursing (1981).

Definition of Patient Satisfaction

Patient satisfaction research has not been guided by a well-supported definition of satisfaction (Pascoe, 1983). Different researchers have referred to a theoretical definition of consumer or patient satisfaction in different ways: as an attitude (Linder-Pelz, 1982; Risser, 1975), a judgment (Meterko, Nelson & Rubin, 1990), an evaluation (Hunt, 1977; Pascoe, 1983; Ware, Snyder, Wright, & Davies, 1983), or perception (Abdellah & Levine, 1957; Collins, 1975). The term, "patient perceptions" in the satisfaction literature is a catch-all term that can mean attitudes, evaluations, descriptions, feelings, or ratings of importance. Subsequently, purported measures of nursing satisfaction were: patient expectations of nurses (Allanach & Golden, 1988; Mackey & Lock, 1989; Tagliacozzo, 1965), patient perceptions of nurses (DeVito, 1990; Pfoutz, 1990) importance of selected aspects of nursing care (Cronin & Harrison, 1988; White, 1972), whether patients' needs were met (Lynn-McHale & Bellinger, 1988; Molter, 1979), or patients' ratings of nurses (Megivern, Halm & Jones, 1992). Researchers interpreted satisfaction/dissatisfaction from the scores of these various types of measures. The concern is that instruments are not comparable, i.e., not tapping a common construct.

Moreover, in patient satisfaction studies, patients' perceptions (evaluations/judgements) and patients' responses (e.g. feelings) have been used incongruently in theoretical and operational definitions (DeVito, 1990; Megivern, Halm & Jones, 1992). For example, Swan, Sawyer, Van Matre, & McGee (1985) called satisfaction "a positive emotional response to an experience" (p.9); then used a latent variable of "patients' perceptions of hospital performance" (p.11) and measured its indicator variable of "attribute satisfaction" (p.11) by an eight (8) point "delighted" to "terrible" scale. This lack of attention to congruence of definitions has contributed to the lack of conceptual clarity of patient satisfaction.

The need for an alternative conceptualization of patient satisfaction was implied by Hunt (1977). He reflected,

one has to wonder whether 'satisfaction' is the best word for what we are talking about...Whether it is of value to talk about satisfaction or dissatisfaction without referring specifically to the dimensional emphasis is a real question. Even with the question raised repeatedly, no better word or even a substitute was suggested. (p. 461)

Gutek (1978), using an example, indicated asking clients if they are *happy* with their visit to Social Security was not the same thing as asking them if they were *satisfied* with their visit to Social Security. She concluded that using terms with roughly the same meaning of satisfaction, e.g., contentment, happiness, meeting needs, in place of satisfaction was not a solution to finding better approaches to assessing satisfaction. Perhaps satisfaction/dissatisfaction is too abstract and subjective in meaning in that everyone "knows" what it means and it cannot be defined. However, an alternative direct measure of patient satisfaction has not been explored in survey research

studies.

Inconsistency in the selection of referent terms has contributed to the conceptual confusion in the patient satisfaction literature. Attempts to understand the theoretical meaning of satisfaction have been very few despite the extensive literature on the subject. The path for conceptual clarity may be an alternative conceptualization based on the tripartite correlates attitude model with cognitive, affective, and behavioral classes (Eagly & Chaiken, 1993). Moreover, this correlates attitude model takes into consideration the salient aspects of the aforementioned definitions of patient satisfaction.

Importance of Patient Satisfaction

The importance of patient satisfaction as an area of scientific investigation is challenged for at least two reasons, (a) lack of theoretical frameworks, and (b) lack of knowledge of patient satisfaction influencers.

Theoretical Frameworks

The relative lack of theoretical frameworks for guiding and specifying the selection of variables for study may account for the limited understanding and questionable importance of the patient satisfaction concept. "Little attention has been directed towards developing a well-defined sociopsychological theory of satisfaction" (Locker & Dunt, 1978, p.288). In one exception in the medical care satisfaction area, Linder-Pelz (1982), defined patient satisfaction using Fishbein and Ajzen's attitude theory and the job satisfaction literature as "positive evaluations of distinct dimensions of the health care" (p. 578). She designed a study to provide data that explained the associations between social psychological determinants and patient

satisfaction in an attempt to build a theory of patient satisfaction. Fishbein & Ajzen's (1975) theory was not supported at all in Linder-Pelz's study despite multiple procedures to test it.

The most common framework for designing patient satisfaction surveys is based on the eight dimensions of satisfaction with medical care that were defined by Ware and associates (1978) and supported by factor analytic studies conducted by Ware and Snyder (1975). These eight dimensions were labeled: art of care, technical quality of care, accessibility/convenience, finances, physical environment, availability, continuity of care, and efficacy/outcomes of care. While Ware's dimensions were developed for patient satisfaction with health care services in ambulatory settings, Eriksen (1988) considered all of them, except finances and accessibility, appropriate in the hospital setting to measure satisfaction with nursing. These six dimensions (art of care, technical quality, physical environment, availability, continuity of care and outcomes of care) provided a framework for the Patient Satisfaction with Nursing Care Questionnaire. Eriksen's exploratory factor analysis did not substantiate the Ware subscale structure of the instrument, rather art of care and environmental factors were identified.

The relative lack of theory to explain patient satisfaction may be due to over reliance on Ware and associates' (1978) taxonomy as a conceptual framework. Their most recent taxonomy was derived during studies of the Patient Satisfaction Questionnaire (PSQ) (Ware, Snyder, Wright, & Davies, 1983). As an indirect measure of satisfaction, it is designed to measure generalized attitudes about health services and not patient views on specific episodes of health care. In the initial factor

analytic studies, four major dimensions of patient attitudes were identified and described by Ware and Snyder (1975). These included humaneness/quality, availability of services, continuity/convenience of care, and access mechanisms (cost, payment mechanisms, and ease of emergency care). The number of dimensions in Ware's taxonomy have varied from as few as four with principal components factor analysis (Ware & Snyder, 1975) to as many as eighteen in their 1975 literature review.

Eriksen (1995) suggested that lack of conceptual clarity is the reason for the prevalent finding that factor analytic procedures fail to support proposed conceptual structures of patient satisfaction instruments (Eriksen, 1988; Hinshaw & Atwood, 1982; La Monica, Oberst, Madea, & Wolf, 1986; Munro, Jacobson & Brooten, 1994; Ware, Synder, Wright, & Davies, 1983). Only two satisfaction with nursing studies were found in which nurses used nursing theoretical frameworks (Duffy, 1990; Hanucharunkui and Vinyanguag, 1991). Both used Imogene King's theory of goal attainment (1981), with another nurse theorist, explicitly to test nursing theory. Duffy (1990), in a study on the relationship of nurse caring behaviors and patient satisfaction in hospitalized patients, tested King's and Watson's (1979) respective propositions on human interaction and caring and found support for both. A positive relationship between nurse caring behaviors and patient satisfaction was shown. Similarly, Hanucharunkui and Vinyanguag (1991) tested a proposition derived from Orem's theoretical construct of self-care (1985) and King's theory that emphasized human interaction to achieve patient goals, including satisfaction with care. Results suggested that patients who had higher participation in self-care by means of nurse-patient interactions significantly increased the rate of recovery from

surgery and satisfaction with nursing care. More research based on these promising nursing conceptual and theoretical frameworks, King (1981), Orem (1985), and Watson (1979), is needed to advance knowledge of patient satisfaction in the discipline of nursing.

A search of the patient satisfaction with nursing care literature revealed no published, tested instruments that used a nursing theoretical framework to organize their construction. Although such use is insufficient for theory testing because it makes an implicit assumption that the underlying tenets of the model are valid (Silva, 1986), it is important for operational adequacy that research instruments accurately reflect the theory in a given study (Fawcett & Downs, 1986). Using conceptual domains is the first step in instrument development according to Lynn (1986). Use of a nursing conceptual framework for instrument development may address the demand for greater understanding of patients' assessments of nursing behaviors and, eventually, improved patient satisfaction methodology.

Patient Satisfaction Influencers

Contributing to doubts of scientific importance is the lack of consistent evidence regarding variables influencing patient satisfaction. Cleary and McNeil (1988) and Pascoe (1983) reported that the patient variables that have been studied as influencing patient satisfaction include sociodemographic data, physical and psychological status, and attitudes and expectations about health care. Satisfaction researchers have included the sociodemographic variables of age, gender, education level, ethnic background, employment status, yearly income, marital status, and age at admission (Larsen, Attkisson, Hargreaves, & Nguyen, 1979). Research findings indicated that patient characteristics

are associated with patient satisfaction (Hulka, Kupper, Daly, Cassel & Schoen, 1975; Linn, 1975; Ware, Davies-Avery, Stewart, 1978). Results, however, are inconsistent and sometimes contradictory (Linn, 1975; Lockman, 1983; Fox & Storms, 1981). Fox and Storms (1981) stated that conflicting results of the influence of patient variables have been obtained about the relationship between patient satisfaction and sociodemographic characteristics of age, education, family size, income, marital status, occupation, race, religion, sex, and social class. The most consistent relationships that have been shown between sociodemographic categories and service satisfaction are age (Ware, Davies-Avery & Stewart, 1978) and sex (Like & Zyzanski, 1987). However, the amount of variance accounted for by patient's age and sex, according to Pascoe (1983), appears to be small. Older patients and women tend to be more satisfied with care providers (Fox & Storms, 1981; Ware, Davies-Avery, Stewart, 1978).

Ware, Davies-Avery & Stewart (1978) in a review of 13 publications reported that no clear trends existed for marital status, race, and social class. The remainder (education, family size, income, and occupational level) varied with the particular dimensions of services being assessed. Despite hundreds of studies that have included satisfaction with health care providers and services over a period of forty years, no consistent, important relationships have been found between sociodemographic variables and patient satisfaction.

Besides patients' demographic characteristics, prior experience with medical care and nursing care providers may be an influencing factor on patient expectations (Cleary & McNeil, 1988; Oberst, 1984). Patients' expectations influence their judgment of current care

according to the "Framework of expectations" developed by Oberst (1984, p. 2367). According to Oberst, patients enter the health care system with a variety of characteristics, attitudes, and prior experiences. Though Oberst's Framework of expectations has not been adequately tested, prior experiences may be a factor in the differentiation of patient perceptions of and responses to nursing care. A review of the health services literature shows empirical evidence of a relationship between pre-existing satisfaction with health care (Chang et. al, 1984; Linn, 1975) and patient satisfaction but not between prior experiences with types of caregivers and satisfaction with care. Nonetheless, it is commonly accepted that prior experiences with physicians or nurses have the potential to influence perceptions of present care. It is important that this factor of past experiences with specific types of caregivers be taking into consideration in future studies. In conclusion, not enough is known about influencers of patient satisfaction to test hypotheses. Foundational work in the area of instrument development and testing is indicated.

Purpose of Patient Satisfaction

In the clinical setting, it is important to distinguish between "the two general purposes to which patient satisfaction measures might be put: for marketing purposes and for monitoring quality of care" (Cleary & McNeil, 1988, p.30).

Marketing

Satisfaction with nursing care has been found to be the best overall predictor of consumer satisfaction with the hospitalization service encounter (Abramowitz, Cote, & Berry, 1987; Carey & Posavic, 1982; Carmen, 1990; Doering, E. 1983; Press & Ganey, 1990; Shaffer &

Preziosi, 1988). Therefore, successful marketing of a hospital depends largely on the ability of its nurse managers to maximize patient satisfaction with nursing services (Porter-O'Grady, 1988).

Only one study was found in the nursing literature that explicitly measured satisfaction for a marketing purpose (Shamansky, Schilling, & Holbrook, 1985). These researchers found that satisfaction with health care provided by nurse practitioners was associated with intent to use the services. However, only 10% of subjects had experience with nurse practitioners and only 33% had prior knowledge of them. With most subjects having no direct knowledge of nurse practitioner services, the internal validity of the study is questionable. The researchers' purpose of examining factors associated with intent to use nurse practitioner services is, nonetheless, important from a marketing perspective. Cleary (1989) and Woodside, Frey & Daly (1989) affirmed that satisfied consumers tend to return to the institution/agency and generally are more compliant with their treatment regimens.

Though there is an obvious purpose for patient satisfaction in marketing, Cleary & McNeil (1988) caution that changes made for marketing purposes should always be congruent with quality of care improvement purposes.

Quality Monitoring

Erhart (1987) suggests that quality care from a nursing perspective is institution specific and consumer specific. She proposes that, since nursing is lacking a universally accepted definition of quality care (Brett, 1989) and generic indicators of quality, each nursing organization develop a set of valid quality criteria. DeVet (1989) offers two definitions of quality in nursing: 1.) satisfaction of

the customer's perceived needs and 2.) conformance to standards. Conformance to standards is the manufacturing-based approach to quality definition (Gavin, 1984) and the basis for JCAHO's definition of quality (1986). DeVet's second definition of quality, assessing satisfaction of the customer's perceived needs, links patient satisfaction with the purpose of quality assessment. In both medicine (Davies, et. al, 1986; Lebow, 1974) and nursing (Board, 1988; Safford & Schlotfeldt, 1960; Smolinski, 1975), quality assessment is further defined with similarities and differences between clients and providers. This literature on mutual perceptions of quality or satisfaction with care will not be explored.

Vuori (1987) says that there are three different ways to use patient satisfaction in quality assessments: as an attribute, as an indicator, and as a prerequisite to quality care. Controversy over the use of patient satisfaction data in quality assessment may be due to overlapping and misinterpretation of these three ways of viewing patient satisfaction.

Attribute. Patient satisfaction is an attribute of quality care when it is used as a legitimate and desired outcome of care in its own right (Lohr, 1988; Cleary & McNeil, 1988; Donabedian, 1980; Vuori, 1987). Many agree that it is important to include patient satisfaction among quality of care outcomes (Lohr, Prehn, Mayo & Weisman, 1989; Vuori, 1987). Patient satisfaction is an integral and legitimate part of care evaluation because only the patient is the ultimate authority on his care (Donabedian, 1980). When patient satisfaction is an attribute of quality, it is a benefit to health, specifically, as an aspect of psychological health or well-being. Patient satisfaction in the form of

psychological health is one objective or outcome of care (Donabedian, 1980).

Patient satisfaction has been accepted by the nursing profession as an outcome of nursing care (M. Johnson, personal communication, December 2, 1992; Lang & Clinton, 1984; Lang & Marek, 1992; Megeriven, Halm & Jones, 1992). However, nursing outcomes must be linked to structure and process antecedents to validate quality care (Brett, 1989). Even in the absence of contiguous nursing processes, the wide literature on outcomes shows that nurses can and do measure outcomes. Nurses are responsible for identifying what they expect and plan to achieve with patients. Therefore, patient satisfaction may be legitimately equated with quality nursing care when patient satisfaction is used in the context of an attribute of nursing care, that is, an outcome.

Indicator. The use of patient satisfaction as an indicator, i.e., as one mark of quality of care, represents the patient's judgement on the quality or the "goodness" of care (Donabedian 1980; Vuori, 1987). In consumer judgment, there are two generally accepted features of medical quality, interpersonal aspects and technical process (Davies & Ware, 1988; Donabedian, 1980).

In the domain of interpersonal process, "clients... are the primary definers of what quality means" (Donabedian, 1980, p. 24; Davies & Ware, 1988). However, in the area of technical care (application of science and technology to care management) arguments pro and con exist in the use of consumer data in quality assessment (Davies & Ware, 1988).

The use of patient satisfaction as a quality indicator is endangered by the unacceptance of the patient perspective as legitimate

among many clinicians. Patients probably are not competent to determine the actual quality of the (medical) care they receive according to Soffer (1978). Doyle and Ware (1977) came to a similar conclusion when interpreting their study on the effect of physician conduct on consumer satisfaction. Those who oppose consumers' ratings "regard physician judgments as the criteria against which other evaluation of quality should be validated" (Davies & Ware, 1988, p.37).

In nursing, patient satisfaction has been criticized as an indicator of quality nursing care (Kitson, 1986). The criticism is largely based on skepticism about the ability of patients to judge the technical competence of nurses. Regardless, Marram (1973) found that nurses generally agree that patients' views are important, particularly concerning support and comfort.

Controversy about the patient's ability to make judgments regarding technical care continues to exist. In a review of the literature on consumer satisfaction with medical care, Hall and Dornan (1988) found overwhelming evidence that patients gave high ratings to technical quality. They provided an interpretation that this occurred because of inability to judge technical performance very well or, perhaps, because it is threatening to contemplate good care without it. They concluded "a satisfaction ranking reflects actual quality only for the non-technical aspects of care" (p.938). Likewise, Davies and Ware (1988) believed that the interpersonal aspects of the provider-patient relationship interfered with the patient's accurate assessment of the technical process of care because of "the relatively high correlations (on the order of 0.60 to 0.70) observed between consumers' ratings of interpersonal and technical quality of care" (p.39).

On the pro side, findings from DiMatteo, Taranta, Friedman & Prince (1980) provided evidence that interpersonal aspects have an insignificant effect on technical quality ratings. Davies & Ware (1988), after an extensive review of the literature, concluded that "for common problems, consumers can distinguish between the technical aspects of care judged good and less-than-good by physicians" (p. 44).

Similar to the medical satisfaction literature, some nursing authors maintain that patient satisfaction measures can better provide a focus that is more the art of care as opposed to the technical aspect (Hexum, 1988; Marek, 1989). However, findings from other nursing studies (Abdellah & Levine, 1957; Robinson, 1977; Smolinski, 1975) support the accuracy of patient perceptions of actual nursing services. In a well-designed nursing study, with John Ware and others as consultants (Chang, Uman, Linn, Ware & Kane, 1984), elderly women subjects discriminated high from low technical care in simulated quality encounters with nurse practitioners. Courtesy, an attribute of interpersonal quality, was held constant. Despite the weakness of simulated encounters, this study, combined with the previous ones, suggests that patients can judge different levels of competence evidenced by nurses.

Although use of patient satisfaction as an indicator of quality is widespread, Donabedian (1980) pointed out some salient limitations. These included possible faulty client judgments concerning technology of care and demands for services that are not in the client's best interest. Of the ways that client satisfaction is related to quality, Donabedian said that to the extent that patient satisfaction is a judgment (indicator) of the quality of care, client satisfaction is not part of the definition of quality. Sharing the same view, Frederick,

Sharp & Atkins (1988), in an evaluation of discharge planning as part of quality assurance monitoring, concluded that "patient perceptions alone are not a reliable measure of quality" (p.7).

When patient satisfaction is used as an indicator, it must be distinguished from quality of care to avoid a major problem of confusing the two (Ulrich, Fredin, & Cavouras, 1986). Thus, a caution in using satisfaction to monitor quality care is that though patient satisfaction is as important as health status, it cannot be the sole indicator of quality (Donabedian, 1980; Frederick, Sharp, & Atkins, 1978, 1988).

A final caveat on the use of patient satisfaction as an indicator was pointed out by Locker and Dunt (1978). They believed that a true study of quality of care needs to employ criteria selected by consumers rather than professionals if the consumer's perspective is judged to be important.

Prerequisite. Used as a prerequisite of quality, patient satisfaction influences quality by making a contribution to other outcomes of care. Satisfied patients are "more likely to cooperate in the implementation of care and to do so more effectively" (Donabedian, 1988, p. 180). A relationship between attitude and subsequent behavior is assumed to exist when the purpose is to measure patient satisfaction.

Fragmented knowledge of attitude relationships exists in social psychology (Katz, 1989). Greenwald (1989) expressed that a source of interference in describing relationships between attitude and social behavior exists due to confusion with "1.) the attitude-behavior relationship, 2.) relations of the behavioral (or conative) responses to the other attitude components, or 3.) the relation between behavior and the conative attitude component" (p. 437-438). Greenwald's second source

of conceptual confusion, the relation between an attitude's conative component (behavioral intentions) and the cognitive and affective components, was addressed in the present study. Positive cognitive and affective patient consumer responses may be prerequisites of positive behavioral responses (intentions to reuse or recommend services).

In the research domain, besides being used frequently as an outcome of nursing interventions, that is, a dependent variable, patient satisfaction also has been used as a predictor of future health care behavior, that is, an independent variable. Use of patient satisfaction as a predictor of intentions fits within marketing (the satisfied patient intends to reuse nursing services) or within quality monitoring (the satisfied patient intends to follow health-related goals of exercise, etc.). Both purposes of marketing and quality monitoring appear equally important for nursing theory development and research.

Satisfaction was linked to intentions regarding care-seeking behavior in response to medical problems in four general population studies by Ware & Davies (1983). Specifically, "behaviors linked to consumers' ratings of quality-related features of care included doctor-shopping, complaints and disenrollment, compliance, recommending a source of care to others, and utilization." (Davies & Ware, 1988, p.40).

Many studies exist in nursing in which interventions are independent variables and various quality outcomes are dependent variables. However, none were found (other than Schmansky, Schilling, & Holbrook (1985) discussed earlier) in which patient satisfaction was a proximate or intermediate outcome and behavioral intentions or other quality outcomes were final outcomes.

As part of this discussion of the three ways patient satisfaction

is used in quality assessment, another issue remains. The relationship between patient satisfaction and quality is confused when consumer perceptions of *quality of care* are used interchangeably with perceived *satisfaction with care*. These phenomena are quite different and call for different questions. Situations exist where factors that do not produce satisfaction might be indicative of quality or where patients may be satisfied but the quality of care is lacking.

For example, Eriksen (1987) measured quality of nursing care and satisfaction with nursing care with instruments having evidence of reliability and validity. An inverse relationship was found between patient satisfaction and quality of nursing care involving invasive techniques, uncomfortable or embarrassing interventions, and situations where nurses who taught patients self-care suggested lifestyle changes for patient. Therefore, it should be emphasized that patient satisfaction and quality of care are separate but related concepts and should not be used interchangeably (personal communication, F. Board, July, 1992). The purposes of patient satisfaction in terms of marketing and monitoring quality of care have been highlighted. To the extent that patients are attracted to care of high quality, marketing and quality concerns will be congruent according to Cleary & McNeil (1989). The literature shows that patient satisfaction has been accepted in the assessment of quality of care as an attribute (outcome), as a prerequisite, and as one among other indicators. Because potential for overlapping and confusion exists, the relationship between patient satisfaction and quality care has yet to be conclusively defined.

Satisfaction surveys can be used to gather significant amounts of data to assist in the marketing of nursing services and assessment of

total quality. Patient satisfaction data to assess care quality may be most validly and appropriately used by managers when less technical aspects of care, some degree of patient choice, and relevance to health outcomes are considered (Cleary & McNeil, 1988; Prehn, Mayo, & Weisman, 1989). In addition, use of patient developed standards for judging nursing care (Briggs, 1992) and restriction of judgment of technical competence to common problems (Davies & Ware, 1988) may also increase validity of consumer responses to nursing care. The literature reveals that reliable and valid instruments that measure patient responses are needed that nursing managers concerned with marketing and quality assessment can accept with confidence. It is hoped that the present study clarifies marketing and quality monitoring characteristics of the patient satisfaction construct.

Nurse Object in Satisfaction Items

The final conceptual issue is lack of attention in the nursing patient satisfaction literature to terms used to describe nurses or nursing care, the attitude object (i.e. an entity that is evaluated). Patient questionnaires routinely have items which contain the singular term, "nurse", although delivery of care to a patient, even for a very short hospital stay, is rarely by one nurse. When found in the plural form, "nurses", the term in the patient's mind may include all *female* personnel in uniform or lab coats; doctors, nurses, housekeepers, dietary aides, social workers, etc., whereas all *male* personnel are physicians. Indeed, in the patient's view, it may be "nurses" who are responsible for all the operations of a unit or even the hospital. An opposite view may be taken as well, holding nurses as ineffectual and handmaidens of the doctors. Therefore, two objectives for instrument

development are to: a) clearly identify the patient's nurse object and b) isolate nursing care from other care received in the hospital setting.

The types of nurse attributes that are commonly evaluated in survey instruments are also a conceptually difficult issue. Often there are a lack of professional attribute items. A factor which contributes to this is that items must be based on activities that are discernable to patients. Wolf (1989) described the hidden, taken-for-granted work of nurses that is invisible and undervalued. She characterized nurses' unseen work as caring, system maintenance, safety, comforting, privacy, and sacred work. Another factor that contributes to a lack of professional attribute items is that the focus of nursing is holistic and identifying and measuring all of the variables in whole systems is too encompassing (Brett, 1989).

Another nurse object problem is that nursing items in most hospital surveys refer to stereotypical activities of nurses. These survey questions are negatively viewed by professional nurses as hostess functions or instinctual kind acts that can be carried out by anyone (Bingle, 1989). Characterized as "hotel" questions, these service quality items are general in scope. They include keeping patient care areas neat and clean, answering call lights, providing snacks, and maintaining a courteous and friendly attitude. Criticism of hospital surveys by nurses is due to these "guest relations" items not accurately reflecting the aggregate of nursing care carried out by or delegated by professional nurses. Moreover, these service attributes are not outcomes sensitive to variations in nursing practice. Continued restriction of the meaning of patient satisfaction with nursing care to narrow service

attributes confuses the concept of patient satisfaction. Also, their continued usage may slow the recent development of patient satisfaction as an important nurse-sensitive patient outcome (M. Johnson, personal communication, December 2, 1992; Murdaugh, 1992).

The final nurse object problem is a heavy emphasis on physician-directed activities in the frequently used nursing tools. Both Risser's (1975) and LaMonica and associates' (1986) widely used nursing instruments contain a relatively high proportion of physician dependent items. Nursing, as a clinical discipline responsible for measuring and analyzing patient satisfaction surveys, needs to develop data elements which provide an index of nursing care more reflective of nursing practice (Beyers, 1986).

This summary of the literature has identified the following conceptual-based problems of patient satisfaction: a) insufficient knowledge to form a basis for a clear definition, b) a state of questionable scientific importance of the concept, c) confusion and overlap in application to quality of care purposes, and d) lack of professionally-oriented nurse object attributes. Together these problems in the literature suggest that patient satisfaction is an inferred construct and a new direction in defining the meaning of patient satisfaction may be justified. Six concepts (cognitive, affective, and behavioral patient-consumer perceptions and responses) rather than one hypothetical patient satisfaction construct may more clearly specify the nature, definition, importance, purpose, and nurse object for the discipline of nursing.

Methodological Problems with Patient Satisfaction

It is widely recognized that patient satisfaction measurement

needs improvement (Gutek, 1978; Cleary & McNeil, 1988). Weak and inconsistent patient satisfaction data call into question the scientific importance of the concept. Reasons for mistrust of data by social scientists include: minimal variability in most studies; disproportionately high levels of satisfaction with virtually everything that people are asked about; high levels of satisfaction in areas in which it is "common knowledge" that people are dissatisfied; and a widespread discrepancy between the evaluation of one's own experience and the evaluation of a subject in general (Gutek, 1978). For example, patients consistently rated their own care more favorably and with greater consistency than what they believed people in general received from health providers (Pascoe & Attkisson, 1983; Stewart & Wanklin, 1978).

Because it is difficult to figure out how well patient satisfaction is measured in much of the research literature, the statistical conclusion validity of findings may be called into question. After reviewing over 100 articles and reports, Ware and associates (1978) concluded that "if reliability and validity were better documented..., the issues of measurement adequacy and usefulness of the satisfaction concept could be more easily separated" (p.11).

In health care, "no standardized methodological approach to measuring patient satisfaction exists" (Conbere, McGovern, Kochevar, & Widtfeldt, 1992, p.335). French (1981) discussed methodological considerations in hospital surveys and concluded, "there are no clear cut answers to when, where, and how to best obtain hospital patients' opinions" (p.28). Furthermore, methodological problems common to all patient satisfaction research also influence the reliability, validity,

and sensitivity of nursing instruments.

McDaniel and Nash (1990) compiled a compendium of instruments measuring patient satisfaction with nursing care. In their literature search they used criteria of: adult populations, years of 1970 to 1989, and publication in U.S. journals including unpublished theses and dissertations. Twenty-one instruments meeting these criteria were found. In order to assess current patient satisfaction with nursing care instruments, two additional instruments (Eriksen, 1988; Megivern, Halm, & Jones, 1992) were identified by this author using the same criteria as McDaniel and Nash. Of the twenty-three instruments, eleven had procedures to determine validity and reliability, five of which were designed to evaluate hospital care and included specific nursing items (Abramowitz, Cote, & Berry, 1987; Cleary & McNeil, 1988; Ferrans 1987; Guzman et al. 1988; Nelson, Hays, Larson & Batalden, 1989), two evaluated outpatient care (Linn, 1975; Risser, 1975), and seven contained items that measured only nursing care among hospitalized patients (Collins, 1975; Eriksen, 1988; Hinshaw & Atwood, 1982; La Monica & Oberst, 1986; Little field & Adams, 1986; Megivern, Halm & Jones, 1992 and Risser, 1975). Discussion of methodological problems will focus on six (the latter seven without Collins, 1975) nursing instruments that a) measured only nursing care b) have been used for hospitalized patients and c) have evidence of reliability and validity.

Description of Nursing Patient Satisfaction Instruments

Of the six tools under discussion, three are closely related: Hinshaw & Atwood's (1982) Patient Satisfaction Instrument (PSI) and La Monica, Oberst, Madea, & Wolfs' (1986) La Monica Oberst Patient Satisfaction Scale (LOPSS) were each adapted from Risser's (1975)

outpatient tool for inpatient hospital use.

The Risser Patient Satisfaction Scale has been the most widely used instrument of its type in nursing. Risser developed the instrument to measure satisfaction with three dimensions of outpatient nursing care: trusting relationship, technical-professional skill, and educational relationship. The conceptual definition of patient satisfaction developed by Risser was also used by the authors of the two instruments adapted from hers, the PSI and LOPSS. Risser defined patient satisfaction as "the degree of congruency between a patient's expectations of ideal nursing care and his perception of the real nursing care he receives." (1975, p.46). In none of the three instruments using this definition, was an attempt made to operationalize the definition. If this had been done, "expectations" would likely be measured retrospectively or as a premeasure and then compared with subsequent actual "perceptions" of care. A change or difference score or some measure of fit would then be used to estimate congruence between expectations and perceptions. This type of discrepancy between theoretical and operational definitions commonly occurs in patient satisfaction research and contributes to inaccurate measurement.

Eriksen's (1988) Satisfaction with Nursing Care Instrument was based on six of eight of Ware's dimensions identified for patient satisfaction with health care services which seemed appropriate for the hospital setting, (a) art of care, (b) technical quality of care, (c) physical environment, (d) availability, (e) continuity of care, and (f) efficacy/outcomes. In an effort to develop a more sensitive instrument than existed in the literature, a magnitude estimations scaling approach was selected.

Littlefield and Adams' (1987) Patient Participation and Satisfaction Questionnaire (PPSQ), was developed to measure satisfaction with the birthing experience and postpartum hospital stay in an alternative birthing unit. Two questionnaires previously tested on perinatal patient populations by Hodgeman and Little field (cited in Little field & Adams, 1987) were used as a base for the instrument.

Megivern, Halm, and Jones' (1992) Patient Satisfaction Survey (PSS) is influenced by Watson's domains of expressive and instrumental nurse caring actions. Based on the expressive and instrumental nurse activities identified in the literature, an open-ended patient interview guide was used to inductively derive common themes from patients' and family members' perceptions and expectations for nursing care in the critical care setting.

Methodological Problems with Nursing Instruments

According to Ware and associates (1975), one cause of inflated patients satisfaction levels is acquiescent response set (tendency to agree with statements whatever the content). Ware and associates (1978) found that 40 to 60% of respondents manifested some degree of Acquiescence Response Set (ARS) and from 2 to 10% displayed noteworthy ARS tendencies. Balanced satisfaction scales were not correlated or correlated only slightly with ARS. Ware concluded that in studies of interrelationships among satisfaction constructs, it is important to provide an equal number of favorable and unfavorably worded items. Of the nursing instruments, Risser's (1975) and Hinshaw and Atwood's (1982) tools were perfectly balanced. LaMonica et al. (1986) had 25 positive and 17 negatively worded items. Little field and Adams's (1987) had 97 positively worded items.

Neutral response bias (tendency to answer based on neutral midpoint) has been noted as a disadvantage for using an "unsure" or "neutral" response choice on a Likert scale (Nunnally, 1978). Eriksen (1988) and Megivern et al. (1992) avoided a neutral midpoint in their instruments and the other four did not. In summary, nursing instruments are mixed in their control of ARS and neutral response set bias.

Rating responses tended to be less specific and objective than report responses according to Davies & Ware (1988) who compared both formats. An example of a rating response is Megivern et al. (1992) instrument with a 1 to 5 rating scale, where 1 is "poor" and 5 is "excellent." The other five nursing satisfaction instruments used report responses. Report response formats ask whether a particular action occurred or how often it occurred. However, satisfaction or dissatisfaction can only be implied from strict reports of behaviors, for example, how long it took a nurse to respond to a call light. The present trend in satisfaction surveys favors the use of report response formats according to one author (Genovich-Richards, 1992). However, Ware & Berwick (1990) conducted a study in which they developed and tested a questionnaire surveying patient judgments of hospital performance including nursing care. They recommended a five choice "excellent-to-poor" rating response scale that performed well in their study.

Other artifacts that artificially inflate satisfaction levels include: differential responding bias (low response rates occur suggesting that patients who were displeased declined to participate); sampling bias (critically ill or very stressed patients are typically not included); failure to account for moderators, i.e., life satisfaction, mood, self-esteem, and background characteristics; lack of

a time period specified as a context for questions; sponsor identity bias (patients feel intimidated when approached by nurses or other employees); social desirability bias (patient is vulnerable and wants to please so he says what the investigator wants to hear); and problems with methods of collecting data (if same method is repeated, may obtain a measurement artifact, e.g., method variance).

Regarding social-psychological artifacts and also the Hawthorne effect, Pascoe (1983) concluded that "while such effects do operate, patients' self-reports are not substantially biased by these artifacts" (p.195). Nonetheless, in psychometric assessment, it is important to attempt to overcome these sources of measurement error and to report efforts to do so in publication of findings. Among the six instruments under review, no steps to identify the presence of these artifacts were reported. For example, LaMonica et al. (1986) found mood to be significantly correlated with satisfaction but did not statistically control for its influence.

Reliability of Nursing Instruments

In Risser's (1975) study, reliability coefficients provided indices of the instrument's internal consistency but not of the instrument's stability over time. Hinshaw and Atwood (1982) found each subscale, technical-professional, education, and trusting, to be internally consistent (.78 to .87). Also, stability (using repeated estimates of internal consistency over time) was found to be acceptable across studies. The LaMonica et al. LOPSS had an overall alpha of .95 and .84 to .85 for the subscales. The authors claimed minimal redundancy based on item to total scale correlations in the acceptable range (.50 to .71) for most of the 42 items.

Eriksen (1988) planned to estimate internal consistency reliability of the subscales using coefficient theta. This was not done since exploratory factor analysis did not substantiate the subscale structure of the instrument. She inferred reliability of measurement based on a claim of predictive validity.

Littlefield and Adams' (1987) tool measured participation in care and satisfaction in alternative and conventional birth settings. It had low alpha coefficients, .57 and .63, for the postpartum subscales and .83 to .97 on the other ten (anteperatal, labor and delivery) subscales. The large number of items, 97, undoubtedly contributed to the high alpha coefficients. The nursing satisfaction instruments, with the exception of Eriksen's (1988), showed acceptable internal consistency reliability but neither test-retest nor equivalence reliability were calculated for any of the instruments.

Sensitivity of Nursing Instruments

If patient satisfaction data are used in planning programmatic interventions by managers, it is important to be able to detect evidence of changes in satisfaction levels over time. "The sensitivity of an instrument affects how small a variation in an attribute can be reliably detected and measured" (Polit & Hungler, 1983, p.403). A basic assumption underlying patient satisfaction is that satisfaction itself is a continuum. An item response scale should place people along that continuum in terms of their attitudes toward providers. Ware, Snyder, Wright & Davies (1983) believed that five choices to report strength of agreement yields more information than two or three. Also, they believed that "any further increase in reliability with seven response choices did not seem to warrant the increase in questionnaire length and the

additional complexity of formatting items" (p.250). However, another point of view exists because distributions of satisfaction are usually highly skewed toward high satisfaction. Hunt (1977) said the satisfied end of the scale needs to be pulled out through one or two more levels such as "very good" and "absolutely delighted" (and also adding "terrible" to the other end).

Of the six instruments under discussion, only one, the La Monica et al. LOPSS, had a seven-point scale. Despite this, La Monica & Oberst's instrument did not achieve greater sensitivity than the previously developed Risser and Hinshaw & Atwood instruments (1986).

Eriksen (1988) attempted to achieve greater sensitivity than previous measures of satisfaction through the use of magnitude proportional judgments concerning metric stimuli. Patients were asked to think about their expectations of nursing care and assign their expectations the number 100. Then the patients were instructed to read each item and determine the degree to which their experience with nursing care met, did not meet, or exceeded their expectations and assign any number they thought appropriate. Complex calibration procedures were used to assess the ability of patients to make proportional judgments. Eriksen found the instrument to be successfully and validly used by patients. Nonetheless, magnitude estimation is hard to analyze and for patients to do (personal communication, L. Eriksen, Feb. 22, 1991). With sicker and sicker hospital patients, the clinical utility of using magnitude estimation to achieve more sensitive measurement is questioned.

None of the psychometric studies measured changes in satisfaction levels over time to assess the sensitivity of the tools. Ventura, Fox,

Corley and Mercurio (1982) conducted an extensive study of the effectiveness of primary nursing using the Risser (1975) Patient Satisfaction Scale. They concluded that patient satisfaction is a relatively insensitive criterion and suggested that there is a need to use other criteria with theoretical importance. The use of more precise concepts, that is, cognitive, affective, and behavioral perceptions of nurses' roles and responses to nursing services, may allow more sensitive measurement than measurement of the patient satisfaction construct.

Validity of Nursing Instruments

Content validity. The issue of validly measuring cognitive, affective, and behavioral perceptions and responses is important if the purposes of consumer assessment, namely marketing and quality monitoring, are to be achieved. Affective responses, based on subjectively felt needs, aspirations, and experiences, and behavioral responses, in terms of reusing or recommending the hospital based on nursing care, are essential for the marketing purpose. Factual responses relating to the ideal vs. actual attributes perceived in the given context of nursing care are essential for the quality of care monitoring purpose. The extent to which the proposed instruments identify the full content domain and dimensions of patient perceptions and responses to professional nursing care will be evident in part by the existence of the each type of perception and response. The proportion of classes of cognitive (factual), affective (feeling), and behavioral (intentional) perceptions and responses generated by items in the five tools in the literature were identified by this author:

Table 3

Nursing Patient Satisfaction Tools and Types of Phrases in Items

Nursing Patient Satisfaction Tools	Types of Phrases in Items		
	Factual	Feeling	Intentional
Eriksen, 1988	30	5	0
Hinshaw & Atwood, 1982	21	7	0
LaMonica et al., 1986	28	12	1
Little field & Adams, 1987	82	15	0
Megivern, Halm & Jones, 1992	31	6	0
Risser, 1975	21	7	0

Risser (1975) attempted to avoid factual items and included phrases related to feelings using attitude methodology (Shaw and Wright, 1967). However, examination of the items revealed that all five tools are primarily measuring cognitive perceptions and responses. Affective perceptions and responses are potentially very important in marketing nursing care. Affective perceptions and responses are predicted to be higher than cognitive perceptions and responses in predicting behavioral responses, i.e., intentions to reuse or recommend nursing care based on research cited earlier by Bagozzi (1983). Consequently, none of the tools provide a sufficient vehicle for the marketing purpose that managers need. Intentions to reuse or recommend nursing care, (the behavioral responses), can be used for marketing purposes independent of affective and cognitive perceptions and responses. Of the five

instruments, only one, the LOPSS (LaMonica et al., 1986), included an intention-to-reuse item: "If I needed nursing care again, I'd want to come back to this hospital."

Another content validity issue exists. Among the six tools, the Risser (1975) tool and the slightly modified Hinshaw & Atwood (1982) tool did not contain the physical care and comfort measures found by White (1972) to be important to hospitalized patients. The other four tools (SNCQ, LOPSS, PPSQ, CCPSS) did include physical and comfort aspects perhaps because they were originally designed for hospitalized patients, whereas the first two were not.

Construct validity. In her 1975 study, Risser established internal consistency reliability and content validity but not the construct validity of her tool. Construct validity of the Risser and Hinshaw and Atwood (1982) tools via convergent-discriminant technique, discriminance, and predictive modeling was subsequently established over five studies and is considered by Hinshaw & Atwood to be moderate to strong (1982). Numerous unrelated studies have used the Risser and Hinshaw & Atwood instruments. Each of these studies contributes to the verification of the validity of the instruments across time (Burns & Grove, 1993).

Factor analytic procedures were reported only for Eriksen's (1988) SNCQ and LaMonica et al.'s (1986) LOPSS probably because of small sample sizes in studies of the other nursing tools. LaMonica et. al.'s factor analysis (principal axes method with varimax rotation) failed to show the predicted dimensions of nurse performance as defined initially by Risser. Rather, the two largest factors (interpersonal support and dissatisfaction) represented positively and negatively worded items, an

example of acquiescence response bias (Ware, 1978). Discriminant validity relied on low but significant ($p = <.001$) Pearson correlations (-.20 to -.27) between mood subscores and the LOPSS. This should be interpreted cautiously because there may be multicollinearity of mood with illness variables.

In an exploratory factor analysis using varimax rotation, Eriksen (1988) concluded that the instrument "may be sampling two factors, one concerned with art and technique of care and the other related to the patient's environment" (p.533). Evidence for predictive validity was based on predictions of three nursing managers in a small general hospital on which of two 30 bed medical surgical units would score higher on the Patient Satisfaction with Nursing Care Questionnaire. Differences between the two units in terms of patient complaints may have been substantial and not subtle as the instrument's ability to predict implies.

Littlefield & Adams (1987) assumed content and construct validity based on logical analysis and significant Pearson correlations of .65 to .78 for the relationship between high participation and high satisfaction (1986). With Megivern et al.'s (1992) critical care tool, content validation was supported by the qualitative data gathering technique to elicit patient and family member perceptions and expectations for nursing care. No further reliability or validity testing was done.

In conclusion, of the six tools, the Hinshaw & Atwood and La Monica et al. tools have been found relatively reliable and valid for cognitive perceptions and responses of hospitalized patients. Based on this analysis, a need exists to develop reliable, valid, and sensitive

measurement tools to assess the patient-consumer's holistic perceptions and responses (not only cognitive but also affective, and behavioral) to nursing care in hospitals.

To summarize the methodological problems, (a) satisfaction with nursing care instruments that have psychometrics established with formal procedures are relatively few in the hospital setting (McDaniel & Nash, 1992) and (b) methodological problems have contributed to the difficulty of reliably and validly measuring patient satisfaction in health care and in nursing. Except for Hinshaw and Atwood (1982), extensive reliability and validity testing of patient satisfaction instruments is only little more evident in nursing now than when Ware and associates (1978) analyzed the patient satisfaction literature in the 1970's. Satisfaction with nursing care has been found to be the best overall predictor of consumer satisfaction with the hospitalization service encounter (Press & Ganey, 1990; Abramowitz, Cote & Berry, 1987; McDaniel & Nash, 1990). At a time when demand for patient satisfaction data is high among nurse administrators, it is surprising that an more appropriate instrument for the measurement of consumer attitudes toward professional nursing care in the hospital setting does not exist in the literature.

CHAPTER THREE

METHODOLOGY

Phase One: Instrument Development

Phase One: Instrument Development included construction of the study instruments, their initial testing and the development of an Information Form. The term, "study instruments" refers to the three (3) perceptions instruments and the three (3) response instruments. The perceptions instruments are titled: Cognitive Perceptions of Nurses' Role Performance, Affective Perceptions of Nurses' Role Performance, Behavioral Perceptions of Nurses' Role Performance. The response instruments are titled: Cognitive Response to Nursing Services, Affective Response to Nursing Services, and Behavioral Response to Nursing Services.

Patient-consumer perceptions of nurses' role performance were attributed to items forming the key nurses' role dimensions of caregiver, teacher, friend, and advocate. These role dimension items are found in the Cognitive Perceptions of Nurses' Role Performance (CPNRP), Affective Perceptions of Nurses' Role Performance (APNRP) and Behavioral Perceptions of Nurses' Role Performance (BPNRP) instruments.

Scaling Model

The six instruments are normative rating scales based on the *linear model* or *summative model* described by Nunnally (1978) as the most generally used model to scale people with respect to most types of judgments and sentiments. This model was chosen because of its familiarity and ease of use considering the variety of ages and educational levels among hospitalized patients.

According to Nunnally (1978) monotone models with unspecified

distribution forms such as the summative model in this study have three assumptions.

First, it is assumed only that each item has a monotonic trace line (item characteristic curve). . .Second, it is assumed that the sum of the trace lines for a particular set of items do not all have the same type of monotonic trace line . . . The third assumption is that the items as a whole tend to measure only the attribute in question. (p. 82-83)

These assumptions of the summative model are not stringent about the trace lines and "recognizes that the individual item has considerable specificity and measurement error" (p.84). Nunnally reached the conclusion that the "most sensible way to measure psychological attributes of people is to sum scores on items" (p.84). These assumptions are accepted in the study by the choice of a summative scale to measure the attitude of patient satisfaction.

Likert scales are a type of summative scale (Nunnally, 1978). A Likert scale is "a type of composite measure of attitudes that involves summation of scores on a set of items (statements) to which respondents are asked to indicate their degree of agreement or disagreement" (Polit & Hungler, 1983, p.616). Items that have been used in most Likert scales, according to Eagly & Chaiken (1993), consist of statements of belief, although statements about behaviors or affective reactions toward the attitude objects have been used. Advantages of Likert scales over other methods include that they are easy to construct, usually are highly reliable, and can be adapted to the measurement of many different kinds of attitudes (Nunnally, 1978). However, the exact level of measurement of Likert scale scores is unknown (Eagly & Chaiken, 1993). The rating scales in this study were used to obtain interval responses based on the assumption that "in responding to the items, people are

actually locating themselves on the underlying affective continuum through their intensity and direction ratings" (Gable, 1986, p. 39).

Each of the three response instruments consisted of a series of four (4) global items using a Likert format. Each item was a summary construct reflecting the particular dimension of attitudinal responding either cognitive, affective, or behavioral. "Many successful studies of attitudes have assessed attitudes informally by one or two rating scales" (Eagly & Chaiken, 1993, p.81).

Though multiple-item measures have the advantage of greater reliability, and global measures used alone will never replace them, scores from short (three to six items) instruments may provide useful information. The extent to which each of the three response instruments with global assessment scores correlates with scores on the more specific, lengthy perceptions instruments may assist in instrument refinement. The ease in obtaining information from the patient, less inconvenience and fatigue for the patient, and lesser cost associated with shorter surveys provides further justification for the three 4-item, global-type response instruments.

Measurement Objectives for the Instruments

The objective of the perceptions of nurses' role performance instruments was to obtain the ratings of patients on their awareness and specific impressions of observed nurse role performance that can be classified according to the professional dimensions described earlier: caregiver, teacher, friend, and advocate. The objective of the response to nursing services instruments was to obtain patients' ratings of their global impressions of the nursing services based on their attitude of patient satisfaction with nursing care during a recent hospitalization

experience. The instruments have the additional objective of reflecting processes that are cognitive, affective, or behavioral in origin. The total objective of these six instruments, taken together, was to provide a proxy (indirect) measure of the attitude of patient-consumer satisfaction toward professional nursing care, for general use across clinical areas, which is more effective than current measures.

Criteria for the Instruments

The evaluation criterion for each instrument was that the item descriptors (attributes) must fit the definitions of each concept (instrument). Based on this general criterion, the perceptions and responses instruments include:

1. perception items consistent with the concepts of perception and role in King's (1981) systems framework
2. nurses' role items consistent with King's discussion on nurses' activities and roles and the literature on professional, i.e., licensed Registered Nurses in hospitals
3. response items are based on summary (outcome) evaluations of the nursing services that can be used to predict future choices of patients and their family members.
4. items that can be distinguished as perceptions or responses and as cognitive, affective, or behavioral in nature. Finally, the tools must be self report instruments able to be completed by the subjects.

Uniqueness of the Instruments

The six study instruments differ from other current methods in the literature to measure patient satisfaction with nursing care in hospital settings in four ways:

1. The most recent research on attitude formation (Eagly &

Chaiken, 1993) involves the measurement of affective and behavioral aspects of attitude, as well as the commonly measured cognitive aspect. Cognitive, affective, and behavioral correlates of attitude are reflected in the conceptualization and construction of the study instruments.

2. The commonly used items in hospital surveys address superficial characteristics of nurses, e.g., friendly, cheerful, prompt. The study instruments focus on the profession's views of nurses' roles as seen by the patient-consumer. The unique inclusion of four specific professional roles of nurses (caregiver, teacher, friend, advocate) as the dimensions of the perceptions instruments provide an essential second-level diagnostic tool for managers in addressing satisfaction with nursing care.

3. The study instruments are conceptually based using theory derivation based on King (1981) and Eagly & Chaiken (1993). Attitude from the parent field of social psychology was transposed to patient satisfaction in the field of nursing and reformulated as perceptions and response concepts in the field of nursing. No other instruments for patient satisfaction with nursing care use a nursing theoretical framework to organize their construction.

4. The study instruments are the only ones designed specifically for hospital patients on all major clinical services: medical, surgical, and obstetrical. Other patient satisfaction with nursing instruments were developed for outpatients (Risser, 1975) or modified slightly for inpatients (Hinshaw & Atwood, 1982) or tested on a specific population of hospital patients (LaMonica, Oberst, Madea, & Wolf, 1986; Munro, Jacobsen, & Brooten, 1994).

Explication of the Content Domain

The major domain of inquiry in this study was knowledge of Perceptions of patients, a fundamental concept for King (1971, 1981). A subdomain of perception is Role, another concept in King's conceptual framework for nursing (1971, 1981). The specific area of scientific nursing knowledge development that the instruments address is patient-consumer perceptions of nurses' professional roles and responses to nursing services.

Perceptions Instruments

Perceptions are personal reactions to some stimuli that are permitted to enter from the environment (King, 1981). Perceptions fit the definition of a judgment by Nunnally (1978) because there is a conceivably correct answer by means of a time study of actual nurses' activities categorized into types of role performance. A blueprint for perception instruments was constructed that includes King's (1981) four professional nursing roles within the cognitive, affective, and behavioral frameworks (See Appendix A for blueprint for study instruments).

Response Instruments

According to social scientists Eagly & Chaiken (1993), attitudes can be distinguished from responses: attitudes can generate responses and responses are the consequences of attitude. Their conceptual definition of attitude is "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (p.1). Consequently, the attitude construct of patient-consumer satisfaction with professional nursing care means a former patient's internal disposition toward or opinion of registered professional

nurses. In contrast, responses are viewed as overt or covert cognitive, affective, or behavioral expressions generated by attitudes. Therefore, the three response instruments, each measuring a response (cognitive, affective, or behavioral) to nursing services, are based on subjects' global impressions of the nursing services generated by attitudes toward the nurses in the hospital setting.

Lynn (1986) distinguishes between cognitive and affective measures related to domain identification. For cognitive measures, the full content domain must be identified. Thus, all nurses' roles and all cognitive evaluations of nursing services in hospitals must be represented in the content area of the cognitive perceptions and response measures. A single expert or an arbitrary number of experts can identify the content domain for cognitive measures (Lynn, 1986).

In affective measures, the domain identification was accomplished through a thorough review of the literature so that all dimensions and subdimensions are identified according to Lynn (1986). The hospital nursing roles that exist in the literature were previously discussed. That part of the literature that reflects affective perceptions is based on need fulfillment and care/caring activities of nurses in their roles. Global affective responses in the literature are reflections of summary feelings, e.g., like/dislike, satisfied/dissatisfied. The incorporation of the ideas of a variety of experts through the literature is consistent with Lynn's recommendations.

The domain identification for behavioral perceptions was based on behavioral information stemming from "self-perception inferences from prior actions" (Zanna & Rempel, 1988, p. 120). The behavioral response to nursing services content domain was identified as the intent to act

in the future on a choice of nursing services in hospitals. This response is generated from one's attitude toward nurses in a specific hospital.

Item Development

"Likert's scaling technique . . . begins with a large pool of items that are chosen intuitively for their relevance to the attitude object" (Eagly & Chaiken, 1993, p.52). A goal of sixteen items for each of the three perceptions instruments and four items for each of the three response instruments was selected to facilitate ease and convenience of patient-consumer. Therefore, each set (cognitive, affective, and behavioral) of sixteen perceptions items formed part of the blueprint with four (4) items for each of the four (4) role subscales (See Appendix A for blueprint for study instruments). The blueprint also included four items for each of the response instruments (cognitive, affective, and behavioral). The number of items was planned to be a total of sixty (60) after initial testing based on results from content and item analysis.

An initial pool of one-and-a-half to twice as many items is recommended by Nunnally (1978) to have ample items to discard. Therefore, twice as many, i.e., thirty-two (32) items were the minimum needed for each of the three perceptions instruments and eight (8) for each of the three response instruments. Though an initial pool of 120 items was all required, 364 items were initially developed to provide for replacement of items that could be eliminated through the process of estimating the reliability and validity of the instrument.

This item development phase consisted of the researcher generating items based on the literature reviewed during concept derivation.

Additionally, some suitable items that performed well in a psychometric sense were chosen from existing hospital and nursing satisfaction with care instruments. Item development packets consisting of 229 items and directions for the participants were sent to thirteen individuals who reviewed the items and completed item development packets. Directions included rating the items: S (super), G (good), R (good but redundant) and W (weak). The reviewers were encouraged to edit existing items and add new items and place an asterisk (*) in front of those items they most preferred. An additional 135 items were generated by the thirteen participants who included:

Committee Members - 3

WSU Nursing Administration faculty - 1

Director of Hospital Corporate Communications Department - 1

Case Manager in acute care (MSN student) - 1

PhD nurses employed in acute care settings - 2

Doctoral students using King - 3

Patient-consumers - 2

The composition of reviewers was altered to include patients based on the belief that their ideas would keep the language patient-oriented. It was concluded by the participants that the items formed an exhaustive list of the content domain. The process of reduction of items was aided by the elimination of items marked redundant or weak by the reviewers. Furthermore, two doctoral students reviewed the items that were consequently deleted to judge if choices were made appropriately. As a result, 221 items were prepared for review by the content validity judges.

Description of the Instruments

Nursing Care Survey

The generated items were assembled into a usable form, which Lynn (1986) refers to as refined and arranged in a suitable sequence. The six instruments were compiled into a Nursing Care Survey (see Appendix B) for ease in use. Specification of an attribute of nurses' role performance for each item in the perceptions instruments was done. The typical Likert strongly agree-strongly disagree, 1 to 5, with a "undecided" midpoint format was chosen for the perceptions instruments. The perceptions instruments have items based on cognitive, affective, or behavioral information. The Cognitive Perceptions of Nurses' Role Performance (CPNRP) instrument was based on awareness of nurses' role activities, e.g., "the nurses looked like they knew what they were doing." The Affective Perceptions of Nurses' Role Performance (APNRP) instrument was based on fulfilled and unfulfilled need experiences with nurses' roles, e.g. "the nurses came when I needed them." The Behavioral Perceptions of Nurses' Role Performance (BPNRP) instrument was based on the patient's perception of his own behavior in interaction with nurses' roles that influences his attitude toward nurses, e.g., "I learned to take an active role in my care from the nurses."

The scale construction for the response instruments was a five (5) point Likert scale for each item. However, the final selection of the global adjectives for cognitive, affective, and behavioral responses was based on content validity testing. The number of steps in the response format and the use of a neutral mid-point was tested in Phase One of the study.

Rationale for Scale Construction

The scale construction of the perceptions instruments was a 5 point Likert rating scale of five numbers. Response choices were (5) strongly agree, (4) agree, (3) undecided, (2) disagree (1) strongly disagree and not applicable "NA." A "not applicable" choice was given at this stage of instrument development so that the reason for a portion of missing data could be attributed to this choice. The selection of five numbers was based upon the (a) the original Likert scaling technique (1932) and (b) the lack of increased sensitivity with a seven point scale in a nursing study (LaMonica, Oberst, Madea, & Wolf, 1986). A neutral response alternative, "undecided," was used. On one hand, noncommitment tendencies were not expected among patient-consumers on an issue as vital as their nursing care during their recent hospitalization. On the other hand, the risk of missing data due to lack of a neutral choice was considered. The choice of the word, "undecided," was made over the word "neutral" because the subject may be uncertain rather than truly neutral. Two of the response items use different rating scales, Excellent to Unacceptable and A to F, to complete the stem statements in the items.

Both favorable and unfavorably worded items are recommended to avoid response set bias (Ware, 1975). The decision to include only positive items was based on reports by an experienced nurse researcher of patient satisfaction (personal communication, H. Kitzman, June, 1994) and personal observations that there exists substantial potential for patients, especially elderly patients, to be confused by the use of balanced scales.

Social desirability bias and sponsor identity bias were

considered. However, these biases may have been lessened because subjects were at home answering the study instruments rather than being interviewed in a hospital setting. Therefore, the subject may not be as threatened and does not stand to gain from presenting a false description of himself. The practice of asking questions about satisfaction after discharge is widely supported because of these bias issues.

If a family member completed the form, the specific relationship to the patient was asked. In the pilot study, the reason the patient did not complete the form was included.

A section for comments was included following the last item. This was done to provide information that can be used in the future to add, delete or modify, items.

Information Form

The purpose of the Information Form (see Appendix C) was the collection of data for the variables that might suggest characteristics associated with patient-consumer perceptions and/or responses to professional nursing care. Their inclusion may increase knowledge of measurement of the patient satisfaction process.

The questions in the Information Form were organized into sections and require a checkmark, fill-in, or a number. The proposed individual differences variables were age, gender, race, marital status, education, type of health insurance, income, and past experiences with nurses and hospitals. As discussed earlier, these variables are correlates used in patient satisfaction research. Although age and gender have tended to be significant, they have not been significantly related to satisfaction with nursing (Carey & Posavac, 1982). They were examined along with

lesser important, but commonly measured, information correlates.

Past experience with nurses was included because patients' opinions of nurses have been found a predictor of patient satisfaction with all other aspects of care (Doering, 1983). Therefore, past experience with nurses may be an important individual difference influencer of patient-consumer responses. Also, a question asks subjects who are RNs or LPNs to identify themselves. Another question asked if any member of the immediate family (parent, sibling) is an RN or LPN.

Number of lifetime hospitalizations and number of hospitalizations at the study site hospital are asked as a check on the question of past experience with nurses. This information may also influence scores on the perceptions and response instruments similarly to past experiences with nurses. Since pre-existing attitudes toward health care influences satisfaction with present care (Chang, Uman, Linn, Ware, & Kane, 1984; Linn, 1975), it was important that this factor be considered in this study by the inclusion of information on the number of past hospitalizations.

Other individual differences factors may affect perceptions and responses differentially across patients and account for systematic measurement error. These include type of illness by DRG or ICD-9, pain threshold or tolerance and length of stay (Carey & Pasavac, 1982). Therefore, subject-reported severity of illness, pain and anxiety, and number of days hospitalized was collected in the pilot phase. Objective measures of severity of illness and number of days hospitalized rather than this subjective assessment would be appropriate for a correlational study whose purpose was to determine the degree of influence of these variables. For this methodological study, patient-reported data may be

sufficient to highlight possible measurement error. Other variables in the Information Form that may be related to patient perceptions and responses include type of admission, clinical services, presence of a roommate, and admission to an ICU. Analysis of the aforementioned individual differences variables may lead to the development of a more methodologically precise empirical study by accounting for systematic measurement error due to individual differences.

There are other potentially influencing variables of patient satisfaction in the literature that were not examined in this methodological study. These variables include: (a) importance of care aspects to the client, (b) expectations of patient-consumers regarding nurses, (c) quality of life, (d) severity of illness (acuity and medical diagnosis), (e) environmental factors, (f) nursing intensity, and (g) patient mood.

Optional Questionnaire

The Patient Satisfaction Instrument (PSI) (Hinshaw & Atwood, 1982) was titled "Optional Questionnaire" (see Appendix D). This 25-item instrument was included in the first 100 to 275 research packets of each hospital. Directions stated, "You are among a small number of patients who are being asked to complete this questionnaire as a validity check. If you have the time, your completion of this optional questionnaire in addition to the others is greatly appreciated." Data from this questionnaire were analyzed in answering the research question on convergent-divergent validity.

Judgment of Content Validity

Design

The design for the content validity judging was a concurrent

naturalistic design. The content validity of the perceptions and response instruments was evaluated using the Waltz & Bausell (1981) quantifiable technique as delineated by Lynn (1986) before the pilot testing of the instrument. Content validity has been defined as the determination that "items sampled for inclusion on the tool adequately represent the domain of content addressed by the instrument" (Waltz, Strickland, & Lenz, 1984, p.142). Two panels of experts (content domain and King) were selected as judges of the subject matter of the instruments. The quantification of content validity that was used was the Index of Content Validity (CVI) which is derived from rating each item using Lynn's (1986) 4-option rating scale (1 = not relevant; 2 = unable to assess relevance with item revision or item is in need of such revision that it would no longer be relevant; 3 = relevant but needs minor alteration; 4 = very relevant and succinct). The actual CVI is the proportion of items that receive a rating of 3 or 4 by the experts (Waltz & Bausell, 1981). The proportion needed to establish content validity beyond the .05 level of significance is 1.00 for three or less judges (Lynn, 1986) which was the criterion for the rating of individual items in this study. For each instrument as a whole to be considered content valid, an acceptable level of interrater agreement among judges of .80 or greater was selected as the criterion (Waltz, Strickland, & Lenz, 1984) study. To assure that potential items had not been overlooked, each judge was asked to identify any area(s) that may have been omitted from the instruments. Suggestions for item improvement and for improvement of the instruments and materials were also requested from the experts.

Sampling/subjects

The major criterion for selection of the professional members of the content domain panel of judges was expert level involvement in delineation of professional nurses' roles in hospital settings. The content validity process was completed 18 months before the entire study was completed and nurses' roles in hospitals have been changing dramatically in the interim. In retrospect, the roles identified in the item generation phase remain valid mainly because the advocate role includes the newer "care manager" dimensions. "The profession's view of roles of registered nurses in hospitals" is the content area assumed to be known by nurse administrators, leaders in the nursing profession, and researchers of nurses' roles. Two to three of each: (a) nurse administrator, (b) leader in professional organization, and © nurse researcher were sought to ensure broad knowledge of the content domain. Based on these requirements, a panel of eight experts with diverse characteristics was selected to be content domain judges of the perceptions and response items. However, only three returned fully completed materials. Likewise, five judges were selected based on their expertise in King's (1981) systems framework. They were asked to circle items that were 4 = very consistent; 3 = consistent; 2 = neutral; and 1 = inconsistent with King's (1981) conceptual framework. Three returned usable materials.

Additionally, two "expert patients" were asked to participate in the content domain (relevancy) panel. Both returned the materials. These two non-nurse patient experts were selected to provide a patient perspective on the proposed instrument items. Since the instruments are based on professional roles as viewed by the profession, but are

intended for patients to answer, it was important to uncover if the explicated roles are relevant to patients' perceptions. The directions to the patient experts were the same as those sent to the professional role judges, i.e., based on relevance. Directions were followed very well by the patient experts. Also, an expert in education theory in nursing was asked to verify the cognitive, affective, and behavioral classification of the items.

Data Collection

The judges were contacted by mail to determine their willingness to commit time to the thoughtful evaluation of items as content validity judges. The materials sent to the content domain and King panels of judges were initially tested by the dissertation committee chairperson and two doctoral students who found it took them two to three hours to complete. Materials included (a) measurement conceptualization, (b) measurement objectives, (c) verbal written script (for pilot), (d) information form, (e) cover letter and directions to the patient/family member, (f) instrument items (221 items), (g) abstract of the study, and (h) curriculum vitae of the researcher.

Judges were furnished with a specific set of instructions for evaluation of the items based on the content validity criteria. The cover letter to the judges provided background information on the item development phase of the study and plans for face validity. The target population (hospital inpatient) point of view was considered by instruction to the judges that the nurses' role behaviors must be observable by patients. Directions were clear on the judges role: delineation of the full content domain including the theoretical definitions provided. The content domain panel were asked to match items

to concepts by judging their relevance. The King panel was asked to evaluate the theoretical relevance of the items to King's (1981) conceptual framework and to answer the question, "Are the items consistent with King's Conceptual Framework?" and the patient panel was asked to rate how much they liked or disliked each item being included in a patient satisfaction survey.

The results of the content validity testing for the pilot instruments ranged from 76% to 86%. For the final 60-item instrument, CVIs of 82% (King panel) and 72% (relevancy panel) were obtained. Once the CVI was derived for 120 pilot items and for the six instruments, and no area(s) was identified that had been omitted from the instruments, the content validity process was completed for the pilot instruments. After item selection for the study instruments followed the pilot testing, the CVI for the final study instruments and the individual items was also compiled.

Initial Testing

Initial testing in the form of two pilot studies was conducted at an urban, 603 bed teaching hospital setting. The purpose of the two pilot studies was to test the procedures and proposed instruments prior to the general study. Two pilot versions of the Nursing Care Survey were developed from the highest content validity ratings utilizing the blueprint. Each pilot study had a version of 64 and 68 items to have a manageable number of items for patients. The specific objectives were to (a) reduce the 132 items from the two versions in the pilot studies to one 60-item questionnaire for the general study, (b) estimate the internal consistency of the two pilot versions, and (c) assess the clarity, readability and face validity of the study instruments and

Information Form.

Design - Pilot Studies

The design was nonexperimental, descriptive. concurrent survey research using a patient contact up to four hours before discharge to complete the Information Form and to provide the survey packet to the subject for completion at home.

Initial testing for Phase One: Instrument Development was carried out on five nursing units in two sequential pilot studies five weeks apart using two versions of the instruments. Data collection was sequential so that improvements based on feedback were applied in the second pilot study of initial testing.

In addition to completion of the Nursing Care Survey and Information Form, subjects were asked to review the clarity and appropriateness of items and the face validity of the entire set of instruments. Instruments and protocols were assessed for adequacy and feasibility in terms of subjects' understanding and workability and revised as necessary. At the end of the questionnaire, a question was asked to address clarity, "Were there any items that were unclear or confusing to you?" The followup was "If yes, please go back and put a star in front of the item(s)."

Sampling/subjects - Pilot Studies

The convenience sample of ready-for-discharge inpatients for the pilot testing met the same inclusion and exclusion criteria as the final study population with one exception. Instead of all medical, surgical, and obstetrical patients being eligible, only patients from the selected nursing units were eligible. This enabled the instruments to be preliminarily tested for reliability and validity while limiting the

number of subjects to that necessary for initial testing.

Power analysis of one-tailed test using a .40 effect size, significance level of .05, and 80% power equals a sample size of 45 (Kraemer & Thiemann, 1987). Adjusting this for the projected (with Dillman method) 50% return rate equals 90 subjects for the two pilot studies combined. Though Stamps (1984) states 50% response rate to mailed questionnaires is usually expected, hospital surveys response rates are typically 20 to 25% (based on the investigator's experience). During the first pilot, 51 patients on the medical service units received the Information Form and study instruments. For the second pilot, 51 patients on the obstetrical and surgical services units received the Information Form and the study instruments that were revised based on the first pilot study.

Data Collection - Pilot Studies

During daily rounds at each hospital, the investigator generated a Discharge List of potential and "planned" discharges for the day. The Discharge List was based on physician orders, chart reviews, and informal discussions with physicians, discharge coordinators, and case managers. On each day for data collection, unit clerks were reminded to contact the investigator by beeper when a patient discharge was imminent ("imminent" means no more than four hours from time of data collector contact to time of discharge). Once notified, the investigator approached each referred discharge-ready patient and explained the study. Anonymity was assured. Any questions about the study or subject's rights were answered. If the patient agreed to participate, an informed consent was signed and witnessed and the Information Form was provided for completion. The investigator assisted the patient in completing this

form, if needed. Upon completion of the Information Form, the investigator gave the subject an envelope with the study instruments to take and complete during the first or second week at home. The patient was asked to return the completed "nursing care survey" to the investigator in the postage paid envelope provided. The envelope included the six perceptions and response instruments as one Nursing Care Survey, a postage-paid return envelope, a gift Patient Card for recording blood pressure (Appendix E), and a three (3) option postcard to be returned in separate mail (Appendix F). The postcard options for the subject to check off were (a) have completed and sent the questionnaire, (b) do not plan to participate, (c) plan to participate but have not yet completed and sent the questionnaire. The patient was asked to add their name and phone number to the postcard.

The rationale of electing for completion of the study instruments post discharge is that it might prove a threatening situation for patients if administered during hospitalization (Stamps, 1984). The four-hour interval between entering subjects in the study and actual discharge was reasonable because many discharges are delayed while waiting for transportation. During this waiting time, contact by nursing staff is usually minimal. The time chosen to provide questionnaires, i.e., immediately upon discharge, corresponded to the standard interval post discharge that patients receive mailed hospital satisfaction surveys in over 300 hospitals (Press, Ganey, 1993). Therefore, results can be compared with hospital survey items on nursing in the future if wanted. Also, when a longer period than two to five weeks elapses then memory problems might interfere with responses. French (1981), who analyzed hospital satisfaction studies related to memory, recommends

that the "research be carried out as close to the relevant events as possible" (p.29). Furthermore, Cleary & McNeil (1988) stated, "a patient is most likely to base responses to a satisfaction questionnaire on a specific episode of care if the questionnaire is answered shortly after care is received" (p.36).

A follow-up reminder postcard (see Appendix G) was mailed to all subjects as a thank-you and reminder one (1) week after the initial contact in the hospital. Approximately two weeks after the first postcard (week 3 post discharge), followup phone calls were made to all patients' homes who have not responded but who have indicated on the return postcard their intent to complete and send the questionnaire. Two weeks after the followup phone calls (week 5 post discharge), data collection ceased.

When a discharge-ready patient was nonresponsive but a family member was present, the family member was approached as the potential subject. It was not known in advance what percentage of study questionnaires could be completed by family members. Once in the home setting, it was anticipated that family members had input into a subject's questionnaires including responsive patients. Therefore, efforts were not made to restrict the proportion of questionnaires completed by family members.

Data Analysis - Pilot Studies

Reliability. Reliability was estimated using Cronbach's alpha and item analysis. Because four role components were proposed, alphas were calculated on the (a) subscales and (b) the total perceptions instruments and their subscales.

The process followed for selecting items after the pilots was as

follows:

1. Consideration of implications of the meaning of each item from King's (1981) perspective.

2. Maintenance of the blueprint, i.e. 3 perceptions instruments each have 4 dimensions of 4 items. This included maintaining a distribution of nursing activities within each dimension.

3. Selection of items with an inter-item correlation between .30 and .70 and an item-subscale correlation $>.60$.

4. The mean score of each item was obtained and the distribution of responses for each item examined. Distribution across the score values was rated poor, fair, good, and very good and those ranked highest were selected when weighing choices in item selection. Items with greater than 50% scores of 5 were assumed to have a ceiling effect and were not used.

5. Avoidance of items with high means (>4.5).

6. Selection of items that add unique variance: low inter-item and high item-scale correlations.

Validity. Face validity was assessed during the first pilot study on the medical service using a question "Did this questionnaire look like a typical survey for hospital patients?" The followup question was "If no, what would improve the appearance of the questionnaire?" Though face validity is not evidence of validity (Waltz & Blausell, 1981), face validity is useful for the development of a satisfaction type of instrument because it may increase measurement outcomes. As content validity addresses the experts' point of view, face validity addresses the perspective of the patient-consumer. Thomas, Hathaway, & Arheart (1992) concluded that face validity is significant for clinical

research instrumentation because, among other reasons, "assessment of participants' perspective improved response rate, yielding more valid data" (p.111). In this study, patient-consumers judged the instruments as *appearing* to measure what they purport to measure. Therefore, they were constructed to be similar in appearance to typical hospital patient satisfaction surveys.

The initial plan was to contrast scores from high and low satisfaction nursing units (as determined by percentage overlap) as an estimate of construct validity. Based on percentage overlap calculation, it was found that the medical units were very different (28% overlap). However, because of the very small sample (n = 22 on Unit A; n = 29 on Unit B) and not enough responses from Unit A, no analysis was done.

Summary of Phase One: Instrument Development

The instrument development process followed recommendations in the literature and established research protocols for a pilot study. Item generation was a rigorous process that involved generation of initial items by the investigator, review by thirteen judges, deletion and verification of deletion of weak and redundant items. Content validity estimation was carried out for individual items and the instrument as a whole according to Lynn (1986). Usefulness of the perceptions items and the global items for the response measurements was also assessed in two pilot studies. Of particular interest was the estimation of face validity and face-to-face interactions with ready-for-discharge inpatients who were asked to participate in the study. Procedures were modified for the general study based on the pilot studies.

Phase Two: Instrument Refinement

Phase Two: Instrument Refinement was the general research study

that tested the reliability and validity of the patient-consumer perceptions and response instruments.

Research Design

The research study was a nonexperimental descriptive research design. This exploratory study was concurrent survey research using mailed questionnaires. A survey research design provides the ability to measure across individuals and hospitals at the present point in time. A historical or predictive research approach was not appropriate because the phenomena as conceptualized (cognitive, affective, and behavioral perceptions and responses) and their ultimate source, the study subjects, exist today.

A naturalistic setting of a hospital was planned for personally contacting patients on their day of discharge for the pilot study only. The pilot study revealed that patients were willing to participate readily and personal contact was not necessary for a good response rate. Therefore, for the general study, the research instruments were mailed to the potential subjects postdischarge. The amount of time elapsing from date of discharge to date of mailing was planned to be approximately one to two weeks but it extended to five weeks in one mailing at one hospital. Subjects were asked to complete the survey in one week but were told the survey would be accepted up to eight weeks after discharge.

Subjects were also instructed to refer to: (a) only the most recent hospitalization, (b) the nursing care received only on the nursing units they were discharged from, and (c) "nurses" as all those whom they knew were members of the nursing staff. Only if the patient was unable to answer the questions, was a family member encouraged to

answer as the patient would if the patient could do so.

Three clinical services (medical, surgical, obstetrical) were used to ensure inclusion of diverse patient conditions. It was important to develop measures of patient outcomes that are not focused on specific diseases or conditions (Ozbolt, 1991). Comprehensiveness is needed for effectiveness research on all clients of a type of health care agency (Waltz & Strickland, 1988).

After discharge, in their homes, a set of paper and pencil instruments, was completed by the subjects. Surveys completed while patients were still in the hospital were avoided because they may be biased in favor of the hospital (Carey & Posavac, 1982). Returning mailed questionnaires may be less threatening and more reliable than personal interviews for former hospital inpatients (Press & Ganey, 1989; Walker & Restuccia, 1984). The Information Form was also used to collect data on each subject's age, gender, education, race, marital status, type of health insurance, income, and past experience with nurses. The end point for use of research materials was set at eight (8) weeks after hospital discharge based on the procedure used for the HEDIS 2.0 instrument (Packer-Tursman, 1995), a well-respected hospital survey used by managed care organizations.

Research Setting

The settings of the research were four voluntary non-profit hospitals in the state of Michigan from which the subjects were discharged. The subjects subsequently completed the study instruments in their home setting.

Several hospital data elements representing hospital size, complexity, and nursing management variables were used to describe the

institutions and their nursing staff. The definitions of hospital elements are based on the Nursing Management Minimum Data Set (Gardner-Huber, Delaney, Crossley, Mehmert, & Ellerbe, 1992). These nursing management elements are included in the study because they are important to nurse administrators for two reasons (a) in comparing the research settings to their settings and (b) in examining similar management data elements in their organizations that are potential influencers of patient-consumer perceptions and responses to professional nursing care.

Differences in subjects' demographic characteristics were expected between the hospitals. The locations of the hospitals, urban (pilot study only), suburban, rural, and semi-rural, were expected to provide subject diversity. Rural hospital patients may identify closely with their community hospital and its staff. Suburban hospital patients are the largest group of inpatients in this country. They tend to have some latitude in the decision making with their doctors on choice of hospital. This diversity in characteristics provides the opportunity to identify significant differences among the levels of patient-consumer perceptions and responses. The use of suburban, rural and semi-rural hospitals in the overall study will make the comparison of hospitals more meaningful in terms of the demographic analysis. An urban hospital was not selected for the main study because of similarity with suburban hospitals in bed size and occupancy rate. More significantly, patients of urban hospitals may not be as diverse compared with suburban hospitals whereas the contrast between suburban and rural hospitals has been documented (Fuszard, Green, Kujala & Talley, 1994).

The sensitivity of the instruments to detect differences in the influencing patient characteristics may be better able to be estimated

using diverse hospital locations. It was expected that subpopulations may have differences in patient satisfaction. Based on the work by the Agency for Health Care Policy Research and the National Committee for Quality Assurance, both offer supplements from their core instruments for chronically ill, low income, low literacy, and rural populations (Packer-Thrusman, 1995).

The selection of the hospitals was based on (a) good potential for access to the subjects, (b) sufficiently large numbers of patients discharged daily, and (c) lack of conflict with a hospital's existing patient satisfaction monitoring system. Each of these selection criteria for hospitals will be discussed.

Access to Subjects

Potential for access to subjects according to each hospital's nursing administration and physician staff requirements was explored. Possible barriers during the pilot study included (a) discharge procedures that inhibit patient contact on the day of discharge, (b) nursing units too busy to notify or accommodate a nurse investigator, and (c) physician bylaws requiring attending physician permission to approach each patient.

Sufficient Number of Discharges

The numbers of eligible subjects discharged daily must be sufficient to provide the sample size required for the study's second phase of instrument refinement. A hospital with a daily average census of 400 inpatients can be expected to generate fifteen hundred (1500) discharges per month or fifty (50) per day given an average length of stay of 7.2 days (C. Wise, Patient Representative, personal communication, August 1993). It was estimated that approximately one

fifth of discharged patients did not meet the inclusion criteria. Others were lost to the pilot study because of failure of staff to notify the investigator of pending discharges or lack of sufficient notice for the investigator to personally contact the patients. With 20% not meeting the inclusion criteria and an estimated refusal rate of 10-20%, it was proposed that approximately 45% of discharged patients would form a sample pool of 22 patients per day in each of the suburban hospitals and 4-5 patients per day in the rural/semi-rural hospitals. With these numbers of discharges and an estimated 50% return rate, it was possible to find enough subjects to meet the minimum sample requirement of 1280 subjects in a reasonable length of time. It was predicted that an average of ten (10) patients would return usable questionnaires per day from each of the suburban hospitals and six (6) per day from the rural/semi-rural hospitals combined. Therefore, data collection for Phase Two: Instrument Testing in the suburban settings was expected to last approximately 35-45 days each and in the rural settings, approximately 90 days.

Lack of Conflict with Patient Satisfaction Monitoring

Hospitals, when asked to agree to participate as a research site, needed assurance that there was a lack of conflict between the study and any existing patient satisfaction monitoring programs in their institutions. Patients are unlikely to complete two questionnaires about their hospital experience. Therefore, avoiding inconvenience to the organizations by working within their schedules of existing satisfaction monitoring programs was important when planning data collection. Furthermore, double surveying of the discharged patient by the inadvertent receipt of a hospital survey and a study questionnaire was

important to avoid.

Population for Phase Two

The population for Phase Two, the overall instrument testing, was the same as Phase One, the initial testing of the instruments. The target population was patient-consumers (or when patients are unable to participate, family members) who were recently discharged from inpatient units of suburban and rural/semi-rural Michigan hospitals. All hospital units were used except psychiatric units. The accessible population was recently discharged inpatients willing to participate from four hospitals. This population was selected because they are similar to the patient-consumers to whom hospital surveys are sent and for whom the final instruments will be used (Nunnally, 1978).

Sample

Recently discharged inpatients of Michigan hospitals was the population of interest. They are defined as hospital patients who were admitted for at least a 24 hour stay and who were discharged within 1-5 weeks of contact by the investigator. This definition of recently discharged hospital inpatients reflects the term "patient-consumer." The term "patient-consumer" implies that the patient is more than a patient and is a type of patient taking an activist role, that is, an inquisitive and active participant in the health care system (Bramlett, Gueldner & Sowell, 1990). All discharged inpatients meeting the study criteria were eligible for the study. Family members instead of patients were considered subjects when patients were unable to respond on their own behalf. If a family member completed the Nursing Care Survey, the specific relationship to the patient was asked in the pilot study. Also, in the pilot study, a question asking the reason the patient did not

complete the form was included. For the overall study, one question asked who completed the survey: the patient or a family member or friend. Directions stated: "only if the patient is unable to answer the questions, a family member is encouraged to answer as the patient would if the patient was able to do so." This question provided information on the proportion of surveys completed by the patient alone or the family member or, in some instances, both choices were circled.

Sample Selection

The goal of sampling for this methodological study was to obtain sufficient numbers of subjects to test the instruments, not to obtain a representative sample of subjects. However, to effectively evaluate the relationships between personal characteristics/demographics and patient-consumer perceptions and responses, an effort was made to randomize wherever possible. A convenience sample was employed because a probability sample was not feasible due to: (a) for the pilot study, a lack of a complete advance listing of patients who will be discharged on any given day and (b) the need to select patients who will not also receive a hospital satisfaction survey. These reasons are explained further.

1. Most hospitals do not have a complete daily listing of discharged patients until the day following. This was because of the nature of the occurrence of discharge orders by physicians. Patients who are "planned" discharges may have their discharges canceled at the last minute for many reasons. Patients who are unplanned discharges may suddenly have everything fall into place (or be put into place) and leave the hospital quickly.

2. Many hospitals continuously sample all or a large proportion

of their discharged inpatients for their own satisfaction surveys. Other hospitals do periodic satisfaction surveys, generally at least annually. Hospitals were selected that had no continuous patient satisfaction monitoring system in use (or a large proportion of patients were not included in the monitoring).

In Phase Two: Instrument Testing, a heterogenous sample was needed to test the applicability of the instruments to all hospital patients. Indeed, a hospital sample includes much diversity among patients. For example, a healthy new mother and "fresh" coronary bypass surgery patient have little in common with their medical care. However, each of their experiences with roles and services of nurses was proposed as not dissimilar. This assumption was based on the investigator's thirty years of experience in hospital settings and has been confirmed in discussions with nurse managers. Patient perceptions of nurses' roles across hospital service areas have not been previously tested in patient satisfaction instrument research.

Other issues with diversity of patients possibly exist. Though not reported in the literature, a hospital satisfaction consultation firm representative found that medical patients compared to surgical or obstetrical patients tended to be less satisfied than other types of hospital patients (M. Malone, Press, Ganey, Inc., personal communication, January 7, 1994). This may be so because medical patients are generally "sicker" than surgical or obstetrical patients and "people in poor health report more dissatisfaction with medical care" (Zastowny, Roghmann, & Hengst, 1983, p.307). Whether there was a true difference or one due to measurement error was unknown. Locker & Dunt (1978) recommended that "studies need to be service specific" in referring to

consumers' experiences with the provision of services. Conversely, type of clinical service has not been associated with satisfaction according to Carey & Posavac (1982). It was believed that, though obstetrical, surgical, and medical patients experience somewhat different services, they have the common experience of receiving these services in the hospital setting and generally receive identical hospital surveys. Therefore, in this study, patients from all services received the 60-item Nursing Care Survey.

Based on the above discussion, a convenience (nonprobability) sample of broad types of patients (obstetrical, surgical, medical) in the accessible population was used to investigate if differences existed between clinical services. Originally a quota sample was planned to avoid systematic influence of over or underrepresentation of the clinical service types of patients in the absence of a probability sample. The quota sample was to be utilized to validate the unstated assumption of generic hospital surveys that differences between clinical services do not exist and that scores are equally distributed around the means of each clinical service type of patient. The importance to the hospitals of collecting the data in a timely way precluded quota sampling. Weighted procedures in statistical analysis were planned, if necessary, as a means to provide support for the use of the instruments for the diverse patient population of an entire hospital.

Other patient diversity factors were identified but were not addressed in this methodological study. A study whose purpose was identification of influencing factors of patient satisfaction would include precise individual difference variables, i.e., non-psychiatric patients who are substance abusers, patients with low pain tolerance,

actual acuity, severity of illness, or chronicity of illness measures. Subjects that have been patients in critical care units during their hospital stay may have had higher acuity and therefore have more likelihood of exposure to larger numbers of nursing staff. The same applies to patients with extremely long hospitalizations. No effort to sample the aforementioned patients was made because this was a methodological study and hospital surveys typically include these patients.

Diversity among nursing units was also a factor. Some units have higher ratios of nurses to patients, others have longer tenured staff and fewer internal pool nurses. Patient satisfaction ratings on some units are consistently higher than others. However, no attempt was made to control for nursing intensity. The specific nursing units were identified when feasible so that the level and type of care that are known to the hospitals can be compared to the study findings by nurse administrators. This was an incentive for the hospitals to agree to participate in the study and was not part of the analysis. Information on the nurse characteristics of the hospital was collected when a hospital was selected as a site. This data may provide explanatory data if needed.

Sample Size.

A convenience sample of 800 to 1000 subjects was sought from each of the suburban hospitals and of 200 to 500 subjects from each of the rural/semi-rural hospitals. This sample size was realistic based on the predicted numbers of discharged patients to be available from each hospital in a two to four month period given a 50% return rate. The size of the sample was established based on the following considerations:

1. For the correlational analyses of service (obstetrical, surgical, medical) types and the convergent-divergent validity, the power analysis for a two tailed test (power = .80, effect size = .26, and alpha = .05) indicates a minimum of 112 subjects are needed (Kraemer & Thiemann, 1987). The effect size for detecting satisfaction levels was expected to be small based on the consumer behavior literature (Peterson, Albaum & Beltramini, 1985). Adjusting this for 50% projected return rate equals 224 subjects.

2. With the special techniques of Dillman (1978) that the researcher employed, a higher return rate than the usual 25% for hospital surveys can be expected. Therefore, the planned response rate was 50%. A 50% response rate may be considered acceptable because data from the nonresponders can be compared for response effects. Lack of a differential response bias with a 50% rate is demonstrated if responders and nonresponders alike are representative of the hospital patient populations.

3. The study instruments were considered six separate instruments in the development phase. Three instruments (Cognitive Perceptions of Nurses' Professional Roles, Affective Perceptions of Nurses' Professional Roles, Behavioral Perceptions of Nurses' Professional Roles) are expected to have 16 items each (3 instruments x 4 roles x 4 items/role = 48 items) and the Patient-Consumer Responses to Nursing Services instruments (Cognitive Response to Nursing Services, Affective Response to Nursing Services, and Behavioral Response to Nursing Services) will have 4 global items each (3 perceptions instruments x 4 items = 12 items). Taken together (48 + 12 items), subjects responded to a "nursing care survey" of 60 items. The Information Form, 25-item

Optional Questionnaire (PSI), and 60-item Nursing Care Survey represented a moderate to heavy burden on recently discharged hospital inpatients to complete.

4. Factor analysis was used in the analysis of data of the three perceptions instruments. To conduct a factor analysis, approximately ten subjects are needed per item (Kerlinger, 1986; Nunnally, 1978). Only the perceptions instruments with a total of 48 items was factor analyzed. Therefore, a minimum of 480 usable questionnaires were needed for the study instruments. Adjusting the needed sample size of 480 subjects to project a 50% return rate, the final sample size needed was at least 960 subjects. Because the projected response rate of 50% may be higher or lower than expected and the number of incomplete questionnaires could not be predicted, two and one half times the base number, 960, was set as the sample to provide a comfort zone. The number of subjects sought for Phase Two: Instrument Refinement was 2,400.

Sample Criteria

The definition of recently discharged inpatients directed the inclusion/exclusion criteria based on the following rationales:

1. Every patient should have a voice as a consumer. The only patient-consumers not included are those that hospitals themselves generally exclude in their satisfaction surveys, i.e., family members of expired patients, newborns (mother receives a survey) and psychiatry inpatients.

2. A family member should have involvement during hospitalization in the client's care (Fond, 1972; Luciano, 1972; Pearlmutter, Lock, Bourdon, Gaffey, & Tyrrell, 1984). Therefore, it is a routine practice for family members to be requested to help with or complete patient

satisfaction questionnaires when it is unreasonable or impractical for the patient to do so. Other reasons for including family members as subjects are (a) the family member is also the focus of nursing care based on the long-standing philosophy of family-centered care in the nursing profession and, (b) family members are thought to greatly influence patients' perceptions and responses to nurses. Particularly in the home setting where a patient is completing the study instrument, it may be unusual for him/her not to discuss the questions with family members. Many times wives may be enlisted to complete satisfaction questionnaires simply related to convenience. Therefore, it would be artificial to say that family members' input is not included. In a qualitative study of perceptions and expectations for nursing care in the critical care setting, "data from patients and family members were combined because of the similarity of themes" (Megivern, Halm, & Jones, 1992). Since including family members as subjects when patients are unable to participate is the common practice for hospital surveys, their inclusion in the same way assisted in developing an instrument that was realistic in hospital settings. An item asks "Who completed this survey?" and it was analyzed to see if differences in scores between the former patient and the family member or friend existed. A difference was sought because if patients were too sick to complete the questionnaire themselves, a bias toward less ill patients using the questionnaire might exist.

3. With increasingly shortened hospital stays, inpatients undergoing childbirth or major surgery are discharged in as few as 24 hours or less. Twenty-four hours is the distinguishing time between outpatients and inpatients for reimbursement purposes. Because less than

twenty-four hour stay (ambulatory) patients may have different expectations and care experiences than hospitalized patients, they were excluded from this study.

4. Patients are expected to respond similarly to nurses' role performance across nursing units whatever the medical diagnosis. Therefore, all clinical services' inpatient units where patients stay 24 hours or more are included (except psychiatric units). Three broad types of patients are expected in the sample: medical, surgical, and obstetrical clinical services. Gynecology patients form a small group of patients in some hospitals. Subjects were asked to identify which service they were on while hospitalized.

5. Inpatients or family members who are also nurses, either registered nurses, or licensed practical nurses, may be very different in their perspective of nurses' role performance or nursing services. They may have very high or very low expectations of professional nurses in comparison with the rest of the study population. The literature does not address this issue. However, because perceptions are based on individual's experiences (King, 1981) and because exclusion of nurses from the sample could mean loss of a relatively large number of subjects for the sake of *possible* selection bias, they were included.

6. A number of patients are transferred to other facilities for continued medical therapy or nursing care. These subjects or their family members' hospitalization experience at the study hospital may influence their perception of nurses at the transferred facility and vice versa. Finally, patients who leave the hospital against medical advice (AMA) may be very dissatisfied with their physician and/or the hospital care. Both groups will be excluded to limit systematic error

variance in the proposed instruments.

7. Hospital surveys are sent to newly delivered mothers of live infants. It was expected that they will complete the survey based on their care and their infants' care. Children (those under 18) are not included because this is a distinct population with many other influencing variables related to their care and expectations.

Based on the above rationales, the following criteria were developed regarding the inclusion and exclusion of subjects:

Inclusion

- . Recently discharged inpatient age 18 and above, or, if unable to participate, a family member.
- . Hospitalized for any condition except psychiatric treatment
- . Able to speak and read English
- . Agree to participate in the study

Exclusion

- . Time between admission and discharge is less than 24 hours
- . Family members of expired patients
- . Patients discharged from inpatient psychiatric units.
- . Patients who are transferred to other facilities or discharged Against Medical Advice (AMA).

Data Collection

A revision in the method of data collection was indicated following the pilot studies. The time to enroll subjects each day was twice as long as expected, i.e. instead of ten subjects in four hours, five subjects was the average number. Also, the response rate, despite

the personal contact with the subjects in the hospital, was only 59%. The change in procedure from a personal request to participate with a direct handed survey to a mailed survey was made based on: (a) use of the Dillman's (1978) survey techniques adding to the 20-25% mailed survey response rate typical of hospital surveys, (b) wide usage of patient satisfaction surveys as mailed surveys in the health care industry.

Data Tracking

For each hospital, one to eight groups of discharged patients received the research materials by mail (See Appendix H for description of mailings by hospital). The contacts with the subjects were tracked by recording the following data for each group of patients: (a) initial date of mailing, (b) date of postcard mailing (c) date of receipt of research materials from the participating subjects, (d) date that reminder letter and materials were sent, (e) receipt of research materials from the remainder of participating subjects up to 8 weeks post discharge. In addition, a log of phone calls and listings were kept of undeliverable packets, subjects who declined, were late in returning, were not eligible, filled out the survey incorrectly, returned them blank, or were deceased per family response.

Activities to Increase the Response Rate

The sample of 2600 subjects was sufficient to assure a minimum of a 50% return rate of research materials. The procedures used resulted in a response rate sufficient to meet the requirements regarding sample size.

The Nursing Care Survey was kept to one legal size, double sided sheet to increase the probability that former patients would participate

in the research. Sample size for the correlational analysis was more than adequate with 258 returns of the Optional Questionnaire.

Cleary & McNeal (1988) concluded that patients will be more candid if anonymity is provided. This was done by assurance on the cover page by investigator that no one would see the information or be able to identify patients and anything linking codes with patient would be destroyed.

Another strategy to improve honest responses was to have the completion of the study instruments be home-based. Though evidence of less honesty of answers does not exist, inpatients' lack of privacy and possible fear of repercussions from the staff have been the main arguments against contacting patients for satisfaction surveys prior to discharge.

Dillman's Total Design Method techniques (Dillman, 1978) were employed. The cover letter was the first page of the Nursing Care Survey and indicates benefits to the patient-consumers. This was mailed along with a postage-paid, self-addressed return envelope, Optional Questionnaire (for a subsample), and gift Patient Card. The wallet-size, patient card for recording key information for health care visits was developed and included as a thank-you from the investigator. Each of the four hospitals cooperated by allowing a letter endorsing the study by the Chief Executive Officer on hospital letterhead to be included in the initial mailing (Appendix I). An experienced hospital communications executive estimated that this CEO letter would increase the response rate by 5% (personal communication, Marty Lutz, August 15, 1995).

Dillman's (1978) specifications for the questionnaires and reminder postcard and first reminder letter were followed. A second

reminder letter was not used because of the eight week postdischarge endpoint of data collection. One week after the initial mailing date, all subjects were mailed a postcard reminding them to complete and return the materials. A phone number to contact the investigator was included should they have any questions or problems. Three weeks after the initial mailing date, non-responding subjects were sent a reminder letter (Appendix J), the Nursing Care Survey, and a stamped envelope for the return of the questionnaire.

Raphael's 1973 British study (reported in French, 1981) showed a significant increase in hospital survey response rates when the cover and format were changed to be more bright and humorous. Consequently, format and graphics were consistent with the appearance of commercially printed hospital surveys. Furthermore, if the instruments have face validity, "its presence may serve as a factor in increasing response rate" (Waltz, Strickland, & Lenz, 1984).

Testing of the Instrument

Estimation of Reliability

The aspects of reliability that were tested are internal stability and consistency.

Stability. "Stability is concerned with the consistency of repeated measures" (Burns & Grove, 1993, p.339). While it was unknown how stable patient-consumer responses are over time, there are unlikely to change in direction from positive to negative or vice versa. This was relevant because test-retest reliability is not appropriate if the underlying theoretical construct under consideration has changed (Carmines & Zeller, 1979). The test-retest procedure was done on a limited number of subjects during Phase Two. According to Cohen (1988,

p.92), a two-tailed test for the significance of a product moment r requires a subsample of at least 46 subjects (power = .80, alpha = .05, effect size = .40). Although completion of the instruments may influence the phenomena itself or allow recall of the items upon second administration (Burns & Grove), efforts to minimize these problems in measuring stability were made. The interval period, four to six weeks, was short enough to measure a stable attitude but long enough to avoid recall. Patients who received the reminder set of materials at week three postdischarge sometimes completed them even though they had previously completed the initial set and returned it. The mail crossing prevented their names from being removed from the reminder list. Subsequently, the number of duplicate survey returns was sufficient for the test-retest sample.

Internal Consistency. Two approaches by which the internal consistency of an instrument can be estimated were used, Cronbach's alpha and item analysis.

The Cronbach's alpha procedure examines the extent to which all the items in the instrument measure the same construct (Burns & Grove, 1993). Testing the homogeneity of all the items in the instrument has been seen as a better approach than *split-half reliability* to determining reliability (Burns & Grove) because Cronbach's alpha estimates all possible split halves. Alphas were also calculated on the proposed role subscales and each perception instrument and their subscales.

Item analysis included inter-item, item to total, item to scale, and scale to scale correlations. Item analysis was carried out as described in the Phase One: Instrument Development section.

Estimation of Validity

The approach to validity testing in Phase Two was construct validity.

Factor Analysis. Evidence of validity was sought from exploratory factor analysis to identify the internal structure of the perceptions instruments. Confirmatory factor analysis was not used because the goal of this methodological study was to develop and estimate the reliability and validity of new instruments. Exploratory factor analysis was utilized because this was the initial research regarding the concept of patient satisfaction as theoretically derived from King (1981) and Eagly & Chaiken (1993). In addition, although the content validity of the items developed for the research instrument has been estimated, the grouping of these items within the proposed subscales has not been supported in any empirical study. Therefore, while relationships were proposed among the items within the proposed subscales of caregiver, friend, teacher, and advocate, no information was known regarding these items and the factors on which the items will load.

A truncated principal components analysis was done to reduce the factor solution to those components contributing most to the explained structure (Gorsuch, 1983). The principal components approach has the disadvantage of not reflecting the systematic component of measurement error. A large systematic component was not expected in this study. Furthermore, with the large sample size, random error was not expected to be a problem either. A varimax rotation was chosen to find the simplest factor structure, recognizing that without rotation, interpretation of results is difficult (Kline, 1994). Also, with varimax rotation, the extracted factors have a greater number of items that load

only on the identified factors (Ferketich & Muller, 1990).

Convergent and Divergent Validity. Evidence of validity from examining convergence and divergence was estimated. An existing instrument which has primarily cognitive information items, the Patient Satisfaction Inventory (PSI), developed by Hinshaw & Atwood (1982) was used for comparison with the perceptions instruments. Both the PSI and the study instruments were administered concurrently to determine how closely these instruments measure the same construct (Burns & Grove, 1993). The results were examined using correlational analyses. If the cognitive perceptions and responses instruments had a moderate to strong positive correlation with the PSI, and the affective and behavioral perceptions and responses instruments had a correlation with the PSI that was divergent or significantly lower, the validity of each instrument would be strengthened. Convergence would indicate that both the cognitive instruments (Cognitive Perceptions of Nurses' Role Performance and Cognitive Responses to Nursing Services) and the PSI measured cognitive aspects. Divergence would indicate that affective and behavioral aspects are measured by the affective and behavioral instruments (Affective Perceptions of Nurses' Role Performance, Behavioral Perceptions of Nurses' Role Performance, Affective Responses to Nursing Services, and Behavioral Responses to Nursing Services) more than by the PSI. Multimethod, multitrait analysis was not done because the study questions were answered with evidence from the convergent and divergent analysis.

Sources of Measurement Error

Interaction between Subjects and the Variable

A source of error in terms of the sample may be an interaction

between the subjects and the variables (patient-consumer perceptions and responses). If a former patient perceives the nursing care as negative or positive, he or she may be more or less inclined to participate in the study according to popular wisdom (differential responding bias). No evidence exists in the literature to support either direction. Comparison of the responders with the hospital's patient demographics may provide some information about this factor.

Subject Misunderstandings

If misunderstandings occur on the part of subjects while completing the research materials, and the researcher was not contacted to clarify the misunderstanding, a source of error would occur which cannot be corrected. For example, eight subjects choose to reverse the scoring (using "1" for strongly disagree vs. "5" for strongly agree) when it was obvious from the rating of nursing care as good or excellent and/or from the comments section that the subjects were very satisfied. The data from these eight questionnaires were not included in the data analyzed. Revision of the directions will be done to decrease the reading level from ninth grade to sixth grade level. Otherwise, no revision of the format or directions will be done because of the small number of subjects who reversed the scoring and lack of ways to clarify the directions further.

Sampling Bias

Critically ill patients or very stressed patients are typically not included in patient satisfaction measures. The sampling criteria for this study restricts non-English speaking, those under eighteen, family members of patients who have died, psychiatric patients and those who transfer to other facilities from participating for the reasons cited.

Several subjects were family members whose loved ones had died after leaving the hospital. Since they cared enough to complete and return the instruments, their data were retained and coded appropriately.

Risks to the Subjects

Potential risks to the subjects in this study were minimal, but may have included emotional discomfort from completing the instrument if some questions raised unpleasant feelings about the nursing care provided. However, the rate of occurrence, and the relative seriousness of these risks were projected to be small. In order to protect the subjects participating in this research, the study was submitted to Wayne State University's Human and Animal Investigation Committee, and was given provisional approval on 4/14/94. The changes made to the research protocol were submitted and the study was classified as exempt on May 11, 1995. Thus, the formal written consent form was substituted by a cover letter that explained subjects' rights. Consent was implied by the return of the survey materials.

The risks associated with participation in the study were outweighed by the benefits of the research. First, the findings gained from this study may facilitate outcomes research in the area of patient satisfaction from within the conceptual framework of a nurse theorist (King, 1981). Second, no instrument exists that is reliable, valid, and sensitive in measuring patient-consumer responses to professional nursing care in the acute care setting. Finally, the results of this study are intended to provide managers a means to evaluate patient perceptions and responses as quality outcomes of nursing care.

Methods of Analysis

Scales were planned to approximate interval level measurement. The

significance level for all tests was set at .05. Descriptive statistics were be used to describe the sample. Demographic/characteristics variables were examined using correlational analysis, ANOVA and t-tests. Cronbach's alpha, Pearson's product-moment r , and item analysis were also used to answer the research questions. Exploratory factor analysis was used to identify the factor structure of the perceptions instruments. Qualitative data from the comments sections of the instruments will be analyzed in the future using content analysis.

CHAPTER FOUR

RESULTS

The purpose of this study was to develop and test measures of six patient-consumer concepts, that together were designed to measure the attitude of patient-consumer satisfaction with professional nursing care. The six concepts were: (a) Cognitive Perceptions of Nurses' Role Performance, (b) Affective Perceptions of Nurses' Role Performance, (c) Behavioral Perceptions of Nurses' Role Performance, (d) Cognitive Response to Nursing Services, (e) Affective Response to Nursing Services, and (f) Behavioral Response to Nursing Services. A sixty-item survey questionnaire was developed, using a measurement conceptualization based on King's (1981) systems framework for nursing.

The perceptions instruments, based on cognitive, affective, and behavioral processes, were designed to measure four dimensions of professional roles of nurses: (a) caregiver, (b) teacher, (c) friend, and (d) advocate. The response instruments were proposed as unidimensional cognitive, affective, and behavioral instruments. The final sixty-item survey instrument, composed of the six perceptions and response instruments, was developed based on a content validity review by eight expert judges and two pilot studies of medical, surgical, and obstetrical patients discharged from an urban hospital.

The research results reported include the following data: (a) descriptive data regarding the sample and the hospitals, (b) results of the reliability estimation (c) content validity testing of the study instruments, (d) results of the item analysis done during the pilot testing of the instrument, and (e) construct validity results, including factor analysis, from the final testing of the instrument, and (f)

correlations between patient characteristics and the study instruments. Tables are included in the text and as appendices to help in the understanding and clarification of the data.

Description of the Sample

A convenience sample, including obstetrical, medical, and surgical patients, was selected from four hospitals. Minnick, Roberts, Young, Kleinpell, & Micek, (1995) recommended that studies measuring patients' reports present a full range of response rate calculations. Table 4 presents data and the formula for one method of calculating the overall response rate of 68% for this study.

Table 4

Research Packets Mailed and Returned and Response Rates

	Hospital B	Hospital C	Hospital D	Hospital E	Total
Number Sent	1000	809	206	587	2602
Undeliverable	15	18	4	15	52
Declined	2	4	0	4	10
> 2 mo	6	22	3	3	34
Deceased	3	7	1	9	20
Not Eligible	5	1	0	2	8
Filled out wrong	8	1	1	0	10
Returned Blank	26	17	5	21	69
Total Unusable	65	70	14	54	203
Total Potentially Completed by Subjects (# Sent - # Unusable)	935	739	192	533	2399
Total Returned	615	513	135	368	1631
Response Rate= Total Returned/ Potentially Completed	66%	69%	70%	69%	68%

As described in the Methodology Chapter, the research packet that was sent to potential subjects included two or three instruments: the Information Form, the Nursing Care Survey, and for a subsample, the PSI. If one, two, or three instruments were returned, a subject was given one identification number. Therefore, the Total Returned (n=1631) means a

minimum of one of the three instruments was returned. Up to seven combinations of returned instruments were possible. Subjects (n=1536) returned Information Forms but some did not return Nursing Care Surveys. Other subjects (n=1436) returned nursing care surveys but may not all have returned Information Forms. The PSI, labeled Optional Questionnaire, was mailed to 925 patients of whom, 258 subjects returned them for a PSI response rate of 27.9%.

The intervals from time of discharge and time the instruments were mailed and returned were calculated. The number of days from the date of discharge and the date of returned Nursing Care Survey is the discharge interval variable (mean = 30.16, std. dev.= 17.36, median = 30.00; mode = 35.00, range = 4 to 68 days). The number of days from the date the research packet was mailed and the date of the returned Nursing Care Survey is the mail interval (mean = 16.15, std. dev.= 14.57, median = 13; mode = 5, range = 2 to 70 days).

Subjects' Descriptive Data

The following descriptive data were gathered on the subjects: age, gender, race, marital status, education, type of health insurance, income, and past experiences with nurses and hospitals. In addition, data on type of admission, clinical service, presence of a roommate, and admission to an ICU were also collected. Although the research focus was the initial psychometric testing of the research instruments, descriptive data were gathered for the purposes of: (a) increasing knowledge of the patient satisfaction process by identifying associated patient characteristics, and (b) increasing precision of the study instruments by accounting for systematic measurement error due to individual differences.

Age

Subjects were asked to identify their age. The mean age was 57.81 (std. dev. 20.64), with a range of 18 through 97 and a median of 63 and mode of 72. The data were grouped into 10 numerical groupings (18-20, 21-30, 31-40, etc.). Nearly 50% of subjects were over 60 years old, 43% were 60 or younger, and 7.5% did not record their age. The age range of subjects is presented in Appendix K (Table K1).

Gender

Subjects were asked to identify whether they were male or female. Thirty-two point four percent (32.4%, n=529) of the total number of responding subjects were male. Sixty point four (60.4%) (n=985) of the total number of responding subjects were female. Subjects did not identify their gender in 7.2% of the cases (n=117).

Education

Subjects were asked to circle the highest grade completed from a range of grades five through twenty. The mean grade was 12.85 with a range of 5 to 20 and a median of 12 and a mode of 12. The grade levels were then grouped into grade school (5-8), high school (9-12), college (13-16, and graduate (17-20) categories in Appendix K, Table K2. High school was the largest category with 41.4% (n=675) and Graduate School was the smallest category with 8.6% (n=141). One hundred and forty-five (145) subjects or 8.9% did not report a highest grade level completed.

Ethnic Group

Subjects were asked to identify their ethnic group by selecting one of seven choices (White/Caucasian, Black/African-American, Hispanic, Asian, Native American, Jewish, or other). The majority of the subjects were White/Caucasian (85.2%,n=1390). No other ethnic group constituted

4% of more of the sample: Black/African-Americans 3.2% (n=52); Hispanics 0.3% (n=5); Asians 0.4% (n=6); Native Americans 2.4% 9 (n=39); Jewish 0.2% (n=3), and 0.6% of the subjects (n=9) identified their ethnic group as Other. Subjects who did not identify their ethnic group comprised 7.8% of the sample (n=127).

Marital Status

Subjects were asked to identify their marital status by selecting one of five choices (single/never married, married, divorced, separated, and widowed). The majority of the subjects were married (60.6%, n=989) followed by widowed (18.0%, n=294). Those single/never married (6.8%, n=111) and divorced (6.7%, n=110) and separated (0.7%, n=12) comprised the next largest group. Subjects did not identify their marital status in 7.1% of the cases (n=115).

Type of Health Insurance

Subjects were asked to identify their type of health insurance used to pay for their most recent hospitalization. Choices were: none, Medicare, Medicare and private insurance, Medicaid, private insurance (Blue Cross, HMO, PPO), and other. Subjects identifying Medicare as their type of health insurance were 7.7% (n=125). Medicaid was identified by 5.0% of subjects (n=81). The majority of subjects reported having private insurance (40.7%, n=664) followed by Medicare combined with private insurance (34.4%, n=561) or Medicare alone (7.7%, n=125). Other insurance was held by 4.2% of subjects (n=68). Only 1.0% of subjects reported no insurance (n=16). Subjects who did not identify their type of health insurance comprised 7.1% of the subjects (n=116).

Employment

Subjects were asked to identify whether they were currently

employed. Thirty-one per cent (31%) of subjects reported being employed (n=476) and sixty-seven point nine (67.9%) were not employed (n=1043). Subjects who did not report their employment status comprised 1.1% of the subjects (n=17).

Occupation

Although subjects were asked to fill in their present or past occupation, data were not coded properly and cannot be reported in this study. Future analysis will be done using a standard coding system.

RN or LPN in Family or Hospital Employment

Subjects were asked if they were now or had ever been a RN or LPN. Subjects who identified themselves as Registered Nurses or Licensed Practical Nurses were 3.0% of the sample (n=49). Those who answered "no" were 89.2% (n=1455) and 127 (7.8%) did not answer.

All subjects were asked to identify if anyone in their immediate family was a RN or LPN. Subjects who answered "yes" were 23.1% (n= 376) and " no" were 68.2% (n=1113). Of those who answered "yes," 66.5% (n=226) had one (1) RN or LPN in the family, 25% (n=85) had two (2), 5.6% (n=19) had three, 2.1% (n=7) had 4, and 0.9% (n=3) had 5 in their immediate family.

Subjects were asked to identify if they were presently a hospital employee. Three point zero percent (3.0%) (n=49) answered "yes" and eighty nine point three percent (89.3%) (n=1457) answered "no." No responses were made by 7.7% (n=125) of subjects.

Income

Subjects were asked to report total household income before taxes for the current year by selecting from five groupings (Appendix K, Table K3). The largest percent of subjects, 24.9% (n=406) identified income of

\$15-34,900. Two groups below (<\$15,000, 20.3%, n=331) and above (\$35-69,000, 19.4%, n=316) closely followed the first group. The high income group, \$70,000 or greater, comprised a relatively large percent (9.7%, n=159) of the sample. No response was recorded by 18.1% (n=296). The no response group may have been larger if the broad categories of choices were not offered.

Number of Times Hospitalized

Subjects reported their times hospitalized at the most recent hospital (mean = 2.76 std. dev. 2.58, range 1-30), hospitalizations during the last two years (mean = 1.99, std. dev. 1.59, range 1-20), and during their lifetime (mean = 5.62, std. dev. 4.65, range 1-45). Subjects who reported being hospitalized once at the recent hospital were 28.2% (n=460) compared to 37.6% (n=613) who reported being hospitalized two to five times, 2.95 (n=47) six to ten times, 0.2% (n=3) eleven to fifteen times, and 0.1% (n=1) greater than fifteen times in the last two years. Approximately 40.8% subjects were hospitalized in the last two years in addition to the most recent hospitalization. The subjects (6.3%) who had minimal experience with hospitals (n=102), were hospitalized once in their lifetime. Subjects with maximal experience (>10 times) during their lifetime were 102 (6.4%). The number of subjects with their responses are detailed in Appendix K, Table K4.

Number of Days Hospitalized

Subjects were asked to identify the total days spent at the hospital they just left. The reported mean was 6.52, std. dev. 15.36, median 4.0, mode 3.0 with a range of 1 to 240 days. The majority of subjects (59.6%) were hospitalized less than six days. The number of days hospitalized as reported by subjects are detailed in Appendix K

(Table K5).

Type of Service

Subjects were asked to check whether they were a medical, surgical or obstetrical type of patient. The majority identified themselves as medical (43.2%, n=704), followed by surgical (30.5%, n=497), and obstetrical (17.0%, n=277). Subjects who did not report a hospital service comprised 9.4% of the sample (n=153).

Type of Admission

Subjects were asked to identify whether their admission was voluntary/planned or emergency/unplanned. Over half (52.5%, n=856) reported emergency/unplanned admissions while thirty-eight point seven percent (38.7%) (n=632) reported voluntary/planned admissions. Subjects who did not respond comprised 8.8% of the sample (n=143).

ICE Admissions

Subjects were asked, "were you in an intensive care unit"? Those who answered "yes" comprised 17.5% of the sample (n=286). Those who answered "no" comprised 74.2% of the sample (n=1210) with the remainder, 8.3% (n=135) not responding.

Roommate

Subjects who answered "yes" to the question, "Did you have a roommate"? comprised 39.9% of the sample (n=650). Those who answered "no" were 51.4% (n=838) and 8.8% (n=143) not responding.

Completion of the Nursing Care Survey

The Nursing Care Survey, and presumably the other two instruments, the Information Form and Optional Questionnaire, was tracked by the type of individual completing them, patients or others. The vast majority of instruments were completed by former patients

(67.2%, n=1096). A large percentage did not record an answer to the question (21.4%, n= 349). Only 10.1% (n = 165) indicated that a family member or friend completed the instruments. Finally, a very small percentage (1.3%, n= 21) indicated that the instruments were jointly completed by the former patient and a family member or friend. A one-way ANOVA using the groups of no response, patient, family member, or both patient and family member revealed no difference in NCS scores by type of individual completing the instrument ($p = .07$).

Comparison of Hospital Samples with Hospital Populations

Hospitals were asked to provide demographic profiles of their patient populations for comparison with the study's respondents' characteristics. Three of the four hospitals had information on their population available but only for a few variables. The data are reported in Table 5.

Table 5

Hospital Samples Compared to Hospital Populations

	Hospital B Sample	Hospital B Popula- tion	Hospital C Sample	Hospital C Popula- tion	Hospital D Sample	Hospital D Popula- tion
<u>Gender</u>						
Male	30%	34%	36%	40.5%	29%	36.9%
Female	70%	66%	64%	59.5%	71%	63.1
<u>Age</u>						
<18	0%	23%	0%	5.3%	0%	3.7%
18-44	32%	30%	35%	33%	47%	43.5%
45-64	17%	11%	24%	24.7%	14%	17%
65+	51%	36%	41%	37%	39%	35.8%
<hr/>						
	Hospital B Sample			Hospital B Population		
<u>Ethnic Group</u>						
White/Caucasian	93%			95%		
African American	6%			4%		
Hispanic	-			-		
Native American	-			-		
Other	2%			1%		
<u>Education</u>						
<8th	8%			6%		
High School	46%			27%		
College	37%			59%		
Graduate School	10%			8%		

Comparable data from the three hospitals on gender were analyzed using chi-square. Two of the hospital populations were not significantly different (Hospital C: $\chi^2 = 3.54$, $p = .059$; Hospital D: $\chi^2 = 3.74$, $p = .053$) in gender from the samples while Hospital B was significantly different ($\chi^2 = .85$, $p = .049$) at the .05 level.

The data for age were not useful for analysis because the sample criteria excluded subjects under eighteen years old. Hospital B had a large number of pediatric patients in their population while the other two hospitals had a small percentage of pediatric patients.

The data for insurance were not reliable because the definition of private insurance was different in the Information Form and in the three hospitals.

The ethnic and education percentages for Hospital B are similar but chi-square analysis reveals both are significantly different in the sample (ethnic group: $\chi^2 = 8.42$, $p = .015$; education: $\chi^2 = 119.94$, $p = .000$).

Hospital Descriptive Data

Five hospitals participated as sites for the study: hospital A for the two pilots, and hospitals B, C, D, and E for the general study.

Hospital Descriptions

Five hospitals were sites for testing of the study instruments, including the pilot studies. Included were: Hospital A, a large, urban/teaching institution; Hospital B, a medium, suburban/teaching community hospital; Hospital C, a large, suburban/teaching hospital; Hospital D, a medium, semi-rural nonteaching community hospital; Hospital E, a medium, rural nonteaching community hospital. Hospitals B and C were members of a multi-hospital system. Other than Hospital D,

located in northern lower Michigan, the hospitals were located in southeastern Michigan. Appendix L summarizes the size, annual number of admissions and number of occupied beds in the five institutions.

Nursing Staff Characteristics

Nursing staff characteristics relevant to this study were collected using standard definitions. Nursing staff data for hospital A applied to the six pilot units only. Appendix L details the method of care delivery, staff mix, education profile of the staff, experience of RNS, certification status, turnover, and years of service. Data were not available in many instances because of lack of centralized employee record keeping.

Staff Mix in the four main study hospitals was good with over 50% of nursing staff comprised of Registered Nurses ranging from a low of 53% (Hospital E) to a high of 75% (Hospital D). Education profile revealed that Hospital E had only half the amount of BSN nurses (16%) compared to Hospital C (40%) and Hospital D (32%). Turnover ranged from small in Hospital B (1.3%) to moderate (12.5%) in Hospital C. Years of Service was high in all hospitals with the northern Michigan hospital the highest with 11 years.

Analysis Regarding Research Questions

Research Question One: Do the following instruments demonstrate acceptable levels of internal consistency and test-retest reliability: Cognitive Perceptions of Nurses' Role Performance, Affective Perceptions of Nurses' Role Performance, Behavioral Perceptions of Nurses' Role Performance, Cognitive Response to Nursing Services, Affective Response to Nursing Services, and Behavioral Response to Nursing Service?

Internal Consistency Reliability

Two hundred and eighteen subjects in the final study completely answered all items on the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC). Analysis of internal consistency, utilizing Cronbach's alpha, resulted in an alpha of .99 for the overall instrument. The alpha's for the six instruments are displayed in Table 6.

Table 6

Internal Consistency Reliabilities of the Six Study Instruments Utilizing Cronbach's Alpha (N=218)

Instrument	Internal consistency reliability utilizing Cronbach's alpha
Cognitive Perceptions of Nurses' Role Performance	.95
Affective Perceptions of Nurses' Role Performance	.97
Behavioral Perceptions of Nurses' Role Performance	.96
Cognitive Response to Nursing Services	.91
Affective Response to Nursing Services	.93
Behavioral Response to Nursing Services	.84

As the initial reliability for a newly developed instrument is recommended to be .70 (Nunnally, 1978), these figures provide initial support for the internal consistency reliability of the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC). The alphas of the six study instruments were extremely high, .95 to .97, as is the overall instrument (KKPSNC), .99. This problem of high alphas will be discussed in Chapter Five.

Test-Retest Reliability

The test-retest reliability process was done to determine the degree to which the individual can be expected to perform the same on two administrations of the same instrument. Two applications of the same measure, the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC), were correlated using Pearson's product-moment correlation, two-tailed significance. Thirty three subjects returned a second KKPSNC in response to the reminder letter even though they had already returned the first one. The stability of measurements by the same instrument as determined over a range of time intervals from 10 to 40 days (mean = 22.08, std. dev. = 7.02) was .88 ($p < .01$). It is assumed that the construct of patient satisfaction does not change during a mean interval of 22 days. In summary, acceptable levels of internal consistency reliability and test-retest reliability were demonstrated for the KKPSNC.

Research Question Two: Are face and content validity of the new instruments supported?

Face Validity

In Pilot Study One, the question was asked on the Nursing Care Survey, "Did this questionnaire look like a typical survey for hospital patients?" and "If no, what would improve the appearance of the questionnaire?" Eighteen of twenty patients responded "yes" to the first question. The two who responded "no" did not answer the second question.

The subjects readily accepted the questionnaire when handed to them by the investigator. Several patients commented that they were used to filling out the hospital's surveys and would have no problem sending

it back. Two individuals refused to participate because they did not believe it was fair to judge all nurses as a group. Only 3/30 on Pilot One and 0/36 in Pilot Two were returned with some items incomplete. The accurate completion of the questionnaire further supports face validity (Thomas, Hathaway, & Arheart, 1992).

Content Validity

Eight expert content judges, recognized as experts in either the profession's view of roles of professional nurses, King's (1981) systems framework or patient perspectives of nurses reviewed 221 items, divided into the six new instruments. Each judge was given directions to circle a number (1-4) before each item rating its relevance to the theoretical definition and the role subscales or its relevancy to being included in a patient satisfaction survey (relevancy panel); or its consistency with King's systems framework (King panel).

Responses to the relevancy question were analyzed based on the responses of the: (a) three nursing experts representing a professional nurses roles perspective, (b) two patient experts, and © total responses of the two panels combined (5 experts). Responses to the theoretical consistency question were analyzed based on the responses of the three experts in King's systems framework.

Ninety-three (93) items with 100% rating of three or four from the relevancy group were included in the 132 items in the two versions of the pilot instruments (49 of 64 items from Pilot One, 44 of 68 items from Pilot Two). Thirty-nine (39) items with less than 100% rating were retained due to the need for a broad representation of nurses' activities within the role subscales of the perceptions instruments. Table 7 summarizes the results of the content validity judging of items

selected for two versions of instruments in the pilot testing. Table 8 summarizes the results for the overall study instruments. Table 9 summarizes the results of the content validity judging for the proposed role subscales for the three perceptions instruments combined. Appendix M identifies the items within their proposed subscales, percentage ratings by the three groups of experts and the total rating by the relevancy experts.

Table 7

Summary of Items Selected for Inclusion in the Pilot Study Instruments
Based on the Results of the Content Validity Study (N=8)

Instru- ment*	Number of items	Average percent of King experts rating items 3 or 4		Average percent of nurses' role experts rating items 3 or 4		Average percent of patient experts rating items 3 or 4		Average percent of relevancy experts rating items 3 or 4	
		Pilot :	I	II	I	II	I	II	I
Cognitive Perception of Nurses' Role Perfor- mance	47	99%	94%	100%	94%	93%	86%	95%	92%
Affective Perception of Nurses' Role Perfor- mance	29	88%	61%	100%	96%	100%	100%	100%	97.5%
Behavioral Perception of Nurses' Role Perfor- mance	32	92%	69%	87%	75%	69%	71%	82%	74%
Cognitive Response to Nursing Services	8	100%	83%	83%	92%	100%	88%	94%	90%

(table continues)

Instru- ment*	Number of items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4				
Affective Response to Nursing Services	8	100%	92%	100%	100%	100%	100%	100%	100%
Behavioral Response to Nursing Services	8	92%	92%	100%	75%	**	**	94%	75%

Note. *Of the Perceptions instruments, twenty-four items and of the Response instruments, five items with percents lower than 100% were rated "4" by Dr. King **Not included because only one of the two judges responded.

Table 8

Summary of Items Selected for Inclusion in the Overall Study InstrumentsBased on the Results of the Content Validity Study (N=8)

Instru- ment*	Number of items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
Cognitive Perception of Nurses' Role Perfor- mance	16	98%	98%	89%	92%
Affective Perception of Nurses' Role Perfor- mance	16	98%	96%	100%	97.5%
Behavioral Perception of Nurses' Role Perfor- mance	16	83%	73%	85%	74%
Cognitive Response to Nursing Services	4	100%	83%	100%	94%
Affective Response to Nursing Services	4	92%	100%	100%	100%
Behavioral Response to Nursing Services	4	100%	83%	**	81%

Note. *Of the Perceptions instruments, six items and of the Response

instruments, one item with percents less than 100% were rated "3" or "4" by Dr. King. **Not included because only one of the two judges responded

Table 9

Summary of Perceptions Instruments Subscale Items Selected for Inclusion in the Overall Study Instruments Based on the Results of the Content Validity Study (N=8)

Subscale	Number of items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
Caregiver	12	92%	89%	100%	90%
Teacher	12	97%	94%	94%	92%
Friend	12	94%	81%	83%	82%
Advocate	12	97%	94%	100%	97%

The Content Validity Index (CVI) is the proportion of total items judged content valid (Lynn, 1986). The CVIs were reported here for the pilot studies, the perceptions and response instruments, and finally, for the 60-item Killeen-King Patient Satisfaction with Nursing Care.

In the two pilot studies, the CVIs for the three perceptions instruments combined (Perceptions instrument) was 76% for the King panel and 77% for the relevancy panel (patient and nurses' role judges). The overall CVI in the two pilot studies for the three response instruments combined (Response instrument) was 83% for the King panel and 86% for the relevancy panel.

Comments and clarification suggestions were utilized to refine

the items prior to the pilot studies. Fifteen items (11.4% of the items) were revised based on suggestions. During the two pilot studies, the questionnaires included the question, "Were there any items that were unclear or confusing to you?" This was followed by the statement, "If yes, please go back and put a star in front of the item(s)." Four of fifty-four responders circled "yes" and three put stars by items that were unclear or confusing. Five items, all in the second version, were starred as unclear or confusing. Only one of the five items, #40, "My right to refuse was respected by the nurses," was retained for the final instrument, based on the item selection process.

Following the pilot studies, the six instruments were further reduced to a total of sixty items. The Content Validity Index (Lynn, 1986) of the final Perceptions instrument as judged by the King panel was .83 and by the relevancy panel was .79. The CVI of the Response instrument was .92 as judged by the King panel and .88 as judged by the relevancy panel. The minimal acceptable CVI for the instrument as a whole is 80% (Waltz, Strickland, & Lenz, 1984) or 88% when eight judges are used (Lynn, 1986). Using Waltz, Strickland & Lenz criterion (1984) of 80% for the instrument as a whole, the three perceptions instruments combined and the three response instruments combined have evidence of content validity according to the King panel (83% perceptions instruments and 92% responses instruments). Content validity of the Instruments is not supported based on the relevancy panel because the derived CVIs of 71% (perceptions instruments) and 75% (response instruments) do not meet the required 80% for the instrument as a whole.

When the six instruments are viewed as one instrument (Killeen-King Satisfaction with Nursing Care, KKPSNC) estimating the attitude of

patient-consumer satisfaction with professional nursing care, the King panel with a CVI of 82% meets the criteria for an instrument as whole. However, the relevancy panel does not meet the evidence of content validity with a CVI of only 72%.

Pilot Study

Sixty subjects from the two pilot studies returned the research materials for a combined response rate of 58.8% as seen in Table 10.

Table 10

Pilot Studies Response Rates

	Subjects	Responses
Pilot One (Medical)	51	32 (62.7%)
Pilot Two (Obstetrical and Surgical)	51	28 (55.0%)
Both Pilots	102	60 (58.8%)

Resulting data were analyzed in terms of each item's: (a) theoretical contribution to the instrument, (b) correlation with the total score of the instrument, (c) correlation with the total score of the relevant proposed subscale, (d) contribution to the alpha of the total instrument, and (e) contribution to the alpha of the relevant proposed subscale (Appendix N).

The internal consistency reliabilities of the six instruments in the pilot studies were calculated, utilizing Cronbach's alpha. They ranged from .77 to .98. The internal consistency reliabilities of the proposed subscales were also calculated, utilizing Cronbach's alpha. They ranged from .64 to .95. The internal consistency reliability scores are delineated in Table 11.

Table 11

Internal Consistency Reliability Scores for the Six Instruments and
Proposed Subscales in Pilot Studies (N=102)

Instrument/Subscale	Internal consistency reliability utilizing Cronbach's alpha	
	Pilot One	Pilot Two
	.97	.96
Cognitive Perceptions of Nurses' Role Performance		
Caregiver	.82	.94
Teacher	.84	.80
Friend	.80	.77
Advocate	.90	.86
Affective Perceptions of Nurses' Role Performance	.98	.97
Caregiver	.65	.78
Teacher	.86	.87
Friend	.95	.94
Advocate	.64	.84
Behavioral Perceptions of Nurses Role Performance	.94	.97
Caregiver	.87	.71
Teacher	.89	.81
Friend	.84	.82
Advocate	.86	.92
Cognitive Response to Nursing Services	.89	.77
Affective Response to Nursing Services	.88	.94
Behavioral Response to Nursing Services	.89	.93

Data resulting from the pilot studies were utilized to reduce the two versions of the nursing care survey from 132 items (Pilot One = 64 items; Pilot Two = 68 items) to 60 items. The statistical process for selection of items for the final nursing care survey considered: (a) the frequency distribution across the values 1-5, (b) skewness, i.e., >2.0 , (c) inter-item correlation between .30 and .70, (d) item correlation with subscale, i.e., $>.60$, (e) avoidance of high means, i.e., >4.5 , (f) items with unique variance, i.e., low inter-item and high item-scale correlation, and (g) high standard deviation for variability, i.e., $>.70$. Each item was reviewed in relation to its theoretical significance to King's (1981) systems framework. This emphasis on theoretical implications is consistent with the intent to develop an instrument with a strong theoretical base. In addition, the blueprint plan for the nursing care survey and retention of a variety of nursing activities within each role were other major considerations.

Item to total piloted subscale and scale score correlations. The item to total piloted scale correlations for the six instruments ranged from .12 to .98. No items were selected with an item to total piloted correlation below .30 (recommended minimum). The item to total piloted subscale correlations for the perceptions instruments ranged from .47 to .89. Twenty nine of the final forty-eight items (60.4%) in the subscales of the perceptions instrument had item to total subscale correlations greater than .70 (recommended maximum).

The initial alpha scores for the subscales in the two piloted versions were quite high (.64 to .94). This may have been due to possible redundancy of items. However, the initial 60-item Nursing Care Survey could not have been shortened and still reflect the theoretical

dimensions captured in the instrument blue print. Three response instruments of only four items each is a minimum number for a reliable scale. The perceptions instruments were three instruments with four subscales of twelve items each reflecting a wide range of nurse activities.

Item's contribution to the piloted total scale and subscale's internal consistency reliability alpha. With a review of the items' contribution to the overall scales' alphas in the six instruments, two items were found to not decrease the alpha by their removal (CR7, CR12). Both items differed from the other 58 items in the type of response scale: CR7: "Overall, teaching by nurses was (A to F)" and CR12: "If you have been hospitalized elsewhere, how would you rate the nursing care you received at this hospital compared to care you received at other hospitals (Much better to Much worse." The CR 7 item had item to total scale correlations between .30 to .70 and an average inter-item correlation of .67, an item to total correlation of .55 and good distribution across values. Therefore, because of statistical performance, CR7 was retained but CR12 was not. The CR7 item subsequently was found not to lower the overall nursing care survey's alpha when removed. As a result of the factor analysis reported later in this chapter, this item loaded with other summary items on Factor One, Positive Qualities of Nurse Caregivers.

In reviewing the items' contribution to the piloted subscales' alphas, nine of the one hundred and eight subscale items were found to not decrease the relevant subscale's alpha when removed. None of the nine items were subsequently used in the final nursing care survey instrument. Appendix N identifies the item analysis for the items

selected for the final instrument based on the pilot studies.

In summary, face validity was supported and the content validity was partially supported based on the King panel but not the relevancy panel. The reduction of items for the final instrument was based not only on content validity but also on item analysis and theoretical relevance to King's (1981) systems framework.

Research Question Three: Is construct validity supported by convergence between the Cognitive Perceptions of Nurses' Role Performance and the Patient Satisfaction Instrument (PSI) and divergence between both the Affective Perceptions of Nurses' Role Performance and Behavioral Perceptions of Nurses' Role Performance and the PSI?

Role Performance and the PSI?

The correlations between the subjects' scores on the perceptions instruments (CPNRP, APNRP, and BPNRP) and the PSI were calculated utilizing the Pearson Product Moment Correlation. Three correlations were initially calculated: (a) the correlation between the CPNRP and the PSI, (b) the correlation between the APNRP and the PSI, and (c) the correlation between the BPNRP and the PSI. The predictions were (a) the CPNRP and the PSI would be moderately and positively correlated indicating convergent validity between the primarily cognitive PSI and the cognitive instrument and (b) the APNRP and BPNRP would be less than moderately correlated with the PSI indicating that affective and behavioral instruments are different and unique when compared with the PSI.

The correlation between the Cognitive Perceptions of Nurses' Role Performance and the PSI testing convergent validity with 224 subjects was .54 ($p < .01$). The correlation between the Affective Perceptions of

Nurses' Role Performance and the PSI with 218 subjects was .58 ($p < .01$) and the correlation between the Behavioral Perceptions of Nurses' Role Performance and the PSI with 220 subjects was .54 ($p < .01$). If the measures are highly positively correlated, the validity of each instrument is strengthened according to Burns and Grove (1993). Convergent validity was successfully demonstrated with the significant and moderately to highly positive ($r = .59$, $p < .01$) correlation between the Cognitive Perceptions of Nurses' Role Performance and the PSI. Divergent validity was not demonstrated between the APNRP and the PSI and the BPNRP and the PSI though divergent validity was predicted. Instead the affective and behavioral instruments had similar correlations to the correlation between the cognitive instrument and the PSI. The reason for not finding divergent validity will be explored in the Discussion Chapter.

The correlation between the KKPSNC and the PSI was calculated to determine how closely the new combined instrument (KKPSNC) measured the construct of patient satisfaction as represented by the PSI. The correlation of .59 with 225 subjects ($p < .01$) was similar to the other three significant, moderate to high correlations with the PSI. This supports convergent validity of the KKPSNC with the PSI.

In summary, convergent validity between the Cognitive Perceptions of Nurses' Role Performance instrument and the PSI was demonstrated. However, divergent validity between Affective Perceptions and Behavioral Perceptions of Nurses' Role Performance instruments was not supported.

Research Question Four: What is the nature of the factors which comprise the CPNRP, APNRP, and BPNRP instruments?

As discussed in the Methodology Chapter, an exploratory factor

analysis procedure was conducted on 1463 cases. Prior to the factor analysis, the problem of errors in the data was addressed.

Examination of the Data

Despite the large sample, 20-30% of data were missing on 21 items due to the choice of "not applicable" that was recoded to missing data. The minimum number of cases was 1,003 for the item, "I was able to walk comfortably because the nurses gave me pain medication." To offset this problem, the choice of excluding cases leastwise was chosen so that only cases with valid values for all variables were used in the analysis. Thus, the number of cases for the factor analysis ranged from 351 to 797.

Despite skewness greater than 1.5 (one and one half standard deviations) on eight items, no ceiling effect, as evidenced by the choice "strongly agree" having greater than 50% of the distribution of responses, was apparent.

The randomness of missing data was examined by dummy coding missing variables and correlating missing variables with age, sex and education. Correlation coefficients revealed that age ($r = -.22$, $p < .01$) and education ($r = .14$, $p = < .01$) had small but significant correlations with missing values. This indicates that more missing cases were associated with higher age and more missing cases were associated with increased education.

Another concern before doing factor analysis was to ascertain if similar underlying expectations of nurses' roles existed across the three services, medical, surgical, and obstetrical. Specialty nurses, believing their specialties of medical, surgical, or obstetrical nursing are unique may question the appropriateness of measuring similar

nurses' roles across the three services. Also, no instrument was found in the literature that was used across the three (medical, surgical, and obstetrical) services in the same study. A one-way analysis of variance was done as presented in Table 12. The caregiver role was not significantly different across services. The teacher and friend roles were significantly different in obstetrical and medical services ($p < .05$). The advocate role was significantly different in the medical service ($p < .05$).

Table 12

Analysis of variance for nurses' professional roles and hospital services

Variables	Source	SS	df	F	p
Caregiver by Obstetrical	Between Groups	0.98	4	1.50	.20
	Within Groups	213.92	1318		
	Total	214.90	1322		
Caregiver by Surgical	Between Groups	1.03	4	1.15	.33
	Within Groups	295.59	1318		
	Total	296.62	1322		
Caregiver by Medical	Between Groups	0.66	4	0.67	.62
	Within Groups	327.58	1318		
	Total	328.25	1322		
Teacher by Obstetrical	Between Groups	3.00	4	4.64	.00*
	Within Groups	211.47	1308		
	Total	214.48	1312		
Teacher by Surgical	Between Groups	1.06	4	1.18	.32
	Within Groups	292.80	1308		
	Total	293.86	1312		
Teacher by Medical	Between Groups	3.44	4	3.49	.01*
	Within Groups	322.29	1308		
	Total	325.73	1312		
Friend by Obstetrical	Between Groups	1.62	4	2.50	.04**
	Within Groups	213.06	1313		
	Total	214.69	1317		
Friend by Surgical	Between Groups	0.33	4	0.37	.83
	Within Groups	294.75	1313		
	Total	295.08	1317		
Friend by Medical	Between Groups	3.20	4	3.25	.01*
	Within Groups	323.83	1313		
	Total	327.03	1317		
Advocate by Obstetrical	Between Groups	1.29	4	1.98	.10
	Within Groups	213.19	1308		
	Total	214.48	1312		

(table continues)

Variables	Source	SS	df	F	p
Advocate by Surgical	Between Groups	1.11	4	1.23	.29
	Within Groups	293.08	1308		
	Total	294.18	1312		
Advocate by Obstetrical	Between Groups	1.29	4	1.98	.10
	Within Groups	213.19	1308		
	Total	214.48	1312		

Note. *p <.01, **p <.05

Factor Analysis Procedure

As addressed in the Methodology Chapter, an exploratory factor analysis process was conducted. Principal component extraction with varimax rotation was performed by using the SPSS 3.0 subprogram Factor (SPSS Inc, 1988) to examine the dimensionality of the 48-item perceptions instrument. Each of the three perceptions instruments, (Cognitive Perceptions of Nurses' Role Performance, Affective Perceptions of Nurses' Role Performance, Behavioral Perceptions of Nurses' Role Performance), had sixteen items which together represented the four proposed role subscales.

The default setting of eigen value greater than 1 was used. The varimax rotation converged in ten iterations. The analysis resulted in a four-factor solution with strong loadings for cognitive, affective and behavioral items. Another factor analysis process was done with the number of factors set at three (3). Twenty-three (23) items (48.9%) separated as behavioral, 18 (38.3%) items as affective, and 5 items (10%) as cognitive. Since this solution was not theoretically useful, it was decided to proceed with the factor analysis on the six instruments combined as one 60 item instrument. the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC) instrument.

Final Factor Analysis

The factor analysis conducted on the 60-item instrument (KKPSNC) was again a principal components solution with varimax rotation to find a simple factor structure. The initial factor analysis resulted in seven factors with eigenvalues >1 . While a number of other factor solutions were attempted, the final factor analysis was done with the number of factors set at five. The criteria of Zeller and Carmines (1980) were used in determining factor structure and included: (a) unrotated eigen value greater than one with an item factor loading of at least .3, (however, based on the recommendation of Froman (1994) a .45 cutoff was used for the minimum loading for each variable initially. Subsequently, it was lowered to .44 to result in a simpler factor structure) (b) simple structure with each subscale and with all of the items loading highly on one factor; and (c) interpretability, that the factor represents a meaningful underlying dimension.

Twenty-three of the sixty items loaded significantly on the first factor accounting, as expected, for much of the variance (56.5%). Factor loadings on Factor I ranged from .44 to .76 with items from all six original instruments and eight items from caregiver, one from teacher, four from friend, and three from advocate roles. That the first principal component is usually a general factor (large positive loadings on most of the variables) is an artifact of the method (Kline, 1994). The high positive correlations among the items (inter-item correlations mean = .55) contributed to the presence of the general factor. Method variance was not expected to contribute to the general factor to a large extent because the item analysis showed good item variability. Gorsuch (1983) cautions that varimax rotation is inappropriate if the

theoretical expectation suggests a general factor. The theoretical expectation in this study was for four roles of professional nurses so varimax rotation was done resulting in minimization of the general factor.

The final scale consisted of all 60 items that met the criteria for inclusion in the scale. The five factor solution accounted for 67.8% of the variance in the instrument.

The resulting structure supported the theoretical factors of nurses' professional roles of caregiver, teacher, friend, and advocate and added one new role, *communicator*. In addition, enhanced meaning for each factor changed the intended definitions of the roles. The identified factors emerged as follows: Factor I, Positive Qualities of a Nurse Caregiver with an eigen value of 33.92; Factor II, Personal-Care-Promoting Friend with an eigen value of 2.43, Factor III, Personal-Control-Promoting Teacher with an eigen value of 1.81, Factor IV, Involvement-Promoting Communicator with an eigen value of 1.34, and Factor V, Independence-Promoting Advocate with an eigen value of 1.18.

Ten items cross loaded significantly on two factors. In these cases, items with the higher factor loading were chosen except for one case where the item was "the nurses knew how to identify problems" with loadings of .51 on Factor I and .51 on Factor IV. The choice was made to include this item on Factor I, Positive Qualities of a Nurse Caregiver, because it reflected caregiver behavior more than communicator behavior.

Description of Factors

The factor analysis identified that eighteen (37.5%) of the forty-eight original items loaded on the factors as predicted by the originally proposed subscales. When reexamined conceptually (refer to

the Discussion Chapter), the remaining thirty items' factor loadings were theoretically consistent with King's (1981) systems framework. Table 13 identifies the factors resulting from the factor analysis and the proposed labels.

Table 13

Factors and Proposed Labels

Factors	Proposed Label
1	Positive Qualities of a Nurse Caregiver
2	Personal-Care-Promoting Friend
3	Personal-Control-Promoting Teacher
4	Involvement-Promoting Communicator
5	Independence-Promoting Advocate

As a result of the factor analysis, thirty (30) items (50% of the final instrument) loaded on factors different from those proposed by the original subscales. The conceptualization of four of the proposed subscales remained consistent through the factor analysis. These subscales were: caregiver, teacher, friend, and advocate. As a result of the factor analysis, the proposed subscales were reconceptualized as Positive Qualities of a Nurse Caregiver, Personal-Care Promoting Friend, Persona-Control-Promoting Teacher, and Independence-Promoting Advocate. The four proposed subscales of caregiver, teacher, friend, and advocate have enhanced goal promotion meaning consistent with King's (1981) systems framework. One new factor (Involvement-Promoting Communicator) was created as a result of the item loadings.

Table 14 presents the factor loadings, the items with their factor numbers and labels and the original proposed subscale labels. Each

factor includes has a asterisked "marker" item that represents the patient goal promotion part of the factor. (See Appendix O for complete factor loadings).

The twenty-three items loading on Factor I, Positive Qualities of a Nurse Caregiver, clearly suggest positive qualities of nurses' behaviors as commonly referred to by patients, i.e., "good nurses" are intelligent, effective, gentle, prompt, respectful, caring, friendly, helpful, and good listeners. Fifteen items loaded on Factor II, Personal-Care-Promoting Friend. These items correspond to emotionally supportive, patient, compassionate nurses who help patients gain knowledge and assume an active role in their own health care. Factor III, Personal-Control-Promoting Teacher, with 9 items loaded, represents responsive nurses who provide effective teaching and perform mutual goal setting with patients so that patients know what procedures, tests, etc., to expect and when to expect them, thereby promoting patients's personal control in the acute care setting. Eight items loaded on Factor IV, Involvement-Promoting Communicator, which represents communicative nurses who ask patients questions and explain information appropriately to provide patients' involvement in decision making in their care as much as they desire. The final factor, Factor V, Independence-Promoting Advocate, with five items, represents, for example, patients' efforts to be free of pain or have their rights protected while taking part in care decisions with nurses thereby helping patients be as independent as desired.

Table 14

Item Loadings, Items, Factor Numbers and Labels, and Original Proposed
Subscale Labels

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
.76	The nurses were available when I needed them (apck2)	1 Positive Qualities of a Nurse Caregiver	Caregiver
.75	I had confidence in the nurses caring for me (ar3)	1 Positive Qualities of a Nurse Caregiver	***
.73	Overall, I felt that the nurses acted in my best interest (ar7)	1 Positive Qualities of a Nurse Caregiver	***
.70	If I were sick, I would return to the same hospital because of the nursing care I received (br8)	1 Positive Qualities of a Nurse Caregiver	***
.69	When I needed it, I got my pain medication quickly (apcm2)	1 Positive Qualities of a Nurse Caregiver	Caregiver
.69	The nurses were happy to help me (apfr26)	1 Positive Qualities of a Nurse Caregiver	Friend

(table continues)

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
.69	The nurses went out of their way to help me feel better (apfr19)	1 Positive Qualities of a Nurse Caregiver	Friend
.69	**Overall, my satisfaction with nursing care was (Excellent to Unacceptable) (ar16)	1 Positive Qualities of a Nurse Caregiver	***
.68	I felt that the nurses supported me in taking an active role in my care (apaf1)	1 Positive Qualities of a Nurse Caregiver	Advocate
.67	The nurses were gentle in caring for me(apcc3)	1 Positive Qualities of a Nurse Caregiver	Caregiver
.67	The nurses really listened to me (apfc1)	1 Positive Qualities of a Nurse Caregiver	Friend
.67	I felt that the nurses took me seriously (apam4)	1 Positive Qualities of a Nurse Caregiver	Advocate
.66	Overall, nurses acted on my behalf as a patient (cr8)	1 Positive Qualities of a Nurse Caregiver	***

(table continues)

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
.63	The nursing services I received helped me deal more effectively with my health problems (cr11)	1 Positive Qualities of a Nurse Caregiver	***
.62	I enjoyed my conversations with the nurses (bpfs3)	1 Positive Qualities of a Nurse Caregiver	Friend
.61	The nurses were so good I didn't have to ask for help (bpct2)	1 Positive Qualities of a Nurse Caregiver	Caregiver
.57	Overall, teaching by nurses was (A to F) (cr7)	1 Positive Qualities of a Nurse Caregiver	***
.56	The nurses were knowledgeable about treatments (cpck7)	1 Positive Qualities of a Nurse Caregiver	Caregiver
.54	The nurses respected my right to be informed (apak1)	1 Positive Qualities of a Nurse Caregiver	Advocate
.51	The nurses knew how to identify problems (cpcp1)	1 Positive Qualities of a Nurse Caregiver	Caregiver
.45	If I needed help with bathing, the nurses provided it (apck3)	1 Positive Qualities of a Nurse Caregiver	Caregiver

(table continues)

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
.44	I turned to the nurses for answers to my questions (bptt1)	1 Positive Qualities of a Nurse Caregiver	Teacher
.74	I remember what the nurses taught me about my medications (bptm1)	2 Personal-Care Promoting Friend	Teacher
.71	I am managing my health problem using what the nurses taught me (br4)	2 Personal-Care Promoting Friend	***
.69	I am taking my medication as instructed by the nurses (br2)	2 Personal-Care Promoting Friend	Teacher
.57	The nurse tried to help me with my worries about returning home (apfr13)	2 Personal-Care Promoting Friend	Friend
.61	I will call the nurses at the hospital if I have any questions (br3)	2 Personal-Care Promoting Friend	***
.55	I confided in the nurses (bpfc2)	2 Personal-Care Promoting Friend	Friend
.53	The emotional support nurses gave me met my needs (ar1)	2 Personal-Care Promoting Friend	***
.53	I talked to the nurses about personal concerns (bpfr3)	2 Personal-Care Promoting Friend	Friend

(table continues)

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
.51	**I learned to take an active role in my care from the nurses (bpafl)	2 Personal-Care Promoting Friend	Advocate
.48	I can describe my pain because the nurses taught me how (bptpl)	2 Personal-Care Promoting Friend	Teacher
.48	The nurses discussed my anxieties and fears with me (apfrl)	2 Personal-Care Promoting Friend	Friend
.48	Overall, the nurses taught me what I needed to know for my recovery after discharge (cr6)	2 Personal-Care Promoting Friend	***
.62	The nurses encouraged friendly conversation when I wanted to talk (cpfs3)	3 Personal- Control- Promoting Teacher	Friend
.62	The nurses kept me informed about aspects of my hospitalization (cpak8)	3 Personal- Control- Promoting Teacher	Advocate
.59	The nurses taught me information when I needed it (aptt6)	3 Personal- Control- Promoting Teacher	Teacher
.55	The nurses helped me decide how to achieve the goals we agreed upon (cpaf2)	3 Personal- Control- Promoting Teacher	Advocate

(table continues)

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
		3	
.54	The nurses fit their explanations to what I needed to know (aptt2)	Personal-Control-Promoting Teacher	Teacher
		3	
.53	The nurses responded to my family's concerns (cpfr1)	Personal-Control-Promoting Teacher	Friend
		3	
.51	My family was kept informed of my plan of care by the nurses (cpfc8)	Personal-Control-Promoting Teacher	Friend
		3	
.51	The nurses and I decided things together as I got ready to go home (bptd1)	Personal-Control-Promoting Teacher	Teacher
		3	
.47	**I knew when to expect things (cpct6)	Personal-Control-Promoting Teacher	Caregiver
		4	
.71	The nurses asked me what I knew about my health problem (cptt6)	Involvement-Promoting Communicator	Teacher
		4	
.67	Upon admission, the nurses told me the things I needed to know (cptil)	Involvement-Promoting Communicator	Teacher
		4	
.64	The nurses explained important side effects from medication to watch for after I went home (cptm3)	Involvement-Promoting Communicator	Teacher

(table continues)

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
		4	
.53	The nurses asked me frequently to describe my pain	Involvement-Promoting Communicator	Caregiver
.53	The nurses described the tests I was to have (cptel)	4 Involvement-Promoting Communicator	Teacher
.53	The nurses provided privacy when they gave me care (cpap3)	4 Involvement-Promoting Communicator	Advocate
.48	**I was involved by nurses in decisions about my care as much as I wanted (cpar1)	4 Involvement-Promoting Communicator	Advocate
.47	The nurses were available to talk with me or my family (cpfc9)	4 Involvement-Promoting Communicator	Friend
.61	I was able to walk comfortably because the nurses gave me pain medication (bpcm3)	5 Independence-Promoting Advocate	Caregiver
.50	I received pain medications from the nurses without asking (bpcm2)	5 Independence-Promoting Advocate	Caregiver
.49	My right to be heard was protected by the nurses (bpar2)	5 Independence-Promoting Advocate	Advocate

(table continues)

Item Loading on Factor	Item	Factor Label	Original Proposed Subscale
.47	The nurses supported me in taking part in decisions about my own care (bpar3)	5 Independence-Promoting Advocate	Advocate
.46	**My efforts to be independent were praised by the nurses (bpaf2)	5 Independence-Promoting Advocate	Advocate

Note. ** indicates a marker item. *** indicates no subscale was proposed.

Reliability of Factors

The five factors were examined for their internal consistency as subscales. Cronbach's alpha was computed for each new subscale. All five factors had high alphas, three greater than .90. As with the KKPSNC instrument, high alphas of the subscales were also a problem (refer to discussion in Chapter Five). Respective alpha coefficients for each subscale were: Factor I, Positive Qualities of a Nurse Caregiver, (.98); Factor II, Personal-Care-Promoting Friend, (.96); Factor III, Personal-Control-Promoting Teacher, (.94); Factor IV, Involvement-Promoting Communicator, (.88); Factor V, Independence-Promoting Advocate, (.86).

Item to Subscale Correlations

For the five new subscales, item to total subscale score correlations ranged from a minimum of .55 to .85 and were above the recommended minimum (.30). The individual item to total subscale score correlations of the newly formulated subscales are delineated in Tables 15 to 19.

Table 15

Item to Total Subscale Score Correlations - Factor I: Positive Qualities
of a Nurse Caregiver (N=564)

Items	Item to total subscale score correlation
Overall, I felt that the nurses acted in my best interest (ar7.54)	.86
The nurses went out of their way to help me feel better (apfr1927)	.86
The nurses knew how to identify problems (cpcpl.3)	.69
The nurses were gentle in caring for me (apcc3.17)	.76
If I needed help with bathing, the nurses provided it (apck3.18)	.65
The nurses were available when I needed them (apck2.19)	.80
When I needed it, I got my pain medication quickly (apcm2.20)	.72
The nurses really listened to me (apfc1.25)	.85
The nurses were happy to help me (apfr2628)	.85
I felt that the nurses took me seriously (apam4.29)	.84
The nurses respected my right to be informed (apak1.30)	.81
I felt that the nurses supported me in taking an active role in my care (apaf1.31)	.86
When I used the call button, I was assisted within a few minutes (bpct1.33)	.73
The nurses were so good I didn't have to ask for help (bpct2.34)	.71
I turned to the nurses for answers to my questions (bpct1.37)	.72

(table continues)

Items	Item to total subscale score correlation
I enjoyed my conversations with the nurses (bpfs3.44)	.80
The nursing services I received helped me deal more effectively with my health problems (cr11.49)	.83
Overall, nurses acted on my behalf as a patient (cr8.51)	.83
I had confidence in the nurses caring for me (ar3.53)	.84
If I were sick, I would return to the same hospital because of the nursing care I received (br8.58)	.80
Overall, my satisfaction with nursing care was (excellent to unacceptable) (ar16.60)	.83
The nurses were knowledgeable about treatments (cpck7.1)	.63

Table 16

Item to Total Subscale Score Correlations - Factor II: Personal-Care-Promoting Friend (N=350)

Items	Item to total subscale score correlation
I felt the nurses were patient when teaching me new skills (aptt2.21)	.76
The nurses tried to help me with my worries about returning home (aptd1.24)	.80
The nurses discussed my anxieties and fears with me (apfr13.26)	.79
My right to refuse was respected by the nurses (apak3.32)	.70
I can describe my pain because the nurses taught me how (bptpl.38)	.72
I remember what the nurses taught me about my medications (bptml.40)	.80
I confided in the nurses (bpfc2.41)	.76
I talked to the nurses about personal concerns (bpfr3.42)	.72
I understand my problems better because the nurses cared (bpfr3.43)	.85
I learned to take an active role in my care from the nurses (bpaf1.45)	.81
Overall, the nurses taught me what I needed to know for my recovery after discharge (cr6.50)	.79
I am taking my medication as instructed by the nurses (br2.55)	.72
I am managing my health problem using what the nurses taught me (br4.56)	.83
I will call the nurses at the hospital if I have any questions (br3.57)	.63

Table 17

Item to Total Subscale Score Correlations - Factor III: Personal-
Control-Promoting Teacher (N=691)

Items	Item to total subscale score correlation
(I knew when to expect things (cpct6.4)	.63
My family was kept informed of my plan of care by the nurses (cpfc8.10)	.77
The nurses responded to my family's concerns (cpfr1.11)	.79
The nurses encouraged friendly conversation when I wanted to talk (cpfs3.12)	.77
The nurses kept me informed about aspects of my hospitalization (cpak8.13)	.83
The nurses helped me decide how to achieve the goals we agreed upon (cpaf2.14)	.83
The nurses fit their explanations to what I needed to know (aptt5.22)	.82
The nurses taught me information when I needed it (aptt6.23)	.84
The nurses and I decided things together as I got ready to go home (bptd1.39)	.70

Table 18

Item to Total Subscale Score Correlations - Factor IV: Involvement-
Promoting Communicator (N=797)

Items	Item to total subscale score correlation
The nurses asked me frequently to describe my pain (cpcm1.2)	.61
Upon admission, the nurses told me the things I needed to know (cptil.5)	.63
The nurses asked me what I knew about my health problem (cptt6.6)	.68
The nurses described the tests I was to have (cptel.7)	.68
The nurses explained important side effects from medication to watch for after I went home (cptm3.8)	.64
The nurses were available to talk with me or my family (cpfc9.9)	.62
I was involved by nurses in decisions about my care as much as I wanted. (cpar1.15)	.71
The nurses provided privacy when they gave me care (cpap3.16)	.61

Table 19

Item to Total Subscale Score Correlations - Factor V: Independence-
Promoting Advocate (N=521)

Items	Item to total subscale score correlation
The nurses supported me in taking part in decisions about my own care (bpar3.47)	.74
My efforts to be independent were praised by the nurses (bpaf2.46)	.71
My right to be heard was protected by the nurses (bpar2.48)	.71
I was able to walk comfortably because the nurses gave me pain medication (bpcm3.36)	.69
I received pain medications from the nurses without asking (bpcm2.35)	.55

Based on the new subscales, subscale to subscale correlations ranged from a minimum of .66 to a maximum of .86. Subscale to total scale correlations ranged from .79 to .96. Both the item to total scale correlations and the item to total subscale correlations were examined. The correlations of 35 items (58%) of the overall instrument with their relevant subscale were higher than the items' correlations with the overall instrument. This finding would be expected as the subscale items are proposed to be more highly correlated than the items on the overall instrument. However, the correlations of 25 items (42% of the total instrument) with the overall instrument were higher than the items' correlations with their relevant subscale.

The correlations between the five factors ranged from .66 to .86 ($p < .01$). The amount of variance shared, 44% to 74%, indicates

considerable overlap among the five factors.

Research Question Five: Are patient characteristics related to the levels of cognitive, affective, and behavioral perceptions of nurses'role performance and cognitive, affective, and behavioral responses to nursing services?

As discussed at the beginning of this Results Chapter, descriptive data were gathered on subjects and their hospitalizations. Explanations about results of the perceptions instruments (CPNRP, {APNRP, and BPNRP), the response instruments (CRNS, ARNS, and BRNS), and the KKPSNC may be related to correlations with these data. Interval variables were grouped for age, education, times hospitalized. Categorical variables (ethnic group, marital status, insurance type, employment, RN status, service, admission type, ICU admission, presence of a roommate) were recoded to 0 or 1 to correlate with the instruments. Spearman correlation coefficients were calculated for the ordinal variable of income. Table 20 displays correlation coefficients for the six study instruments in response to the research question. Table 21 displays the correlation coefficients for the KKPSNC.

Table 20

Correlation Coefficients between Patient Characteristics and StudyInstruments

Patient Character- istics	Study Instruments					
	CPNRP	APNRP	BPNRP	CRMS	ARMS	BRNS
Age	-.01 (1348) p=.585	.01 (1339) p=.649	.07 (1341) p=.008**	.01 (1312) p=.736	.04 (1325) p=.187	-.01 (1305) p=.780
Gender	-.04 (1349) p=.100	-.04 (1340) p=.157	-.07 (1342) p=.014*	-.03 (1313) p=.229	-.05 (1326) p=.075	-.01 (1306) p=.648
Education	-.03 (1330) p=.331	.00 (1321) p=.921	-.05 (1323) p=.066	-.00 (1296) p=.898	.02 (1308) p=.518	-.03 (1289) p=.306
Ethnic Group	-.00 (1342) p=.969	.02 (1333) p=.554	-.00 (1335) p=.960	-.01 (1306) p=.684	.01 (1319) p=.788	.01 (1300) p=.755
Marital Status	.08 (1352) p=.002**	.06 (1343) p=.035	.04 (1345) p=.146	.03 (1316) p=.230	.05 (1329) p=.095	.03 (1309) p=.339
Type of Health Insurance	.02 (1351) p=.535	.01 (1342) p=.637	-.06 (1344) p=.035*	.01 (1315) p=.739	.01 (1328) p=.617	.00 (1308) p=.911
Subject employed	.03 (1344) p=.300	.02 (1335) p=.416	-.02 (1337) p=.570	.04 (1309) p=.144	.02 (1322) p=.461	.02 (1302) p=.418
Income	.04 (1200) Sig.150	.03 (1191) Sig.357	-.02 (1194) Sig.521	.03 (1168) Sig.265	.04 (1180) Sig.189	.01 (1164) Sig.670
Subject an RN or LPN	.03 (1344) p=.235	.00 (1335) p=.856	.00 (1337) p=.767	.02 (1309) p=.565	.02 (1322) p=.555	.00 (1302) p=.863

Note. (Coefficient / (Cases) / 2-tailed significance) (table continues)

* <.05, **<.01

Patient Charac- teris- tics	Study Instruments					
RN or LPN in family	.02 (1331) p=.556	-.00 (1322) p=.972	.01 (1324) p=.626	-.02 (1295) p=.761	-.00 (1308) p=.975	-.01 (1288) p=.722
Subject a hospital employee	.02 (1346) p=.484	.03 (1337) p=.288	.00 (1339) p=.910	.04 (1311) p=.182	.03 (1324) p=.322	.01 (1304) p=.823
Times hospita- lized in the most recent hospital	-.06 (1198) p=.028*	-.09 (1192) p=.002**	-.08 (1191) p=.005**	-.09 (1171) p=.003**	-.06 (1181) p=.026*	-.06 (1163) p=.043*
Times hospita- lized in the last two years	-.02 (1223) p=.414	-.11 (1216) p=.000**	-.09 (1217) p=.002**	-.08 (1194) p=.006**	-.07 (1205) p=.020*	-.06 (1187) p=.027*
Times hospita- lized in lifetime	-.04 (1045) p=.245	-.05 (1037) p=.116	-.04 (1038) p=.253	-.06 (1020) p=.077	-.03 (1029) p=.397	-.05 (1015) p=.084
Number of days admitted this stay	-.05 (1316) p=.066	-.08 (1307) p=.002**	-.05 (1310) p=.002**	-.08 (1282) p=.005**	-.09 (1294) p=.002**	-.04 (1276) p=.145
Medical Service	-.10 (1322) p=.000**	-.07 (1313) p=.007**	-.05 (1315) p=.093	-.07 (1286) p=.019*	-.06 (1299) p=.028*	-.07 (1280) p=.009**
Obste- trical Service	.09 (1322) p=.001**	.06 (1313) p=.029*	.03 (1315) p=.355	.06 (1286) p=.022*	.04 (1299) p=.169	.11 (1280) p=.000**

(table continues)

Patient Charac- teris- tics	Study Instruments					
Surgi- cal Service	.03 (1322) p=.359	.03 (1313) p=.320	.03 (1315) p=.328	.01 (1286) p=.615	.03 (1299) p=.257	-.02 (1280) p=.572
Type of Admis- sion	.06 (1330) p=.019*	.06 (1320) p=.020*	.05 (1322) p=.098	.06 (1294) p=.020**	.05 (1307) p=.055	.06 (1297) p=.020
ICU Admis- sion	.05 (1338) p=.076	.04 (1329) p=.118	.05 (1331) p=.048*	.03 (1302) p=.291	.06 (1315) p=.025*	.04 (1296) p=.195
Room- mate during stay	-.09 (1332) p=.001**	-.07 (1323) p=.007**	-.05 (1325) p=.070	-.07 (1296) p=.011*	-.07 (1315) p=.012*	-.06 (1289) p=.022

Note. (Coefficient / (Cases) / 2-tailed significance)

*p < .05, **p < .01

Table 21

Correlation Coefficients Between Patient Characteristics and the KKPSNC

Patient Characteristics	KKPSNC
Age	.02 (1350) p=.457
Gender	-.05 (1351) p=.061
Education	-.02 (1332) p=.431
Ethnic Group	.01 (1344) p=.836
Marital Status	.06 (1354) p=.038*
Type of Health Insurance	-.00 (1353) P=.877
Subject Employed	.02 (1346) p=.529
Income	.02 (1202) Sig.442
Subject an RN or LPN	.02 (1346) p=.515
RN or LPN in family	.01 (1333) p=.717
Subject a hospital employee	.02 (1348) p=.452

(table continues)

Patient Characteristics	KKPSNC
	.-.08 (1200) p=.006*
Times hospitalized in the most recent hospital	
	-.07 (1225) p=.013*
Times hospitalized in the last two years	
	-.04 (1046) p=.167
Times hospitalized in lifetime	
	-.07 (1318) p=.017*
Number of days admitted this stay	
	-.08 (1324) p=.005**
Medical Service	
	.07 (1324) p=.010**
Obstetrical Service	
	.02 (1324) p=.435
Surgical Service	
	.06 (1331) p=.026*
Type of admission	
ICU Admission	.05 (1331) p=.065
Roommate during stay	-.08 (1334) p=.004*

Note. (Coefficient/ (Cases) /2-tailed significance

*p <.05

Eight of the twenty-one characteristics had significant results when correlated with the six study instruments and the KKPSNC. However, all the correlations were very small ($r = -.11$ to $r = .11$) explaining little of the variance. Although the correlations in question were statistically significant, this may have occurred by chance because of

the large sample. Therefore, based on the limited evidence of small correlations, patterns are recognized but no conclusions are drawn.

Based on the above data for the KKPSNC, a pattern of married subjects as more satisfied than unmarried subjects ($r = .06$, $p < .05$) emerged. This applied for the Cognitive Perceptions of Nurses' Role Performance instrument also ($r = .08$, $p < .05$).

A pattern was also revealed among all the instruments, that the less times hospitalized at the most recent hospital, the higher the satisfaction scores ($r = -.09$ to $-.06$, $p < .05$ to $p < .01$). Also, the less times hospitalized in the last two years, the higher the satisfaction scores for the KKPSNC ($r = -.07$, $p < .05$) and five of the six instruments ($r = -.11$ to $-.06$, $p < .05$ to $p < .01$). No significant correlations were found for the number of times hospitalized in a lifetime and satisfaction scores. Similar to number of times hospitalized recently or in the last two years, the less days admitted in the hospital, the higher the satisfaction scores on four of the six instruments ($r = -.09$ to $-.05$, $p < .01$) and on the KKPSNC ($r = -.07$, $p < .05$). The number of times hospitalized was based on self report but the number of days hospitalized was not. Rather the researcher calculated and inputted the number of days hospitalized when it was evident by comparison that patients did not provide reliable data for this item in the Information Form.

Those subjects who were on a medical service tended to be less satisfied than those on surgical or obstetrical services ($r = -.10$ to $-.06$). Conversely, obstetrical tended to be more satisfied than medical and surgical patients ($r = .06$ to $.11$). Those subjects who had voluntary/planned admissions were more likely to be satisfied than those

who were unplanned/emergency admissions on the KKPSNC ($r = .06$) and on three of the six instruments ($r = .06$). Having a roommate resulted in lower satisfaction scores on the KKPSNC ($r = -.08$) and four of the six instruments ($r = -.09$ to $-.07$). All correlations were significant at the .01 or .05 level. Discussion of the implications of these limited findings will be done in Chapter Five.

Other Findings

The satisfaction scores on the instruments were not the subject of this psychometric research. However, examination of some of the satisfaction results may support the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC) Instrument's validity.

The KKPSNC mean score for the sample ($N = 1463$) was 4.11, std. dev. .70, median 4.15, mode 5, with a range of 1.06 to 5.00. A correlation between the overall KKPSNC score and the four hospital KKPSNC scores was not significant ($r = -.03$, $p = .23$). A chi-square analysis likewise showed scores among the hospitals were not likely to be similar to the overall KKPSNC ($\chi^2 = 318.83$, $p < .001$). Thus, the existence of substantial, significant variations across hospitals provides preliminary support of the scales' validity.

Summary

Following a content validity review by eight expert judges, the proposed Killeen-King Patient Satisfaction with Nursing Care (KKPSNC) instrument was reduced from 364 items that were generated to a 132 item instrument for the pilot studies with Content Validity Indices of 76% to 86%. The two pilot studies were conducted with a sample of 102 medical, surgical, and obstetrical subjects from a large urban hospital. The instruments were found to have face validity by the pilot subjects.

Internal consistency reliabilities for the piloted instruments ranged from .64 to .94. Based on pilot studies data, the proposed instrument was again reduced to 60 items, utilizing each item's: (a) rating by the content validity experts, (b) item to total scale score correlation, (c) item to total subscale correlation, (d) contribution to total scale alpha, and (e) contribution to subscale alpha. The Killeen-King Patient Satisfaction with Nursing Care instrument had CVIs of 72% (relevancy panel) and 82% (King panel) indicating mixed results for content validity.

In the final study, 2602 recently discharged hospital patients from four hospitals in Michigan comprised the sample. Subjects returned 1631 usable questionnaires for a response rate of 68%. Data analysis, utilizing Cronbach's alpha, resulted in an internal consistency reliabilities of .84 to .97 for the six instruments and of .99 for the overall KKPSNC. The test-retest reliability procedure was done with 33 subjects over an average interval of twenty-two days with a correlation of time one with time two of .88 demonstrating high test-retest reliability. Individual item correlations with the total KKPSNC scale score were calculated utilizing the Pearson product-moment correlation. The correlations ranged from .55 to .85.

In order to estimate construct validity, convergent and divergent validity analysis was conducted. The subjects' scores on the perceptions instruments were correlated with subjects' scores on the Patient Satisfaction Instrument (Hinshaw & Atwood, 1982). Utilizing the Pearson product-moment correlation, three correlations were calculated: (a) the correlation between the Cognitive Perceptions of Nurses' Role Performance and the PSI ($r = .54$), (b) the correlation between the

Affective Perceptions of Nurses' Role Performance and the PSI ($r = .58$), and the correlation between the Behavioral Perceptions of Nurses' Role Performance and the PSI ($r = .54$). Convergent validity between the Cognitive Perceptions of Nurses' Role Performance and the PSI was supported but divergent validity between the Affective Perceptions of Nurses' Role Performance and the PSI and Behavioral Perceptions of Nurses' Role Performance and the PSI was not supported. The subjects' scores on the Killeen-King Patient Satisfaction with Nursing Care and the Patient Satisfaction Instrument were correlated (.59) indicating convergent validity of the KKPSNC with the PSI. All four correlations were significant at the .01 level.

In addition, a factor analysis was conducted with the data. A principal components factor analysis was conducted and five factors were extracted. Following a varimax rotation of the factors, items with a factor loading of .44 or more were loaded on the factors. Thirty (30) of the forty-eight items did not load on the factors as predicted by the originally proposed subscales. Items loading on all factors were examined and factors were labeled to reflect the revised item composition. The factors as predicted by the originally proposed subscales of four professional roles were expanded to include one additional role and enhanced meaning consistent with King's (1981) systems framework. The conceptual analysis for the revision of the subscales of the Killeen-King Patient Satisfaction with Nursing Care, following the factor analysis is addressed in the Discussion Chapter.

Internal consistency reliabilities of the new factors were calculated, utilizing Cronbach's alpha. The five factors demonstrated extremely high alphas ranging from .86 to .98.

Eight of a possible twenty-one patient characteristic variables were found to be weakly correlated ($r = -.11$ to $.11$, $p < .05$ to $p < .01$) with the six instruments or the KKPSNC. Variables with very small but significant correlations include marital status, times hospitalized in the most recent hospital, times hospitalized in the last two years, number of days admitted, medical service, obstetrical service, type of admission, and roommate during stay. Based on the limited evidence, no definite conclusions can be drawn.

CHAPTER FIVE

DISCUSSION

A discussion of the research findings is presented in this chapter. The findings include results addressing: (a) the research questions, (b) theoretical issues, and © utilization of the instrument. Methodological issues and limitations related to the research will also be addressed. Recommendations for future research and implications for both practice and education will also be discussed.

Research Questions

Research Question One: Do the Following Instruments Demonstrate Acceptable Levels of Internal Consistency and Test-Retest Reliability - CPNRP, APNRP, BPNRP, CRNS, ARNS, and BRNS?

Internal Consistency Reliability

The six study Instruments had acceptable levels of internal consistency reliability: CPNRP: .95, APNRP: .97, BPNRP: .96, CRNS: .91, ARNS: .93, AND BRNS: .84 with .70 being the minimum for a new Instrument (Nunnally, 1978).

Two hundred and eighteen subjects completely answered all the items on the combined six Instruments, the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC). Analysis of internal consistency, utilizing Cronbach's alpha resulted in an extremely high alpha of .99 for the overall Instrument. An alpha this high is very rare. Therefore, the data were run several times to identify why the alpha was so high. Burns & Groves (1993) state that "if the coefficient value were 1.00, each item in the Instrument would be measuring exactly the same thing" (p.342). The apparent lack of discrimination is a problem. Obviously with an alpha so much higher than the recommended

maximum of 0.90, there is a need to shorten the instrument due to the existence of redundant items (DeVellis, 1991). Therefore, it is recommended that revision of the Instrument include selection of items to remain using the previous statistical process conducted to select items and examining each item's theoretical contribution to the overall Instrument.

Other explanations of the high alpha in addition to the redundant items explanation are multicollinearity and measurement error. Multicollinearity is correlation among the independent predictor variables (Stratmann, Zastowny, Bayer, Adams, Black & Fry, 1994). The problem may be due to the correlation of factors that was found to be unexpectedly high (.75 to .89). Apparently, the items are not sufficiently independent of one another. Stratmann, et al. maintain that multicollinearity in patient satisfaction surveys is reduced to its lowest possible level by an approach that (a) does not ask the same question more than once using different wording, (b) use of a measurement scale with only two points, yes and no, © a 0-10 scale for no more than six dependent variables. Dependent variables are described as global, summary items like overall satisfaction with the hospital.

Stratman, et al.'s recommendations for avoiding multicollinearity result in the following plans for the revision of the KKPSNC. (a) Substituting the two-point yes/no scale for the Likert scale used in the study and (b) using the marker item for each factor as the dependent variable utilizing a 0-10 scale of A thru F underneath the words, Excellent to Poor.

The experience of Stratmann et al. (1994) is that their approach also reduces response set bias and halo effects. They maintain that both

types of error are attributable to rating scales with a matrix of rows and columns used to facilitate coding and data entry of answers. The rating scales and response grid formats directly relate to the problem of multicollinearity according to Stratman et al. Another advantage of their approach is that with multicollinearity eliminated, regression analysis can be used to calculate the relative importance of different nurse behaviors.

Test-Retest Reliability

Test-retest reliability was estimated with thirty-three subjects with a significant correlation of .88 over an average interval of twenty-two days. The plan had been to enclose postcards requesting volunteers for test-retest reliability to respond to the investigator. A mistake during the first week of the study was mailing the reminder letters to all the subjects, not just the ones who had not yet responded. This resulted in the receipt of the majority of the second completed survey returns. Subsequently, the remainder of the thirty-three subjects were from those who had their returns in the mail cross with the reminder letters. Faced with a duplicate survey and a letter urging them to respond, these few subjects completed a second survey. The subjects in this subsample had no characteristics significantly correlated with the KKPSNC scores unlike the large sample which had eight characteristics significantly correlated. However, that may be because of the large size of the main sample. It would be interesting to know if the subsample would have been different from a volunteer subsample recruited specifically for test-retest reliability.

The test-retest procedure yielded a reasonably substantial correlation coefficient (.88) indicating high stability reliability of

the KKPSNC. The test-retest reliability provided a different approach to estimating reliability in addition to testing internal consistency utilizing Cronbach's alpha.

Research Question Two: Are Face and Content Validity
of the Instruments Supported?

Face Validity

Face validity of the Instruments was pursued in order to improve the response rate of subjects. It was assumed that a survey constructed to be similar in appearance to typical hospital patient satisfaction surveys would be more readily accepted as a satisfaction survey. The high response rate of 68% in the final study provides evidence of the acceptance of the survey Instrument as a measure of what it purported to measure, patient satisfaction.

Content Validity

The resulting Content Validity Index (CVI) of the pilot studies Instruments was 76% to 86% with 80% being the minimal acceptable Content Validity Index for an instrument as a whole (Waltz, Strickland, & Lenz, 1984). The CVI for the final study Instrument was 82% for the King expert panel and 72% for the roles-of-professional-nurses experts and the patient experts (relevancy) panel.

Although the research Instrument (KKPSNC) did not have acceptable Content Validity Indexes for all panels, the results of the content validity judging for the proposed role subscales for the perceptions Instrument was high (detailed in Table 9), ranging from 92% to 97% for the King panel, 81% to 94% for the role experts panel, 83% to 100% for the patient experts, and 82% to 97% for the relevancy experts combined. These results provide evidence of the consistency of the items with

King's (1981) systems framework and support for the professional role dimensions as judged by all the content validity experts. As discussed previously, in light of the factor analysis results, the study concepts will need to be redefined. Based on the content validity results, the four proposed roles (caregiver, teacher, friend, advocate) will be retained in the Instrument revision.

The attrition of content validity judges may have contributed to the mixed CVI results. Of the twelve judges who agreed to participate, only eight actually completed the materials.

One did not respond at all, one apologized for not completing the materials, three did not follow directions and one of these three only partially completed the materials. The ways the directions were not followed by the judges varied. One of the King experts halfway through began to judge the items on their fit as cognitive, affective, or behavioral aspects. Of two role experts who did not follow directions, one circled the numbers in the example grid at the top of each page instead of in front of each item and one did not circle items but did follow the direction to identify with a checkmark the items most descriptive of the definition and role. The reasons inferred for lack of completion are: (a) lengthy directions, (b) extensive time to complete (2-3 hours), (c) lack of compensation for one person who agreed to participate after inquiring about compensation but never responded, (d) and boredom evidenced by lack of completion.

Actions recommended for future Instrument development research are: (a) to provide simple direction to circle the items and eliminate the redundant direction to check items that are descriptive of definition and role, (b) to decrease the number of items to be judged to

a manageable task that can be completed in one hour or less of time, and
 © to eliminate judgment of the related materials, (measurement
 conceptualization, measurement objectives, script, Information Form,
 Cover Letter, Directions) as part of the judges' review. The review of
 the related materials, in retrospect, could have been carried out solely
 by the dissertation committee and peers without increasing the work of
 the content validity judges.

Research Question Three: Is Construct Validity Supported by Convergence
 Between the CPNRP and the Patient Satisfaction Instrument (PSI)

(Hinshaw & Atwood, 1982) and Divergence Between Both
 the APNRP and BPNRP and the PSI?

The convergence between the Cognitive Perceptions of Nurses' Role
 Performance and the Patient Satisfaction Instrument (PSI) was supported
 with a correlation of .54 ($p < .01$). However, divergence between the
 Affective Perceptions of Nurses' role Performance and the PSI ($r = .58$,
 $p < .01$) and the Behavioral Perceptions and the PSI ($r = .54$, $p < .01$) was
 not supported. It was assumed that the concepts of APNRP and BPNRP were
 absent from the PSI but present in the new Instruments and therefore,
 that the correlations would be low. The analysis of the types of phrases
 in the items in the PSI in Chapter Two indicated that the PSI has
 twenty-one factual items, seven feeling items, and no intentional items.
 In retrospect, perhaps the seven feeling items contributed as much to
 the PSI and the sixteen affective items contributed to the perceptions
 Instrument. The lack of divergent validity can be explained by how
 closely the general factor of patient satisfaction is measured in both
 Instruments. Thus, their differences were not as strong as their
 similarity in this regard.

The correlation between the subjects' scores on the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC) and the subjects' scores on the Patient Satisfaction Instrument (PSI) were also calculated: $r = .59$ ($p < .01$). This moderate to high correlation indicates convergent validity between the KKPSNC and the PSI and strengthens the validity of each Instrument (Burns & Grove, 1993).

The literature supports the PSI as a reliable and valid measure of patient satisfaction with nursing care (Hinshaw & Atwood, 1982; Hinshaw, Scofield, & Atwood, 1981). In this study, the internal consistency reliability of the PSI, utilizing Cronbach's alpha was .95 with 229 subjects responding. The KKPSNC, is considered an improvement over the PSI as a measure of patient satisfaction with nursing care in two respects: (a) the KKPSNC was specifically designed for hospital patients and includes physical care and comfort items which the PSI lacks, (b) the KKPSNC is based on a measurement conceptualization of nursing and attitude structure. The PSI subscales of educational relationship, trusting relationship, and technical-professional skill, are similar to aspects of teacher, friend, and caregiver roles in the KKPSNC. The advocate role is unique to the KKPSNC.

The convergent validity results may also be interpreted as support for concurrent criterion-related validity for two reasons: (a) the PSI is a reasonably reliable and valid criterion (Hinshaw & Atwood, 1982) and (b) the key construct of patient satisfaction was not differentiated, i.e., the correlation is large enough ($r = .59$) to provide initial support for the similarity of patient satisfaction as defined by the KKPSNC and patient satisfaction as defined by the criterion, (Hinshaw & Atwood).

Initial support was provided for the construct validity of the KKPSNC, utilizing convergent and concurrent criterion-related validity. Loss of divergent validity support was due to the lack of clear differentiation of the cognitive, affective, and behavioral attitude components in developing the research question. The differentiation of nurses' professional roles is more relevant than attitude components.. It would have been beneficial to estimate divergent validity between the two Instruments related to the Advocate role, proposed to be present in the KKPSNC and absent in the PSI. Polit and Hungler's (1983) statement that results are specific to a certain sample under certain conditions, supports further evaluation of convergent and criterion-related validity and divergent validity of the advocate role in future testing of the KKPSNC.

Research Question Four: What is the Nature of the Factors which Comprise the Cognitive Perceptions of Nurses' Role Performance, Affective Perceptions of Nurses' Role Performance, and Behavioral Perceptions of Nurses' Role Performance Instruments?

A principal components factor analysis and a varimax rotation were conducted on the data for the Cognitive Perceptions of Nurses' Role Performance, Affective Perceptions of Nurses' Role Performance, and Behavioral Perceptions of Nurses' Role Performance Instruments. As discussed earlier in this Chapter, the three factor attitude components solution was not theoretically relevant due to the lack of meaningful nurses' professional role factors.

A similar factor analysis was conducted on the 60-item Killeen-King Patient Satisfaction with Nursing Care with five factors extracted. Factor I, Positive Qualities of a Nurse Caregiver consisted of twenty-

.44 to .69. Factor I fits Kline's definition of a general factor. Kline (1994) describes a general factor as the first unrotated principal component which has, as an artifact of the method, large positive loadings on most of the variables. Role types, attitude aspects, response and perceptions items were represented in Factor I which is consistent with the theoretical expectation that no major factor would occur, rather the roles would be equally represented.

According to Kline (1994) the general factor occurrence makes interpretation of results difficult. The general factor, following varimax rotation, was interpreted as the external criterion of the public's description of a "good nurse." It is the general description that is tapped in hospital patient satisfaction surveys, i.e., nurses are caring, smart, prompt, friendly. Factor I, Positive Qualities of a Nurse Caregiver, describes nurses with a wide variety of positive qualities. In other words, Factor I is primarily the public's view of nurses, the visible part that comes easily to mind. Factor I is one of the professional roles described by King (1981) but it is embedded with the more general view of nurses, not the profession's total description of professional nurses. Factors II thru V reflect a deeper discrimination of nurses by subjects that is interpreted as the profession's view of nurses as perceived by patient-consumers through the presence of professional role behavior items in the KKPSNC.

The four original proposed subscales were realigned and a new factor, Involvement-Promoting Communicator, consisting of eight items from all four of the previously proposed subscales was added. As previously discussed in the Theoretical Issues section, the factors were named based on their reconfiguration of meaning..

The results remind the researcher that nurses' roles are not simplistically compartmentalized in real life. Though it is useful to artificially separate roles to examine and learn about them, the KKPSNC Instrument was developed to measure patient-consumer perceptions and responses during acute care episodes. In the hospital setting, professional nurses practice in an integrated fashion with all professional roles operating simultaneously. According to King (1981), nurses as professional health care providers interact with patients as interpersonal systems. From a systems perspective, nurses' roles are part of dynamic, interacting interpersonal systems. As nurses' professional roles are interrelated in interpersonal systems in nursing situations, it follows that satisfaction dimensions would likewise be related as demonstrated by the shared variance (44% to 74%) in the five factors. In conclusion, the general factor of patient satisfaction was found with aspects of nurses' roles that reflects patient-consumer and professional perceptions and responses to professional nursing care.

Duplicative Loadings

Ten of the sixty items cross loaded on two factors. For these, items with the higher factor loading were chosen except for one where there was a tie. The item in question (The nurses knew how to identify problems. {cpcpl}) loaded .51 on Factor I (Positive Qualities of a Nurse Caregiver) and .51 on Factor II (Involvement-Promoting Communicator). The item was chosen to load on Factor I upon reviewing its composition of items. Though the item could be considered part of the communicator role by referring to nurses' abilities to ask questions and thereby identify problems, it was more directly related to the general attributes of nurses as intelligent caregivers. Nurses as intelligent

caregivers "assist individuals and groups in society to attain, maintain, and restore health" (King, 1981, p.8). Therefore, the choice of item loading is theoretically consistent with King's framework.

Subscale Structure

The regrouping of items based on the factor structure from the factor analysis resulted in the following changes in the subscale structure of the KKPSNC:

1. The inter-item correlations of all but one of the subscales improved from those of the originally proposed subscales. The new subscale's (Involvement-Promoting Communicator) mean of inter-item correlations decreased slightly from .65 (original) to .61 (new), a minimal decrease well within the acceptable range of .30 to .70.

2. The item to total subscale correlations ranged from .55 to .85. All item to total subscale correlations were above .30. The new subscales did have a slightly lower percent (62%) than the originally proposed subscales (67%) of item to total subscale correlations greater than .70. Therefore, a large percent (62%) of the correlations were above .70, the recommended maximum.

3. The length of two subscales (caregiver and friend) increased (above twelve items) while two subscales (teacher and advocate) decreased (below twelve items). The new subscale (communicator) consisted of five items.

4. The reliabilities of two subscales remained the same. The original caregiver subscale increased from .92 to .98, most likely related to the increase in items from twelve to twenty-three. The original advocate subscale decreased from .95 to .86, most likely related to the decrease in length from twelve to five items. Based on

related to the decrease in length from twelve to five items. Based on the above, the KKPSNC's basic subscale structure is improved following the factor analysis process.

In summary, in future research it is recommended by this researcher that the proposed subscales of the three perception 48-item Instruments be reorganized to incorporate the findings of the factor analysis in the 60-item Killeen-King Patient Satisfaction with Nursing Care Instrument.

Research Question Five: Are Patient Characteristics Related to the Levels of Cognitive, Affective, and Behavioral Perceptions of Nurses' Role Performance and Cognitive, Affective, and Behavioral Responses to Nursing Services?

Correlations of twenty-one defining characteristics of patients and their hospitalization experience were calculated for the six study Instruments and the Killeen-King Patient Satisfaction with Nursing Care (detailed in Tables 20 and 21). Eight variables had very small but significant results when correlated with the KKPSNC or six study Instruments: marital status, times hospitalized in the most recent hospital, times hospitalized in the last two years, number of days admitted this stay, medical service, obstetrical service, type of admission, roommate during stay. Caution is warranted in making any conclusions because the sample size makes relatively small correlations statistically significant.

One of variables had a significant but very weak correlation ($r = .08$, $p < .01$) with the KKPSNC: marital status. Married subjects were correlated with the KKPSNC indicating they were more satisfied than unmarried subjects ($r = .06$; $p = < .05$). However, with the very small

thirteen studies analyzed by Ware, Davies-Avery, and Stewart (1978).

No relationships were found between the KKPSNC and age, gender, education, ethnic group, type of health insurance, employment, income, RN or LPN status, RN or LPN in the family, hospital employment, times hospitalized in a lifetime, surgical service, and ICU admission. These findings on the lack of relationships between patient characteristics and patient satisfaction are consistent with the literature which indicates that no clear trends exist (Ware, Davies-Avery & Stewart (1978).

The lack of a relationship between age and the KKPSNC is unexpected because almost half of the sample was over sixty and 199 subjects were in their eighties or nineties. The other relationship that was not found that was expected is that women are more satisfied than men. The literature consistently shows that older patients tend to be more satisfied with providers than younger patients and women in general are more satisfied than men (Fox & Storms, 1981; Ware, Davies-Avery, & Stewart, 1978). One other hospital study (Nelson-Wernick, Currey, Taylor, Woodbury, & Cantor, 1981) had similar findings to this study in that age and gender were not significantly related to satisfaction scores. Further analysis will see if a relationship is found between completion of the KKPSNC by family members and age. Perhaps a large proportion of the very elderly subjects had family members complete the KPSNC.

Allowing completion of the KKPSNC by family members was a concession in the research design to the reality of what was expected to occur in the home post discharge. In addition to the infirm who cannot complete the form, some former patients who are husbands may delegate

"paperwork" to their wives. Fortunately, only 165 family members, compared to 1096 patients, completed the KKPSNC. The KKPSNCs completed by family members were not significantly different from those completed by patients ($p = .07$) indicating that family members' evaluations do not differ from those of patients.

The lack of a relationship between type of health insurance and the KKPSNC can best be explained by the lengthy (6) and possibly overlapping (in the subjects perception) choices of insurance categories. Hulka, Kupper, Daly, Cassel, & Schoen, (1975) found that type of health insurance did make a difference in satisfaction with the more out-of-pocket expenses, the more dissatisfaction. Focus groups will be helpful in future studies in finding health insurance categories meaningful to subjects.

Another interesting finding was the lack of a relationship between income and the KKPSNC. In this researcher's thirty plus years of nursing, experience has taught that few generalizations about patients' socioeconomic status can be made successfully. Empirical results in this study or in the literature (Fox & Storms, 1981; Ware, Davies-Avery, & Stewart, 1978) did not support prevailing views that low income or high income patients are more dissatisfied. Consistent with the study findings, the influence of race or social class on satisfaction outcomes has no consistent trends in the literature (Fox & Storms; Nelson-Wernick, Currey, Taylor, Woodbury & Cantor, 1981; Ware, Davies-Avery, & Stewart, 1978).

Ware, Davis-Avery, & Stewart found that subjects in higher occupational levels tended to be more satisfied. Proper coding of occupation categories in future research may be beneficial in performing

correlations with income.

The influence of being a RN or LPN or having a RN or LPN in the family or being a hospital employee on patient satisfaction was also examined and found to be nonexistent. If this question had not been included in the Information Form, or if RNs and LPNs had been excluded, the question of RN or LPN impact would not have been answered.

Very small, inverse, significant correlations with satisfaction scores and number of hospitalizations at the recent hospital ($r = -.09$ to $-.06$), number of times hospitalized in the last two years ($r = -.11$ to $-.06$) and the length of the admission ($r = -.09$ to $-.05$) were found. Also, medical patients (often the ones with longest stays) were less satisfied ($R = -.10$ to $-.05$) than surgical or obstetrical patients. Similarly, those subjects with planned admissions, i.e., surgical and obstetrical patients, were more satisfied than those with unplanned emergency admissions ($r = .06$). Although the correlations were very weak and no definite conclusion can be made, the pattern of these variations indicate patients with more experiences (length of stay, number of admissions) with nursing care providers (and medical care) tend to have decreased satisfaction with nursing care. At least two explanations are possible for this pattern: disappointment of subjects related to their expectations and more acutely ill patients requiring repeated hospitalizations.

Oberst's Framework of Expectations (1984) provides a theoretical framework for patient expectations influencing their judgment of current care. In her framework, patients enter the health care system with a variety of characteristics, attitudes, and prior experiences which influence their expectations. If prior experiences is a factor in the

differentiation of patient perceptions of and responses to nursing care, there may be opportunities for improvement. For example, focused assessment of a patient's prior experiences with hospitalization on admission may lead to nursing interventions directed at helping patients modify their expectations and goals.

Marketing theorists refer to disappointment of subject's expectations as disconfirmation of expectations. This concept may be related to the reason for this pattern of more exposure to the hospital experience and low satisfaction scores. The disconfirmation paradigm posits that dissatisfaction results when a subject's expectations are disconfirmed, i.e., the product (hospitalization) performs more poorly than expected (Churchill & Surprenant, 1982). Increased time in hospitals may indeed be associated with more disappointments with care among patients. Registered Nurses have always been aware of the phenomenon of longer stay patients becoming increasingly dissatisfied.

Logically, the patients with histories of high numbers of hospitalizations and lengthier admissions are more likely chronically ill or experiencing frequent acute episodes of illness. The sickest patients were the ones whose needs were not being met in a national patient satisfaction survey in 1989 by Picker Commonwealth researchers (Packer-Thursman, 1995). Their survey relied on self-report health status. Like their survey, these results of subject's with more hospital experience having lower satisfaction scores warn of possible dangers ahead in the managed care environment. As hospitals become more focused as sites for short-term, acute intervention, the growing numbers of chronically ill and disabled patients, the ones most dissatisfied with their care, will escalate.

Theoretical Issues

The factor analysis identified that thirty (62%) of the forty-eight items did not load on the factors of the original subscales. After further analysis, five new factors were extracted from the 60-item instrument. The four proposed roles (caregiver, teacher, friend, and advocate) and one new role (communicator) were evident in the five new factors (Positive Qualities of a Nurse Caregiver, Personal-Care-Promoting Friend, Personal-Control-Promoting Teacher, Patient-Involvement-Promoting Communicator, and Independence-promoting Advocate). The revised item groupings were also driven by clusters of patient goals as well as by the underlying role dimensions. Three of the five factors (I, III, IV) include items with all four roles (caregiver, teacher, friend, and advocate); one (II) has three roles represented (teacher, friend, and advocate) and one (Factor V) has two roles (caregiver and advocate). The three attitude classes of cognitive, affective, and behavioral were all present in three of the factors. Factor IV, Involvement-Promoting Communicator was composed entirely of cognitive items and Factor V, Independence-Promoting Advocate consisted of entirely behavioral items. Therefore, while retaining role behaviors, entirely new meanings were discovered when labeling the reconfigured subscales.

Conceptual Variance of Originally Proposed Subscale Groupings

Four of the initially proposed role subscales changed as a result of the factor analysis. Eighteen items of forty-eight items loaded on four of the originally proposed subscales. The addition of the 12 response items to the 48 perception items in the pool contributed to the realignment of meaning. Slight shifts in meaning of the new factors did

not change the existence of the roles in King's (1981) systems framework, rather the new factors better reflect King's emphasis on goals and interpersonal systems. The originally proposed caregiver, teacher, friend, and advocate roles and the newly emerged role of communicator are contained in King's framework. The new subscales better reflect King's systems framework because nurses' roles related to patient goal promotion are added to the meaning of the nurses' professional roles.

Marker type items involving patient goals were found in each factor along with the items of nurse behaviors. For example, the marker item, "I learned to take an active role in my care from the nurses" was a strong influence in naming Factor II, Personal-Care-Promoting Friend. The other items that clustered in this factor reflected the friend role as proposed. The two Advocate and four Teacher items in that factor took on meaning as Friend role behaviors within the context of the patient goal of personal-care.

Four of the five new factors encompass distinct goals of patient care that are consistent with King's (1981) systems framework: promotion of personal-care; promotion of personal-control; promotion of patient involvement and promotion of patient independence. King labels individuals as personal systems. The nurse and the patient are each a total system. As interacting individuals, they form interpersonal systems. The nurse-patient dyad interacts to accomplish mutual goals. These new factors are indicators of nurses' roles that are expectations of patient-consumers as part of nurse-patient interactions. Thus, mutual goal setting and interpersonal systems as described by King (1981) are reflected in the four new factors. Factor I, Positive Qualities of a

Nurse Caregiver has an overall satisfaction marker item rather than a specific type of patient goal outcome. This new factor is also consistent with King's writings. She described nurses as a respectful, caring, and overall sensitive individuals who provide many functions and nursing as an essential service to meet a social need. The concept of interaction dominates the positive qualities of a nurse caregiver. King states, "establishing purposeful goal-oriented interactions in nursing situations will enhance the effectiveness of care and produce *satisfying outcomes* (italics added) for all concerned (p.87-88)."

In summary, the reconfiguration of the four proposed subscales (caregiver, teacher, friend, advocate) as four new factors is viewed as consistent with King's (1981) systems framework. The basic unit of nursing behavior is a nursing act; an interaction between a nurse and a client (King, 1989). There are essential variables in nursing situations. These include communication, expectations, interdependent roles of a nurse and a client, mutual goals, and perceptions (King, 1981). The new factors reflect King's (1981) concepts and assumptions about nurse-client interactions.

Identification of a New Factor

The items loading on the new Factor IV, Involvement-Promoting Communicator, include four Teacher items, two Advocate, one Friend, and one Advocate item. All are in the cognitive domain. The patient goal marker item is "I was involved by nurses in decisions about my care as much as I wanted." The marker item combined with items that demonstrated the nurses effectively asked questions and provided information about tests, medications, etc. so that the patients were involved in decision making about their care. The new role of

information about tests, medications, etc. so that the patients were involved in decision making about their care. The new role of communicator is different from the teacher role. The communicator role asks and gives essential information whereas the teacher role is concerned with principles of patient teaching-learning. The communicator role is consistent with King's (1981) concept of communication. King refers to communication as "information processing, a change of information from one state to another" (1981, p.69). Besides verbal communication, the items in this factor reflect King's emphasis on nonverbal communication by including providing privacy and being available to talk with the patient or the family. Also, King declares that nurses must use communication skills and knowledge to gather accurate information about patients. This idea is also reflected in the factor's nurses' role indicators. Therefore, it is appropriate that this new factor is labeled as an additional role within King's systems framework.

Enhanced Meaning of Roles

The reconfigured factors provide enhancement of meaning of the proposed roles and the new role by the addition of patient goals to the role label. The enhanced meaning of the new factors is consistent with King's (1981) emphasis on goal attainment. Goal attainment occurs as a result of a transaction between a nurse and a client (King, 1981). The patient goal part of the factor labels evolved from the marker item found in each factor. Froman (1994) suggested that marker items (the best summary item) be developed to identify a factor when it emerges. She stated that the highest loading is desirable on the marker item. In this study the marker items had high but not the highest factor

loadings. The other two marker items not previously mentioned are: Factor III, Personal-Control Promoting Teacher, "I knew when to expect things," and Factor V, Independence-Promoting Advocate, "My efforts to be independent were praised by the nurses."

Consistency with Eagly & Chaiken (1993) Attitude Model

The theoretical issues extend to that part of the measurement conceptualization contributed by Eagly & Chaiken's (1993) Attitude Model discussed in Chapter One. The new factors, unlike the proposed subscales, do not each include cognitive, affective and behavioral items. Two of the factors, IV and V, contain only one attitude type of item. The proposed subscales would have consisted of each role made up of cognitive, affective, and behavioral items. Eagly & Chaiken address the question of whether attitudes must have all three (*italics added*) of these aspects either at the point of attitude formation (*perceptions*) or at the point of attitudinal responding (*responses*). They firmly affirm that attitudes do not require all three components in their opinion. This revives the controversy addressed in the Literature Review Chapter on whether three components exist in attitudes. The initial factor analysis performed on the 48-item perceptions Instrument did reveal a three factor solution consisting of cognitive, affective, and behavioral factors. However, the factors did not additionally reflect the proposed role subscales so the solution was rejected. The final factor analysis results do not support the necessity of the distinct presence of the three cognitive, affective, and behavioral components in perceptions and response concepts as originally conceptualized.

Another question arose from the mixture of perceptions and responses present within the new factors unlike the proposed subscales

that consisted only of perceptions. Eagly & Chaiken stated that understanding how modes of attitude formation relate to subsequent evaluative responding is "clearly very challenging" (p.17). They give examples of how "different classes of evaluative responses impinge on one another and exist in what might be described as a cooperative, synergistic relation." (p.17). The synergistic perspective fits well with the measurement conceptualization as an attitude whose antecedents (perceptions) and consequences (responses) may be affective, cognitive, or behavioral in nature. However, the essential contribution of the Eagly and Chaiken Attitude Model remains as the provision of a structure that supports measurement of attitudes by including the three components of cognitive, affective, and behavioral perceptions and responses in the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC). The conceptual structure of the KKPSNC is based on nurses' professional roles within King's (1981) systems framework supported by Eagly and Chaiken's important attitude structure.

Recommendations

It is recommended by this researcher that the KKPSNC be revised in future studies based on the goal of a reliable, concise Instrument that demonstrates validity and sensitivity. A revised Instrument blueprint that reflects the new factor structure is displayed in Table 22.

Table 22

Revised Instrument Blueprint Based on New Factors.

Perceptions			Response			Total
Cognitive	Affective	Behavioral	Cognitive	Behavioral	Affective	
<u>New Factors</u>						
Positive Qualities of Nurse Caregivers						23
Self-Care-Promoting Friend						15
Personal-Control-Promoting Teacher						9
Patient-Involvement-Promoting Communicator						8
Independence-Promoting Advocate						5
Total						60

The factors resulting from the factor analysis consist of five to twenty-three items, rather than the previously proposed four role subscales of twelve items each. The minimum number of Instrument items needed for acceptable reliability is much less than the current sixty based on the extremely high Cronbach's alpha of .99. An examination of the 60 individual items revealed that the Instrument definitely can be made shorter without subsequent loss of information. The largest factor, Factor I with twenty-three items, could be substantially reduced and the smallest, Factor V with five items, could have a few items added if necessary. However, the elimination of items cannot be allowed to infringe on the need to retain the complete universe of items that tap the content domain of patient satisfaction with professional nurses'

roles. Therefore, it would be premature to recommend an exact minimum number of items for the new subscales without revisiting content validity. The new factors with their matching items should first be reexamined in terms of theoretical and operational definitions. It is expected that the definitions will be different from the study's definitions because nurses' roles and patient goals were not included in the original theoretical definitions. The revised measurement conceptualization is simpler by not strictly differentiating cognitive, affective, and behavioral components. The continued presence of the three components represents an adequate attitude structure. The revised definitions of the concepts would be submitted to Dr. King for her review and comment. A future research study, replicating this study including the content validity process and the item selection criteria, will be conducted with the revised Instrument by this researcher to estimate the internal consistency reliability and construct validity of the KKPSNC.

Utilization of the Instrument

Once the reliability and validity of the Killeen-King Patient Satisfaction with Nursing Care Instrument has been further established, the instrument could be utilized both as a research tool in nursing research and as a quality improvement tool in nursing administration. In a broad way, the KKPSNC can be used to measure a hospital's organizational performance in terms of its nursing care. Finally, the instrument's subscale scores could also provide direction for registered nurses to examine their activities and roles within a professional nursing practice model.

The KKPSNC as a Research Tool

Currently, the profession of nursing has few reliable and valid tools for the measurement of patient satisfaction with nursing care. The lack of patient satisfaction research may be a reflection of the minor role nursing research plays in health care policy formulation. Policy options for confronting issues facing the health care industry and the nursing profession need to be based on simple and understandable research findings (Abdellah & Levine, 1994). "Since the mid-1970's, nurse researchers and theorists have chosen to adopt and focus on patient outcomes as the most direct and useful measure of the effectiveness of nursing action" (Flaskerud, 1988, p.251). The use of the KKPSNC as a core nursing-sensitive patient outcome measure would further efforts to compare satisfaction with nursing scores across studies. The use of the KKPSNC as an outcome measure, once revised, could be well suited to nursing effectiveness research because it was developed using a nursing theory and attitude structure conceptualization. Once developed, it was tested on a large population of multi-service patients in diverse hospital sites and found to be accepted by patients based on the good response rate of 68%.

The KKPSNC as a Quality Improvement Tool

The use of patient satisfaction as a measure of health care quality was discussed in the Literature Review chapter. A major advantage of the KKPSNC is the manner in which it can support Total Quality Management/Continuous Quality Improvement efforts in health care institutions. There are two key purposes for collecting and using customer satisfaction data to improve quality in health care according to Stratmann, Zastowny, Bayer, Adams, Black and Fry (1994). These are

the measurement of performance, i.e., benchmarking, and the diagnosis of the sources of dissatisfaction. The KKPSNC could be used for benchmarking performance of an organization's nursing care. Quality improvement can be judged and documented by comparing patients' scores on the entire 60-item KKPSNC or the 12 response items. According to Eagly & Chaiken (1993), responses express evaluation and therefore reveal people's attitudes toward attitude objects (nurses).

The Instrument could also be used to help the nurse manager in estimating the level of patient satisfaction with nursing care on a unit basis. However, to understand how to improve quality, the manager also has to diagnosis areas of weaknesses that impact patient satisfaction. The items of the Instrument closely and specifically relate to the professional roles of nurses as evidenced by the new subscales. Designed for quality-focused problem identification, the KKPSNC can be truly diagnostic in nature. The more global hospital survey may yield general impressions of the care received but not be related to actual quality of care and outcomes (Cleary & McNeil, 1988). Either the 60-item KKPSNC or the 48 perceptions items could be used for diagnostics. According to Eagly & Chaiken (1993), attitudes derive from information people gain about attitude objects (nurses). The use of the KKPSNC as an adjunct to the hospital survey for comparing variations in nursing practice across units (benchmarking), or identifying the strengths or weaknesses of nurses' role performance on a specific unit(s) (diagnostics) are two possibilities for quality improvement.

Organizational Performance in terms of Nursing Care

The performance of health care organizations is undergoing scrutiny by the media, managed care organizations, consumers and

regulatory agencies. The measurement of satisfaction with nursing care holds promise as an important indicator of clinical care in hospitals. One of the ways managed care organizations and the public will judge the hospitals they use and compare them with others is through a "report card" for the health care consumer. As reengineering efforts across the country result in a RN diluted staff mix though replacement by unlicensed assistive personnel, the American Nurses Association has recognized the need for a nursing "report card" for the public (American Nurses Association, 1995b). The Nursing Care Report Card for Acute Care includes patient satisfaction with nursing care as one of the quality indicators. High ratings on these quality indicators are desirable in the current competitive health care environment. The KKPSNC is well suited to being selected as the patient satisfaction measure in the nursing report card because it was developed for the multi-service, acute care hospital setting. The correlations between the KKPSNC and staffing mix, education level, and experience level of nurses in each setting were not done in this study but would be very important to include if the KKPSNC were used as a nursing report card.

In addition, organizations are judged on the performance on many factors by the Joint Commission on Healthcare Organizations (JCAHO). One of their major requirements is evaluation of patient and family satisfaction with care. Use of the KKPSNC can offer a specific means of assessing how the organization is meeting patients' and families' needs and expectations.

The KKPSNC as a Tool in a Professional Nursing Practice Model

Professional Nursing Practice Models are discussed in the literature but not defined. A working definition by this author is: an

empowerment framework that guides nursing members of an organization in the enactment of their vision, values, beliefs, structures, and roles related to professional nursing practice. Professional nurses' roles play a large part in the formulation of Professional Nursing Practice Models. Christman, an authority on role socialization of nurses, believes that nurses are what nurses do (1991). The KKPSNC operationalizes nurses' roles by describing nurses' behavior in each item. Nurses who are designing their hospital's practice model may wish to use the KKPSNC for specific behaviors, for example, pain management, especially if they wish to incorporate King's (1981) systems framework into their beliefs.

Other Uses for the KKPSNC

In addition to the uses of the KKPSNC described above, other potential areas for its use are discussed below

1. Linkages between patient satisfaction and nursing interventions could be explored. For example, outcome measures, including patient satisfaction, could be measured for patients whose care is based on nursing interventions for Abuse Protection, from the Nursing Intervention Classification (McCloskey & Bulenchek, 1995) and compared to those of a control group. As this type of nursing effectiveness research becomes more prevalent, the demand for a valid and reliable patient satisfaction tool as an outcome measure will increase.

2. Case managers may be interested in the KKPSNC as an outcome measure in critical pathway development. Critical pathways often include a patient version. The importance of measuring the patient's satisfaction is inherent in critical pathway development especially if a patient version of a critical pathway is created.

3) Shortened versions of the Instrument, e.g., perceptions items or response items, may decrease the time necessary for subjects to complete research materials. This would not require an immediate revision of the Instrument since the original six Instruments can be combined into two instruments, perceptions instrument and response instrument.

4) The KKPSNC will be useful in examining the assumptions made by the researcher. For example, the assumption that the patient-consumer will combine the experiences with nurses in a hospitalization to derive an "average" reply was challenged by a handful of patients who refused to participate because there was too much difference among nurses to answer the questionnaire. As variations in medical practice are being addressed nationally, variations in nursing practice are likely to also be questioned in the future. Therefore, it is important to address how prevalent nurse variation is in practice.

5) The actual meaning of the items themselves to the subjects can be further tested. Many experts state a need for a method that combines both psychometric evaluation and cognitive testing to validate patient satisfaction Instruments (Packer-Tursman, 1995). Cognitive testing is a mode of inquiry that seeks to identify how a measure is interpreted by respondents. Cognitive testing uses focus groups and general feedback to build upon work already done through psychometric evaluation. The large number of items that were marked "not applicable" would be of special interest to explore with patient representatives.

6) Researchers in Nursing Informatics may be interested in exploring the utility and sensitivity of the KKPSNC as the operationalization of patient satisfaction in the Nursing Management

Minimum Data Set. Once the KKPSNC is revised, regression analysis may be used to provide an accurate measure of the relative magnitude of different perception items and their explanatory contribution to the dependent response variables.

Methodological Issues

Discussion of several methodological issues relevant to this research follows. To ensure reliability of data recorded on the database, cleaning of the data set was done. This included: sorting cases of data in ascending order, spot checking for accuracy of data inputting and checking for outliers. All decisions regarding data analysis and interpretation of results were documented in a journal as an audit trail for discussion with the dissertation chairperson and committee members.

The Dillman method (Dillman, 1978) was followed except for the format of the Questionnaire (Nursing Care Survey) Instead the Questionnaire format was designed to resemble typical hospital satisfaction surveys to increase the response rate. The use of the modified Dillman process resulted in a 68% response rate for the research materials. However, the Patient Satisfaction Instrument (PSI), had a low response rate, 24.5%. This can be explained by its title, "Optional Questionnaire" and the directions that conveyed an optional choice to the subject. The lower number of responses was anticipated and sufficient numbers were mailed to obtain an adequate number for analysis. In summary, it is recommended that this method be followed for future research conducted by the mail.

The system used to obtain subjects' names and addresses was different in each hospital. The ability of each hospitals' information

systems department to code and provide the necessary data varied widely. One hospital, (B), provided daily discharge printouts and a weekly mailings coordinated by the volunteer department. Another hospital, (E), required almost two months lead time to develop the computer program for printouts of discharged patients names and addresses. A third health care system with two of the study hospitals (C,D) had many demands for internal and external surveys. Therefore, the research survey at Hospital C was limited to one mailing to 809 subjects who were discharged over a period of two weeks. This limited the sample to a short time period and increased the possibility that the sample was not representative of the hospital's patient population. The dates for the mailings are detailed in Appendix F.

New strategies for conducting research on patient satisfaction will be needed in the future. Increasingly, hospitals are integrating as health care systems and adopting system-wide measures of patient satisfaction. Multi-hospital systems often subscribe to national consulting companies that provide continuous satisfaction monitoring and trending. In the patient-centered environment, hospitals are concerned that patients not receive more than one satisfaction survey internally or externally. Continuous monitoring and control of surveys to one at a time per patient are hospital strategies to monitor service quality. Telephone interviews are also substituted for or used in conjunction with mailed questionnaires. The problem of researchers, managed care companies, and large employers competing for a window of opportunity to survey patients is increasing.

Limitations

Limitations for survey research and Instrument development are

numerous. Many of these limitations, for example, skewness, response set bias, halo effects, content judge attrition, and intermittent time frames for data collection have already been discussed. However, certain limitations remain.

Representativeness of the Sample

The representativeness of the sample is seriously in question if the response rate is lower than 50% (Burns & Grove 1993). However, the representativeness is an issue only to the extent of demonstrating that the Instruments are applicable to hospital patients with characteristics of the hospital population and for identification of significant relationships of Instrument scores with subjects' characteristics.

It was expected that the subject characteristics relevant to the study would be similar between responders and the general hospital population of each institution. In the experience of a major patient satisfaction consulting firm, respondents closely approximate the actual demographic profiles of hospitals with return rates of 25 to 40% (Press & Gamey, 1993). A significant difference in the relevant characteristics between responders and the hospital's demographic profile was only found for gender in one of three reporting hospitals. The other variables of age and type of health insurance could not be statistically compared. Hospital B provided data on ethnic and education characteristics that were found to be statistically different from the hospital's sample. The differences in characteristics between samples and populations were not large when examining the actual percentages in Table 5. It can be concluded that some minor differences exist but were not of sufficient magnitude to question the findings of the study.

The difficulty in finding data to compare the hospital samples

with the hospital populations is a reflection of the lack of sophisticated information systems in hospitals. Of more importance is the difference in perceptions and responses between more highly motivated former patients who return Instruments and those who do not. However, the methodology to examine responders from nonresponders is time-consuming and expensive so the usual method in patient satisfaction studies is to compare characteristics of responders to those of the hospital population.

Self Report

A second limitation was the bias of self-report measures in attitude research (Eagly & Chaiken, 1993). Anonymity was assured so that subjects would not distort their reports to protect their privacy. Also, the directions stated, "there are no right or wrong answers." However, these techniques are "only partially successful in reducing response distortion" (p.72).

In a study on patient satisfaction, it is important to point out that a patient's perception is always a reality. This guiding premise is consistent with King's (1981) framework that stresses that an individual's perceptions are real to that individual whether or not they are supported by reality (King, 1981).

Generalizability of Findings

Another limitation of this study was the generalizability of the research findings due to the limited geographic target population. Additional validation of the Instrument through reliability and validity testing in acute care hospitals in other parts of the country is warranted. Furthermore, with an increasing shift from inpatient to outpatient care, professional nursing care will increasingly take place

in ambulatory settings. The KKPSNC eventually needs to be revised to include a version that fits in nonacute settings in order to permit further generalizability of findings.

Missing Data

The presence of missing data was another limitation in this research. Many subjects found certain items "non applicable" and chose not to respond. The original plan was to not use a questionnaire if more than 20% of items were unmarked on a single questionnaire. However, on twelve items, slightly over 30% had missing data. One reason for this problem is that a relatively large number of items do not apply equally to all patients. Type of service, age, and functionality may be reasons for this "non applicable" problem. For example, the item, "I was able to walk comfortably because the nurses gave me pain medication" was one with a high "not applicable" response rate. The elimination of the problematic items or the choice of "non applicable" will be considered in further revision of the instrument. As discussed in the Results Chapter, because of the large sample size, missing data was examined for patterns. Small correlations with missing values and age ($r = -.22$, $p < .01$) and education ($r = .14$, $p < .01$) were found in the expected directions. It was concluded that the items with missing data could be used.

Recommendations Regarding Future Research

Analysis of Comments

A large number of nursing care surveys were returned with the back panel (devoted to comments) filled in with interesting and varied written comments. These comments will be analyzed using a qualitative software package in the future. The findings will be categorized and

patterns and themes extracted. Themes will be compared to the quantitative findings and implications for Instrument revision will be sought. These findings may be of special interest to the institutions and their quality improvement personnel. In addition, nurses on individual units may find the results illuminating, especially with raw data examples to confirm the credibility of the findings.

Relationships Between Hospital and Patient Characteristics and KKPSNC

Many possibilities exist for continuing research related to the defining characteristics of the sample. The finding that obstetrical patients were more satisfied than medical and surgical patients deserves further analysis because no other study has compared the three patient groups. Most obstetrical satisfaction tools (Littlefield & Adams, 1987; Watters & Kristiansen, 1989) are specifically worded for the obstetrical population. A satisfaction with nursing study (Munro, Jacobsen, & Brooten, 1994) with obstetrical patients, unplanned cesarean patients, and antepartum, and gynecologic surgery patients, found no difference in the three groups. Specific interventions, the physical environment factors, or a family-centered philosophy of care may explain these differences. However, the research on satisfaction with obstetrical care does not reveal if the satisfaction/dissatisfaction differences in expectations related to the providers (Jordan, 1973; Kirke, 1980; Mackey & Lock, 1988) or the childbirth event itself (Humenick, 1981; Lumley, 1985; Sandelowski, 1984) or satisfaction with the type of birth facility (Cohen, 1982; Eakins, 1988; Kieffer, 1980). If the reasons for increased satisfaction on obstetrical services could be more specifically defined, these findings might be transposed to other services to improve their patient satisfaction ratings.

Rural and smaller hospitals have more satisfied patients than larger institutions (Packer-Thursman, 1995). Again, the things these lesser resourced facilities are doing or which make a difference in patient satisfaction may be an important lesson to be learned for the health care system. Secondary analysis of the data in this study, because of the of differences in the hospitals used, may be an important first step in that direction.

Also, in future research, methods like percentage overlap (Dunnette, 1966) will be utilized to compare the characteristics of the different hospitals' nurses to identify if differences exist in levels of professional nursing care. The nurses' characteristics can be then compared to the patients' scores on the KKPSNC to examine the effect of staffing mix and levels on perceptions and responses to professional nursing care.

Instrument Revision

Future research is needed to revise and retest the Killeen-King Patient Satisfaction with Nursing Care Instrument. The number of items in the subscales will be altered to be shorter and more similar in length. The minimum number of items for each subscale should be determined based on statistical analysis while retaining the necessary amount to reflect the content domain. A new scale format to decrease multicollinearity as discussed in Research Question One is another area of revision. The revised Instrument should then be reviewed by Dr. King and another group of experts in professional nursing roles to reexamine its content validity. After their review, the study should be replicated with a nationwide sample of subjects. If other researchers are interested in using the KKPSNC, the limitations would be made known and

conditions for use will include testing reliability and validity and providing results to this researcher.

Expansion of the Sample Inclusion Factors

A few psychiatric patients who were not eligible for the study received the research packets in the mail, completed and returned the forms. Though their data were not used in the study, their responses and comments were reviewed. It appears that these patients could be included in future research because the items are consistent with mileau therapy and the goal-centered approach to psychiatric care. These patients were excluded, like the families of deceased patients, because of sensitivity and confidentiality issues. The families of deceased patients who returned questionnaires indicated it was important to them to be included in the study so the exclusion preventing their participation was waived. In future research, family members of deceased patients may have special perceptions and responses to nurses that would be useful knowledge for the profession.

Likewise, subjects under 18 years of age were excluded. Future research will provide special consent considerations so that children who have the reading and comprehension level necessary to participate in the study can be included.

Contribution to King's (1981) Systems Framework

The work of Instrument development and revision is time-consuming and expensive. One purpose of this research was: "to differentiate between patient-consumer perceptions and responses to professional nursing care and satisfaction with nursing care." The alternative conceptualization to patient satisfaction in this study, compared to cognitive measures devoid of a nursing framework, provides a stronger

knowledge base for the discipline of nursing in the area of patient satisfaction with nursing care. The items are each indicators of desirable nursing behaviors in daily practice that are based on a nursing theoretical framework. The broad attitude theory base of the Instrument, both in perceptions and responses and in the cognitive, affective, and behavioral aspects is another reason for stating that the KKPSNC is a stronger alternative to conventional patient satisfaction conceptualization. This purpose of this research having been achieved, future research should build on refining and strengthening the measurement conceptualization. The measurement conceptualization will be used in future studies and the results will be examined in terms of their contribution to King's (1981) Systems Framework. The contribution of this study to the discipline is that the KKPSNC provides reliable and valid measurement necessary for theory-testing research. Furthermore, King's (1981) systems framework will be used for testing the theory of patient satisfaction with nursing care.

Recommendations Regarding Nursing Practice

The significance of the study for the profession was the availability of an instrument for improved quality assessment and nurse development for nurse managers.

The recognition that patients' perceptions and responses to nursing care include more discrete concepts than global patient satisfaction led to the development of a more sensitive tool.. The content of the KKPSNC represents those features of nursing care that are salient to patients by use of questions phrased in language patients use to describe their reactions to nurses. The set of Instruments developed for this study can be used with hospitalized patients on most types of

units because patients share similar perceptions of professional role performance and responses to nursing services across hospital units.

Performance Evaluation

One purpose of this instrument development study was to provide a measure of professional performance for nursing managers. At the unit level, managers are called on to identify satisfied and dissatisfied patients and intervene appropriately. An effective method of intervention to maintain high patient satisfaction levels despite tight staffing ratios is to recognize and reward nurse behaviors rated positively by patients. The KKPSNC can be used to examine both individual nurse behaviors and professional roles. For example, if Nurse Manager Smith found her staff to be strong in the caregiver and friend roles but only moderate in the teacher role and weak in the advocate role through the use of the KKPSNC for diagnostic evaluation, her energies can be focused on specific strategies for strengthening the weaker roles.

Effectiveness of Nursing Care

The inclusion of affective and behavioral classes of perceptions and responses in the KKPSNC allows for a more humanistic approach to the assessment of consumer perceptions and responses to nursing care than the cognitive domain alone. This research has implications for marketing and clinical practice in that the instrument can provide the information necessary to specify when one should choose affective strategies in setting expectations and in performing nursing interventions on the one hand versus more rational strategies on the other hand. Likewise, the effects of nursing role-related interventions, such as the empowering nursing roles defined from the factor analysis, need to be evaluated by

clinicians.

The fact that the Killeen-King Patient Satisfaction with Nursing Care Instrument is theory-driven may be used by some to discount its usefulness in the real world of changing nursing roles. It is certainly accurate to state that the nursing behaviors in the KKPSNC reflect nursing practiced at a high level. Even though the legal definition of professional nursing was used in Assumption Five in Chapter One, this definition, when properly interpreted, holds nurses to be accountable to professional standards of practice. The public's view of nursing may be less than the professional view, but many nurses as well view nursing only at a task-oriented level. Nonetheless, competent nurses are those that maintain at least the minimum level of safe and consistent practice required by legal and professional regulations. Competent nurses must demonstrate all role dimensions measured in the KKPSNC to practice effectively, not merely the public's view, Factor I, Positive Qualities of Nurse Caregiver. Competent nurses can be discerned using the newly conceptualized KKPSNC because nurses' professional roles are goal-directed and dynamically integrated.

The pressure to control rising health care costs has escalated. Despite this, the KKPSNC enables the identification of the impact of cost-containment and quality improvement strategies on nursing-sensitive patient outcomes, specifically patient satisfaction with professional nursing (Naylor, Munro, & Brooten, 1991; Prescott, 1993). The definitions of registered nurse role characteristics developed for this study are consistent with those in the literature and King's (1981) framework. Nursing positions are being cut as hospitals downsize across the country during the transition to managed care. In many of these

cases, the impact on patient satisfaction with nursing care has not been measured. The KKPSNC can be used to identify the relationships between staffing, professional role behaviors, and patient satisfaction. This in turn enables definition of the relative value units of nursing care that are necessary to maintain acceptable levels of patient satisfaction. Favorable consumer responses may be the deciding factor in retaining budgeted RN positions. Overall, efforts to evaluate consumer perceptions and responses to nurses may assist in the assessment of the effectiveness of nursing care and validate nursing's contribution to health care.

Recommendations Regarding Nursing Education

Implications of this psychometric study for curricula of undergraduate and graduate nursing programs exist. These include: (a) the importance of the concept of patient satisfaction with nursing care within a nursing theoretical framework, (b) the impact of patient satisfaction on nursing practice and © the importance of patient satisfaction as an outcome measure in quality improvement.

Patient Satisfaction with Nursing Care in a Theoretical Framework

The importance of the concept of patient satisfaction with nursing care within a nursing theoretical framework should be examined along with other more conventional concepts by students. The lip service given by many clinicians and administrators to patient satisfaction efforts in hospitals is indicative of their lack of familiarity with the literature in this area. Introduction to the large amount of literature on patient satisfaction should be required to provide students with a foundation in this area for future research-based practice.

Impact of Patient Satisfaction with Nursing Care on Practice

The full impact of patient satisfaction on nursing practice is not considered by most faculty and students in the education setting. Patient expectations and perceptions influence their participation in care and their subsequent clinical outcomes. Behavioral intentions regarding health care goals, especially at discharge, influence clinical outcomes as well. Staff nurses in hospital settings all have a role in quality improvement initiatives built into their job descriptions. The preparation for this role, that includes an emphasis on patient satisfaction, should be provided in the education setting. Students should be encouraged to role play nursing situations involving patient satisfaction with professional roles. For example, the nonverbal communication behaviors of the Involving-Promoting Communicator role could be role played, videotaped, and discussed.

Patient Satisfaction as an Outcome Measure

The importance of patient satisfaction as a critical outcome for patient care should be engendered at the time of professional socialization. As students learn how to evaluate their own individual care, the need to work as a member of an interdisciplinary team in evaluating care in a quality improvement context should also be taught. Staff nurses in hospital settings have a role in quality improvement initiatives built into their job descriptions. The preparation for evaluating patient satisfaction with nursing care should begin in the educational setting.

Summary

The purpose of the study was to develop and test a set of Instruments to provide a solution to the current conceptual and methodological problems with measurement of the construct of patient

satisfaction. In particular, measurement of affective and behavioral perceptions and responses were proposed as stronger indicators of patients' attitudes than the commonly used cognitive perception measures. King's (1981) conceptual framework for nursing is the theoretical basis for the proposed Instruments. Five research questions that address reliability and validity of the Instruments were answered.

Using a concurrent, naturalistic research design, subjects were selected through a convenience sampling process. The sample was comprised of 2602 subjects from four hospitals in a Midwestern state. The research Instruments were completed by 1631 subjects for a response rate of 68%.

Initial content validity review by eight expert judges resulted in a Content Validity Index (CVI) of 82% and 72% from two panels of judges. As the minimum acceptable CVI for an Instrument as a whole is 80% (Waltz, Strikland, & Lenz (1984), the results are mixed and it cannot be stated that the Instrument demonstrates acceptable content validity.

Initial reliability for a newly developed Instrument is .70 (Nunnally, 1978). Reliability findings provided initial support for the internal consistency of the research Instrument ($\alpha = 0.99$). Reasonably substantial test-retest reliability (.88) demonstrated stability of the Instrument over time. Individual item correlations with the total scale score ranged from .55 to .85 with a large number of the items over the maximum of .70. A problem with the extremely high alpha of .99 related to excessive length and/or multicollinearity among items was identified.

The correlation between the 60-item Instrument, named the Killeen-King Patient Satisfaction with Nursing Care, and the 25-item Patient

Satisfaction Instrument (PSI) (Hinshaw & Atwood, 1982) were moderately high (.59) providing support for convergent validity of the Instrument. The divergent validity between the PSI and the affective and behavioral perceptions Instruments that was tested was not supported.

The Instrument's items were reconfigured as a result of a principal components factor analysis with varimax rotation. Five factors were extracted. The majority of items (30 of 48) did not load on the factors as predicted. The originally proposed subscales of professional roles were expanded to include one additional role and enhanced meaning of nurses' professional roles consistent with King's (1981) systems framework. Internal consistency reliabilities of the new factors ranged from .88 to .98. The factors shared variance of 44% to 74% indicating considerable overlap. A general factor of patient satisfaction with aspects of roles integrated in all five factors reflects patient-consumer and professional perceptions and responses to professional nurses.

The study contributes to research in patient perceptions and responses by the development of the Killeen-King Patient Satisfaction with Nursing Care Instrument as an alternative to traditional methods of conceptualizing and measuring patient satisfaction. A future program of research will include further revision of the Instrument and subsequent retesting of the revised Instrument. At this time, with initial reliability and validity established, the results of this research can begin to be utilized to evaluate nursing care in organizations and to make decisions about the level and effectiveness of professional nursing care.

Appendix A

Blueprint for Study Instruments

	Perceptions			Responses			Total
	Cognitive	Affective	Behavioral	Cognitive	Behavioral	Affective	
Caregiver	4	Caregiver 4	Caregiver 4	-----	-----	-----	12
Teacher	4	Teacher 4	Teacher 4	-----	-----	-----	12
Friend	4	Friend 4	Friend 4	-----	-----	-----	12
Advocate	4	Advocate 4	Advocate 4	-----	-----	-----	12
				4	4	4	12
Total	16	16	16	4	4	4	60

Nursing Care Survey

Dear Patient or Family Member:

I am a Registered Nurse who is doing a research study on what people think about their nursing care during their hospitalization. I would like to invite you to participate in this study which is important to the nursing profession. This nursing care survey will take about 10-20 minutes to complete and the information form will take about 5 minutes to complete. That is the extent of the study. There are no costs to you and you will not be paid for participating.

In order that the results will truly represent the opinions of hospital patients, your participation is very important. Although there is no likely personal benefit, you may benefit from expressing happy or angry feelings about your nursing care. The only potential risk is some small emotional discomfort if some questions raise unpleasant feelings about your nursing care.

Please feel free to answer with your true feelings about your experience with nursing care during your recent hospitalization. No one will see the information I collect. No individual or hospital will be identifiable from the final published results of the study. After all the data is entered into the computer, anything linking names with codes will be destroyed. You are free to choose to not participate in this survey and your decision will not affect the relationship you have with your doctor or the hospital. **By completing and returning the questionnaire and information form, you are giving your consent to participate in this research.**

This questionnaire is separate from the Hospital Survey that is mailed to some of the hospital's patients. You are encouraged to also fill out the Hospital Survey because it includes questions on other services besides nursing. If you have a problem with your hospital stay that you want brought to the hospital's attention, you need to put that information in the Hospital Survey in order for it to be addressed.

I am most happy to answer any questions you might have. Please write or call collect. I can be reached at

[REDACTED]

THANK YOU very much for your time and interest in participating in this study.

Sincerely,

Mary B. Killeen, MSN, RN
Doctoral Candidate, Wayne State University

[REDACTED]

Instructions for the Patient

This survey contains a number of statements, each of which says something different about nurses. For each statement, decide how much you agree or disagree with the view expressed. Think about the care you received during your recent hospitalization as you respond to each statement. At the top of each column you will find words to use to describe your opinion. Circle the number under the word that comes closest to your own opinion. If you had no experience with a particular item, circle "NA" for "Not Applicable." There are no right or wrong answers. People differ in their opinions. Your response is a matter of your personal opinion. You may or may not choose to comment in the Comments area at the end.

- In your answers, refer to :
 - **Only the most recent** hospitalization
 - the nursing care received **only on the nursing unit you were discharged FROM**
 - "**nurses**" as all those whom you know were members of the nursing staff, that is, RNs, LPNs, and nursing assistants. (**NOT** doctors, social workers, or others)
- To complete the survey in a timely manner, **please return it within one (1) week** after you receive it. (However, your survey will be accepted up to 8 weeks after your discharge). All the forms should be returned together in the enclosed postage paid envelope.
- A reminder postcard will be sent in one week. Another reminder and another survey will be sent in three weeks.
- Only if the patient is unable to answer the questions**, a family member is encouraged to answer as the patient would if the patient was able to do so.

Code _____

5. Here is an example that may help you in completing the questionnaire:

Please circle the number that best represents your opinion

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable
1	2	3	4	5	NA

A. I got the help I needed from the nurses with bathing

1	2	3	4	5	NA
---	---	---	---	---	----

B. The nurses made me feel free to ask questions

1	2	3	4	5	NA
---	---	---	---	---	----

The answer to question A indicates that you are quite certain that you got the help you needed with bathing. The answer to B, "undecided," indicates you can't quite decide whether to agree or to disagree with this statement.

Thank you for your time and your help.

-
1. The nurses were knowledgeable about treatments
1 2 3 4 5 NA
 2. The nurses asked me frequently to describe my pain
1 2 3 4 5 NA
 3. The nurses knew how to identify problems
1 2 3 4 5 NA
 4. I knew when to expect things
1 2 3 4 5 NA
 5. Upon admission, the nurses told me the things I needed to know
1 2 3 4 5 NA
 6. The nurses asked me what I knew about my health problem
1 2 3 4 5 NA
 7. The nurses described the tests I was to have
1 2 3 4 5 NA
 8. The nurses explained important side effects from medication to watch for after I went home
1 2 3 4 5 NA

Please circle the number that best represents your opinion

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable
1	2	3	4	5	NA

9. The nurses were available to talk with me or my family
1 2 3 4 5 NA
10. My family was kept informed of my plan of care by the nurses.
1 2 3 4 5 NA
11. The nurses responded to my family's concerns
1 2 3 4 5 NA
12. The nurses encouraged friendly conversation when I wanted to talk
1 2 3 4 5 NA
13. The nurses kept me informed about aspects of my hospitalization
1 2 3 4 5 NA
14. The nurses helped me decide how to achieve the goals we agreed upon
1 2 3 4 5 NA
15. I was involved by nurses in decisions about my care as much as I wanted
1 2 3 4 5 NA
16. The nurses provided privacy when they gave me care
1 2 3 4 5 NA
17. The nurses were gentle in caring for me
1 2 3 4 5 NA
18. If I needed help with bathing, the nurses provided it
1 2 3 4 5 NA
19. The nurses were available when I needed them
1 2 3 4 5 NA
20. When I needed it, I got my pain medication quickly
1 2 3 4 5 NA
21. I felt the nurses were patient when teaching me new skills
1 2 3 4 5 NA

Please circle the number that best represents your opinion

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable
1	2	3	4	5	NA

22. The nurses fit their explanations to what I needed to know

1 2 3 4 5 NA

23. The nurses taught me information when I needed it

1 2 3 4 5 NA

24. The nurses tried to help me with my worries about returning home

1 2 3 4 5 NA

25. The nurses really listened to me

1 2 3 4 5 NA

26. The nurses discussed my anxieties and fears with me

1 2 3 4 5 NA

27. The nurses went out of their way to help me feel better

1 2 3 4 5 NA

28. The nurses were happy to help me

1 2 3 4 5 NA

29. I felt that the nurses took me seriously

1 2 3 4 5 NA

30. The nurses respected my right to be informed

1 2 3 4 5 NA

31. I felt that the nurses supported me in taking an active role in my care

1 2 3 4 5 NA

32. My right to refuse was respected by the nurses

1 2 3 4 5 NA

33. When I used the call button, I was assisted within a few minutes

1 2 3 4 5 NA

34. The nurses were so good I didn't have to ask for help

1 2 3 4 5 NA

Please circle the number that best represents your opinion

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable
1	2	3	4	5	NA

35. I received pain medications from the nurses without asking

1 2 3 4 5 NA

36. I was able to walk comfortably because the nurses gave me pain medication

1 2 3 4 5 NA

37. I turned to the nurses for answers to my questions

1 2 3 4 5 NA

38. I can describe my pain because the nurses taught me how

1 2 3 4 5 NA

39. The nurses and I decided things together as I got ready to go home

1 2 3 4 5 NA

40. I remember what the nurses taught me about my medications

1 2 3 4 5 NA

41. I confided in the nurses

1 2 3 4 5 NA

42. I talked to the nurses about personal concerns

1 2 3 4 5 NA

43. I understand my problems better because the nurses cared

1 2 3 4 5 NA

44. I enjoyed my conversations with the nurses

1 2 3 4 5 NA

45. I learned to take an active role in my care from the nurses

1 2 3 4 5 NA

46. My efforts to be independent were praised by the nurses

1 2 3 4 5 NA

47. The nurses supported me in taking part in decisions about my own care

1 2 3 4 5 NA

Please circle the number that best represents your opinion

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Not Applicable					
	1	2	3	4	5	NA					
48. My right to be heard was protected by the nurses	1	2	3	4	5	NA					
49. The nursing services I received helped me deal more effectively with my health problems	1	2	3	4	5	NA					
50. Overall, the nurses taught me what I needed to know for my recovery after discharge	1	2	3	4	5	NA					
51. Overall, nurses acted on my behalf as a patient	1	2	3	4	5	NA					
52. The emotional support nurses gave me met my needs	1	2	3	4	5	NA					
53. I had confidence in the nurses caring for me	1	2	3	4	5	NA					
54. Overall, I felt that the nurses acted in my best interest	1	2	3	4	5	NA					
55. I am taking my medication as instructed by the nurses	1	2	3	4	5	NA					
56. I am managing my health problem using what the nurses taught me	1	2	3	4	5	NA					
57. I will call the nurses at the hospital if I have any questions	1	2	3	4	5	NA					
58. If I were sick, I would return to the same hospital because of the nursing care I received	1	2	3	4	5	NA					
59. Overall, teaching by nurses was (Circle the grade that best describes):	A	A-	B+	B	B-	C+	C	C-	D+	D	F
60. Overall, my satisfaction with nursing care was:	Excellent	Good	Fair	Poor	Unacceptable						

Comments

Please circle the number by your answer.

Who completed this survey?

1. I did (former patient) 2. Family member or friend

Thank you again for your time and your help.

Appendix C

Information Form

CODE _____

These are questions about yourself to help interpret the results of the Nursing Care Survey. Your answers to all questions are completely confidential. Please return this form with the Nursing Care Survey in the enclosed stamped envelope.

1. Your present age: _____ YEARS

2. Your sex. (Circle number of your answer)
1 MALE
2 FEMALE

3. How many years of education have you completed? (Circle number)
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Grade School High School College Graduate School

4. With what ethnic group do you identify? (Circle number)
1 WHITE/CAUCASIAN 5 NATIVE AMERICAN
2 BLACK/AFRICAN AMERICAN 6 JEWISH
3 HISPANIC 7 OTHER (_____)
4 ASIAN *Please specify*

5. Your present marital status. (Circle number)
1 SINGLE, NEVER MARRIED
2 MARRIED
3 DIVORCED
4 SEPARATED
5 WIDOWED

6. Type of health insurance used to pay for your recent hospitalization. (Circle number)
1 NONE
2 MEDICARE
3 MEDICARE AND PRIVATE INSURANCE
4 MEDICAID
5 PRIVATE INSURANCE (for example, Blue Cross; HMO; PPO)
6 OTHER (Please specify _____)

Next, I would like to ask about your employment.

7. Are you currently employed? (Circle number)
1 YES
2 NO

8. What is/was your occupation? (Fill in) _____ (over)

9. Are you now or have you ever been a RN or LPN? (Circle number)
- 1 YES
2 NO
10. Is anyone in your immediate family a RN or LPN? (Circle number)
- 1 YES (*total number of RNs and LPNs in your immediate family* _____)
2 NO
11. Are you now a hospital employee? (Circle number)
- 1 YES
2 NO
12. What is your total household income before taxes this year? (Circle number)
- 1 LESS THAN \$15,000 PER YEAR
2 \$15,000 TO \$34,999 PER YEAR
3 \$35,000 TO \$69,999 PER YEAR
4 \$70,000 OR MORE PER YEAR
5 DON'T KNOW

Finally, I would like to ask some questions about your recent hospitalization.

(Fill in or check 13-15)

13. How many times have you been hospitalized **at the hospital you just left?** _____ or Unsure _____
14. How many times have you been hospitalized **in the last two years?** _____ or Unsure _____
15. How many times have you been hospitalized **in your life?** _____ or Unsure _____
16. How many total days did you spend in the hospital you just left? _____ DAYS
17. What was the date you were discharged from the hospital? (Fill in) _____ / _____ / 1995
mo day year
18. What was the Room Number of your **last** room at the hospital (if you can remember)? _____
19. What type of patient were you? (check one) Medical ___ Surgical ___ Obstetric ___
20. Was this admission? (Circle number)
- 1 VOLUNTARY/PLANNED
2 EMERGENCY/UNPLANNED
21. Were you in an intensive care unit? (Circle number)
- 1 YES
2 NO
22. Did you have a roommate? (Circle number)
- 1 YES
2 NO

Thank you for sharing this information.

Appendix D
Optional Questionnaire

OPTIONAL QUESTIONNAIRE

CODE _____

You are among a small number of patients who are being asked to complete this questionnaire as a validity check. If you have the time, your completion of this optional questionnaire in addition to the others is greatly appreciated.

PATIENT'S OPINION OF NURSING CARE

Please give your honest opinion for each statement on this list by circling one of the five answers to describe the nurse(s) caring for you. (Please refer to your most recent hospital admission):

- | | | | | | |
|---|----------------|-------|-----------|----------|-------------------|
| 1. The nurse should be more attentive than he/she is. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 2. Too often the nurse thinks you can't understand the medical explanation of your illness, so he/she just doesn't bother to explain. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 3. The nurse is pleasant to be around. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 4. A person feels free to ask the nurse questions. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 5. The nurse should be more friendly than he/she is. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 6. The nurse is a person who can understand how I feel. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 7. The nurse explains things in simple language. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 8. The nurse asks a lot of questions, but once he/she finds the answers, he/she doesn't seem to do anything. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 9. When I need to talk to someone, I can go to the nurse with my problems. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 10. The nurse is too busy at the desk to spend time talking with me. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 11. I wish the nurse would tell me about the results of my test more than he/she does. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
| 12. The nurse makes it a point to show me how to carry out the doctor's orders. | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |

over

13. The nurse is often too disorganized to appear calm.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
14. The nurse is understanding in listening to a patient's problems.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
15. The nurse gives good advice.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
16. The nurse really knows what he/she is talking about.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
17. It is always easy to understand what the nurse is talking about.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
18. The nurse is too slow to do things for me.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
19. The nurse is just not patient enough.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
20. The nurse is not precise in doing his/her work.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
21. The nurse gives directions at just the right speed.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
22. I'm tired of the nurse talking down to me.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
23. Just talking to the nurse makes me feel better.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
24. The nurse always gives complete enough explanations of why tests are ordered.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
25. The nurse is skillful in assisting the doctor with procedures.	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree

Adapted from N. Risser, *Nursing Research*, 1975.
 A.S. Hinshaw R.N., Ph.D.
 J.R. Atwood, R.N., Ph.D.
 Nursing Department, University Hospital, Arizona Health Sciences Center.



Appendix E
Patient Card

CURRENT MEDS/VITAMINS/ OVER-THE-COUNTER MEDS	PATIENT REFERENCE CARD												
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;"><u>Name/Dose</u></th> <th style="text-align: left; width: 50%;"><u>Schedule</u></th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	<u>Name/Dose</u>	<u>Schedule</u>											<p style="text-align: center;">PATIENT'S NAME</p> <p style="text-align: center;">This record card is to keep in your wallet or purse and bring with you to doctor appointments.</p> <p>Your blood pressure goal is:</p> <p style="text-align: center;">_____</p> <p>Your best weight is:</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Thank you from Mary B. Killeen, RN</p>
<u>Name/Dose</u>	<u>Schedule</u>												
<p>Known Drug Allergies: No Yes (Describe)</p> <hr/> <p>Known Food/other Allergies: No Yes (Describe)</p> <hr/>													

BLOOD PRESSURE AND WEIGHT RECORD			BLOOD PRESSURE AND WEIGHT RECORD		
Date	BP	Weight	Date	BP	Weight

Appendix F

Three Option Postcard

___ I have completed and sent the questionnaire

___ I do not plan to participate

___ I plan to participate but have not yet completed and sent
the questionnaire

(Name)

() _____
(Phone Number)

Appendix G

Reminder Postcard

Dear former patient:

Last week a survey seeking your opinion about nursing care was mailed to you from the hospital.

If you have already completed and returned it to me, please accept my sincere thanks. If not, please do so today. Because it has been sent to only a small, but representative sample, it is extremely important that yours also be included in the study if the results are to accurately represent the opinions of Michigan hospitals' patients.

If by some chance you did not receive the survey or if was misplaced, please call me right now, collect [REDACTED] and I will get another one in the mail to you today.

Sincerely,

Mary B. Killeen, RN, MSN
Doctoral Candidate, WSU

Appendix H

Mailings by Hospital

	Hospital B Suburban/ NonTeaching	Hospital C Suburban/ Teaching	Hospital D Semi-rural	Hospital E Rural	Total
# mailed	1000	809	206	587	2602
# sequence	101-1100	1101- 1910	2101 - 2307	2601-3100 2393-2480	
# expected returned (50%)	500	400	103	294	1297
Dates for start-finish of mailing	8/2 - 9/13/95	10/5/95	10/5 - 11/3/95	10/7 - 11/26/95	
Optional Questionnaire (Hinshaw & Atwood PSI)	#101-#376= 275	#1101-#1300= 200	#2101-#2200= 100	#2601-2701= 100	575 sent

Appendix I

Hospital Letter of Endorsement

Dear Patient:

On behalf of our entire staff, thank you for choosing X X X X X X Hospital for your recent care.

Our goal is to provide quality health care that meets, and we hope, exceeds your expectations. We are constantly trying to improve our services. To do that we need your help.

In addition to our regular survey process, we are currently assisting Mary Killeen, R.N., (a Nursing Doctoral student at Wayne State University), with her research on patient satisfaction with nursing care. We believe that the results of this research, in particular as it relates to nursing care at X X X X X X will assist us in building upon and improving the quality of nursing care delivered. Your responses to the questions on this survey are vitally important in helping both Mary and us in this important project.

Thank you for taking the time to share your thoughts.

Sincerely,

Chief Executive Officer

Appendix J
Reminder Letter

Dear

About three weeks ago I wrote to you seeking your opinion of the nursing care during your recent hospitalization. As of today I have not yet received your completed questionnaire.

This research is based on the belief that patients' opinions of their nursing care should be taken into account by the nursing profession. As health care becomes increasingly expensive, the improvement of nursing care while controlling costs is critically important.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. Your name was selected as a discharged inpatient from one of the Michigan hospitals included in the research. In order for the results of this study to be truly representative of the opinions of all Michigan hospitals' patients, it is essential that each person in the sample return their questionnaire. As mentioned in the instructions, the nursing care survey should be answered by the former patient. Only if the patient is unable to answer the questions, a family member is encouraged to answer as the patient would if the patient was able to do so.

In the event that your questionnaire has been misplaced, a replacement is enclosed.

Your contribution to the success of this study will be appreciated greatly.

Most sincerely,

Mary B. Killeen, MSN, RN
Doctoral Candidate, Wayne State University

Appendix K

Subjects' Demographic Data

Table K1

Age as Reported by Subjects (N=1631)

Age ranges	Number of subjects	Percent of subjects
18-20	18	1.1%
21-30	214	13.1%
31-40	194	11.9%
41-50	123	7.5%
51-60	153	9.4%
61-70	281	17.2%
71-80	336	20.0%
81-90	166	10.2%
91-97	33	2.0%
No Responses	123	7.5%

Table K2

Education as Reported by Subjects (N=1631)

Highest grade ranges	Number of subjects	Percent of subjects
5-8 grade	143	8.8%
High school	675	41.4%
College	527	32.3%
Graduate	141	8.6%
No responses	145	8.9%

Table K3

Income as Reported by Subjects (N=1631)

Income ranges	Number of subjects	Percent of subjects
<\$15,000	331	20.3%
\$15-34,000	406	24.9%
\$35-69,900	316	19.4%
\$70,000 or >	159	9.7%
Don't know	123	7.5%
No responses	296	18.1%

Table K4

Times Hospitalized as Reported by Subjects (N=1631)

Times hospitalized ranges	Number and Percent of times hospitalized at the recent hospital	Number and percent of times hospitalized in the last two years	Number and percent of times hospitalized during lifetime
1	460 (38.2%)	695 (42.6%)	102 (6.3%)
2-5	748 (45.9%)	613 (37.6%)	607 (37.2%)
6-10	92 (5.6%)	47 (2.9%)	330 (20.2%)
11-15	16 (1.0%)	3 (0.2%)	67 (4.1%)
>15	7 (0.4%)	1 (0.1%)	35 (2.3%)
No responses	308 (18.9%)	272 (16.7%)	490 (30.0%)

Table K5

Number of Days Hospitalized as Reported by Subjects (N=1631)

Days Hospitalized ranges	Number of Subjects	Percent of Subjects
1-2 days	351	21.5%
3-5 days	621	38.1%
6-10 days	323	19.8%
11-15 days	96	5.9%
16-21 days	28	1.7%
>22 days	52	3.2%
No responses	160	9.8%

Appendix L

Hospital Descriptions and Nursing Staff Characteristics

Hospital Element	Definition (Gardner Huber et al., 1992)	Hospital A (Large Urban/teaching)	Hospital B (Medium Suburban/teaching)
Size	Number of licensed beds	598	331
Admissions	The annual number of admissions	24,790	10,867
Occupied beds	Average daily census	385	174.93
Method(s) of care delivery	Usual method of care delivery used (functional, team, primary, total care, case management, other)	Primary, Team, mod. Primary, Patient focused care	Primary, Total care, Case management
Staff mix	% RN (professionals) and % non-RN (nonprofessionals)	50-81% RN, 19-50% non RN on pilot units	65% RN 35% non RN
Education profile of staff	The number of nurses by highest degree	not available (n.a.)	n.a.
Experience of RNs	Total years of practice as an RN of each nurse by job classification	n.a.	n.a.
Certification	The number of nursing personnel currently certified by any professional organization.	n.a.	71
Turnover	$\frac{\text{Number (N) of leavers}}{(\text{N at start} + \text{N at end})/2} \times 100$	16-42% on pilot units	1.3%
Years of Service	Mean years of service in the organization of each nurse by job classification	n.a.	RNS 9.52 LPNs - 14.06

Hospital Element	Definition (Gardner Huber et al., 1992)	Hospital C (Large Suburban Teaching)	Hospital D (Medium Semi-rural Nonteaching)	Hospital E (Medium Rural Nonteaching)
Size	Number of licensed beds	597	136	176
Admissions	The annual number of admissions	31,686	3,547	5,585
Occupied beds	Average daily census	383	35	78
Method(s) of care delivery	Usual method of care delivery used (functional, team, primary, total care, case management, other)	Team, Functional Care/Case Management	Case Management with modified team	Modular (RN-MLPN team)
Staff mix	% RN (professionals) and % non-RN (nonprofessionals)	64% RN 35% non RN	75% RN 25% non RN	53% RN 47% non RN
Education profile of staff	The number of nurses by highest degree	(Estimate) Masters:50 BSN:300 ADN: 300 Diploma: 100	Masters:5 BSN:52 ADN:64 Diploma:41	Masters:6 BSN:24 ADN or Diploma: 119
Experience of RNs	Total years of practice as an RN of each nurse by job classification	n.a.	Staff nurses:9.3 Nurse Managers: 12.6 Other: 28	n.a.
Certification	The number of nursing personnel currently certified by any professional organization.	22 CRNAs	(estimate) 38	71
Turnover	<u>Number (N) of leavers</u> <u>(N at start + N at end)/2 x100</u>	12.51%	6%	7.5%

Appendix M

Items Selected for Inclusion in the Overall Study Instruments
Based on the Results of the Content Validity Study

Instrument, Subscale and Items	Average percent of King experts rating item 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
Cognitive Perceptions of Nurses' Role Performance - Caregiver				
The nurses were knowledgeable about treatments	100%	100%	100%	100%
The nurses asked me frequently to describe my pain	100%	100%	100%	100%
The nurses knew how to identify problems	100%	100%	100%	100%
I knew when to expect things	66.6%	100%	**	75%
Cognitive Perceptions of Nurses' Role Performance - Teacher				
Upon admission, the nurses told me the things I needed to know	100%	100%	100%	100%
The nurses asked me what I knew about my health problem	100%	100%	**	75%
The nurses described the tests I was to have	100%	100%	100%	100%
The nurses explained important side effects from medication to watch for after I went home	100%	100%	100%	100%

(table continues)

Instrument, Subscale and Items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
Cognitive Perceptions of Nurses' Role Performance - Friend				
The nurses were available to talk with me or my family	100%	100%	100%	100%
My family was kept informed of my plan of care by the nurses	100%	100%	100%	100%
The nurses responded to my family's concerns	100%	100%	100%	100%
The nurses encouraged friendly conversation when I wanted to talk	100%	100%	100%	100%
Cognitive Perceptions of Nurses' Role Performance - Advocate				
The nurses kept me informed about aspects of my hospitalization	100%	100%	100%	100%
The nurses helped me decide how to achieve the goals we agreed upon	100%	100%	100%	100%
I was involved by nurses in decisions about my care as much as I wanted	100%	100%	0%	60%
The nurses provided privacy when they gave me care	100%	100%	100%	100%

(table continues)

Instrument, Subscale and Items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
Affective Perceptions of Nurses' Role Performance - Caregiver				
The nurses were gentle in caring for me	100%	100%	100%	100%
If I needed help with bathing, the nurses provided it	100%	33.3%	100%	60%
The nurses were available when I needed them	100%	100%	100%	100%
When I needed it, I got my pain medication quickly	100%	100%	100%	100%
Affective Perceptions of Nurses' Role Performance - Teacher				
I felt the nurses were patient when teaching me new skills	100%	100%	100%	100%
The nurses fit their explanations to what I needed to know	100%	100%	100%	100%
The nurses taught me information when I needed it	100%	100%	100%	100%
The nurses tried to help me with my worries about returning home	100%	100%	100%	100%
Affective Perceptions of Nurses' Role Performance - Friend				
The nurses really listened to me	100%	100%	**	100%

(table continues)

Instrument, Subscale and Items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
The nurses discussed my anxieties and fears with me	100%	100%	**	100%
The nurses went out of their way to help me feel better	100%	100%	**	100%
Affective Perceptions of Nurses' Role Performance - Friend				
The nurses were happy to help me	100%	100%	**	100%
Affective Perceptions of Nurses' Role Performance - Advocate				
I felt the nurses took me seriously	66.6%	100%	100%	100%
The nurses respected my right to be informed	100%	100%	100%	100%
I felt that the nurses supported me in taking an active role in my care	100%	100%	100%	100%
My right to refuse was respected by the nurses	100%	100%	100%	100%
Behavioral Perceptions of Nurses' Role Performance - Caregiver				
When I used the call button, I was assisted within a few minutes	66.6%	100%	100%	100%
The nurses were so good, I didn't have to ask for help	100%	100%	**	100%
I received pain medications from the nurses without asking	66.6%	66.6%	**	75%

(table continues)

Instrument, Subscale and Items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
I was able to walk comfortably because the nurses gave me pain medication	100%	66.6%	**	75%
Behavioral Perceptions of Nurses' Role Performance - Teacher				
I turned to the nurses for answers to my questions	100%	100%	100%	100%
I can describe my pain because the nurses taught me how	100%	33.3%	50%	40%
The nurses and I decided things together as I got ready to go home	100%	100%	0%	60%
I remember what the nurses taught me about my medications	66.6%	100%	100%	100%
Behavioral Perceptions of Nurses' Role Performance - Friend				
I confided in the nurses	66.6%	33.3%	50%	40%
I talked to the nurses about personal concerns	0%	33.3%	0%	20%
I understand my problems better because the nurses cared	100%	66.6%	50%	60%
I enjoyed my conversations with the nurses	66.6%	33.3%	100%	60%
I learned to take an active role in my care from the nurses	100%	100%	**	100%

Instrument, Subscale and Items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
Behavioral Perceptions of Nurses' Role Performance - Advocate				
The nurses supported me in taking part in decisions about my own care	100%	100%	100%	100%
My right to be heard was protected by the nurses	100%	66.6%	100%	80%
Cognitive Response to Nursing Service				
The nursing services I received helped me deal more effectively with my health problems	100%	100%	100%	100%
Overall, the nurses taught me what I needed to know for my recovery after discharge	100%	100%	100%	100%
Overall, nurses acted on my behalf as a patient	100%	100%	100%	100%
Overall, teaching by the nurses was:	100%	50%	100%	75%
Affective Response to Nursing Service				
The emotional support nurses gave me meet my needs	100%	100%	**	100%
I had confidence in the nurses caring for me	100%	100%	100%	100%
Overall, I felt that the nurses acted in my best interest	66.6%	100%	100%	100%
Overall, my satisfaction with nursing care was:	100%	100%	100%	100%

(table continues)

Instrument, Subscale and Items	Average percent of King experts rating items 3 or 4	Average percent of nurses' role experts rating items 3 or 4	Average percent of patient experts rating items 3 or 4	Average percent of relevancy experts rating items 3 or 4
Behavioral Response to Nursing Service				
I am taking my medication as instructed by the nurses	100%	100%	**	100%
I am managing my health problem using what the nurses taught me	100%	66.6%	**	50%
I will call the nurses at the hospital if I have any questions	100%	66.6%	**	75%
If I were sick, I would return to the same hospital because of the nursing care I received.	100%	100%	**	100%

Appendix N

Item analysis Data for Items Selected for the Final Study from Pilot Studies

Table N1

Item Analysis Data for Items Selected for the Final Study from Pilot One:Cognitive Perceptions of Nurses' Role Performance: Proposed Subscale -Caregiver Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurses were knowledgeable about treatments	100%	.52	.69	.96	.78
The nurses knew what to do in an emergency*	100%	.82	.69	.96	.75
My medications came on time*	100%	.81	.53	.96	.78
I knew when to expect things	66.6%	.92	.72	.96	.74
The nurses told me what they were going to do and why*	100%	.54	.67	.96	.76

(table continues)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurse always asked me if the medication relieved my pain*	100%	.70	.38	.96	.81
The nurses introduced themselves by name*	100%	-.23	.37	.97	.80

* item deleted in final instrument

Table N2

Item analysis Data for Items Selected for the Final Study from Pilot One;
Cognitive Perceptions of Nurses' Role Performance: Proposed Subscale - Teacher
Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurses explained things so I could understand them *	100%	.79	.37	.96	.83
Upon admission, the nurses told me the things I needed to know	100%	.79	.50	.96	.82
My family was given enough information about my condition and treatments by the nurses*	100%	.83	.63	.96	.80
The nurses described the tests I was to have	100%	.93	.75	.96	.79

(table continues)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correla- tion with the overall scale	Item-total correla- tion with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurses described I would have to do after tests or surgery*	100%	.40	.47	.96	.82
The nurses explained important side effects from medication to watch for after I went home	100%	.53	.74	.96	.78
The nurses taught my family how to do the care I would need after discharge*	100%	.66	.72	.96	.78

*item deleted in final instrument

Table N3

Item analysis Data for Items Selected for the Final Study from Pilot One:
Cognitive Perceptions of Nurses' Role Performance: Proposed Subscale - Friend
Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurses spent time listening to me*	100%	.81	.68	.96	.69
The nurses were available to talk with me or my family	100%	.93	.71	.96	.62
The nurses encouraged friendly converation when I wanted to talk	100%	.74	.82	.96	.82

*item deleted in final instrument

Table N4

Item analysis Data for Items Selected for the Final Study from Pilot One:Cognitive Perceptions of Nurses' Role Performance: Proposed Subscale -Advocate Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurses asked my permission before doing something to me*	100%	.87	.76	.96	.88
The nurses helped me communicate with the doctor*	100%	.78	.72	.96	.89
The nurses found answers to my questions if they didn't know*	100%	.87	.85	.96	.86
The nurses kept me informed about aspects of my hospitalization	100%	.87	.87	.96	.86
The nurse checked on me frequently*	100%	.81	.64	.96	.89
The nurses provided privacy when I received information about my condition*	100%	.93	.58	.96	.90

*item deleted in final instrument

Table N5

Item analysis Data for Items Selected for the Final Study from Pilot One;
Affective Perceptions of Nurses' Role Performance: Proposed Subscale -
Caregiver Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurses were available when I needed them	100%	.78	.48	.98	**
The nurses were gentle in caring for me	100%	.92	.48	.98	**

Table N6

Item analysis Data for Items Selected for the Final Study from Pilot One;

Affective Perceptions of Nurses' Role Performance: Proposed Subscale -

Teacher Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
I felt the nurses were patient when teaching me new skills	66.6%	.84	.75	.98	**
I felt the nurses were honest in giving me information*	100%	.84	.75	.98	**

*item deleted from final instrument

Table N7

Item analysis Data for Items Selected for the Final Study from Pilot One;
Affective Perceptions of Nurses' Role Performance: Proposed Subscale - Friend
Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
I felt the nurses took my problems seriously*	100%	.93	.93	.98	.93
I felt the nurses were interested in me as a person*	100%	.94	.93	.98	.93
The nurses were sensitive to my needs*	100%	.94	.82	.98	.94
The nurses helped me with worries I had about problems I might have after leaving the hospital*	100%	.76	.68	.98	.96
The nurses were with me when I needed them*	100%	.94	.87	.98	.94

(table continues)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
The nurses helped me cope with my condition*	100%	.91	.87	.98	.94
The nurses were courteous to my visitors*	100%	.95	.79	.98	.95

*item deleted in final instrument

Table N8

Item analysis Data for Items Selected for the Final Study from Pilot One:Affective Perceptions of Nurses' Role Performance: Proposed Subscale -Advocate Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
My personal dignity was respected by the nurses*	100%	.91	.47	.98	**
I felt that the nurses supported me in taking an active role in my care	100%	.98	.47	.98	**

*item deleted in final instrument

Table N9

Item analysis Data for Items Selected for the Final Study from Pilot One:
Behavioral Perceptions of Nurses' Role Performance: Proposed Subscale -
Caregiver Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correla- tion with the overall scale	Item-total correla- tion with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
I could tell the nurses knew what they were talking about*	100%	.78	.76	.94	.81
The nurses were so good I didn't have to ask for help	100%	.75	.83	.94	.77
When I said I was having pain, the nurses believed me*	66.6%	.49	.68	.94	.84
I learned from the nurses how to relax to relieve my pain*	100%	.70	.63	.94	.87

*item deleted in final instrument

Table N10

Item analysis Data for Items Selected for the Final Study from Pilot One:
Behavioral Perceptions of Nurses' Role Performance: Proposed Subscale -
Teacher Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
I turned to the nurses for answers to my questions	100%	.80	.82	.94	.82
If I asked to hear information again, the nurses repeated it*	100%	.75	.65	.94	.89
I can describe my pain because the nurses taught me how	100%	.58	.70	.94	.87
The nurses and I decided things together as I got ready to go home	100%	.78	.86	.94	.80

Table N11

Item analysis Data for Items Selected for the Final Study from Pilot One;
Behavioral Perceptions of Nurses' Role Performance: Proposed Subscale - Friend
Role (N=32)

Items	Percent of nursing theory experts rating an item 3 or 4	Item-total correlation with the overall scale	Item-total correlation with the proposed subscale	Overall scale alpha if item deleted	Proposed subscale alpha if item deleted
I asked questions because of the nurses' help and encouragement*	100%	.90	.81	.93	.72
I understand my problems better because the nurses cared	100%	.93	.79	.93	.74
I expressed my appreciation of the nurses' services*	66.6%	.24	.54	.95	.84
When I smiled at the nurses, they smiled back*	33.3%	.58	.64	.94	.82

*item deleted in final instrument

Table N12

Item analysis Data for Items Selected for the Final Study from Pilot One;
Cognitive Response to Nursing Services (N=32)

Items	Item-total correlation with the overall scale	Overall scale alpha if item deleted
Overall, the nurses taught me what I needed to know for my recovery after discharge	.84	.83
Overall, nurses acted on my behalf as a patient	.55	.93
The nursing services I received helped me deal more effectively with my health problems	.88	.82
Overall, teaching by nurses was (A -F)	.86	.82

Table N13

Item analysis Data for Items Selected for the Final Study from Pilot One;
Affective Response to Nursing Services (N=32)

Items	Item-total correlation with the overall scale	Overall scale alpha if item deleted
The emotional support of nurses met my needs	.71	.86
I had confidence in the nurses caring for me	.74	.83
Overall, I felt that my safety was a concern to the nurses*	.79	.81
Overall, the nurses were sensitive and caring*	.71	.84

*item deleted in final instrument

Table N14

Item analysis Data for Items Selected for the Final Study from Pilot One:Behavioral Response to Nursing Services (N=32)

Items	Item-total correlation with the overall scale	Overall scale alpha if item deleted
I intend to follow the teaching the nurses provided me*	.85	.81
I am taking my medication as instructed by the nurses	.66	.89
I am likely to recommend this hospital to others because of the nursing care I received*	.74	.84
If I were sick, I would return to the same hospital because of the nursing care I received	.76	.82

*item deleted in final instrument

Appendix O
Factor Loadings

Item	Item Number (see Nursing Care Survey Appendix B)	Factor I	Factor II	Factor III	Factor IV	Factor V
CPCK7	1	.56			.47	
CPCM1	2				.53	
CPCP1	3	.51			.51	
CPCT6	4			.47		
CPTI1	5				.67	
CPTT6	6				.70	
CPTE1	7				.53	
CPTM3	8				.64	
CPFC9	9	.46			.47	
CPFC8	10			.51		.50
CPFR1	11			.53		.46
CPFS3	12	.51		.62		
CPAK8	13			.62		
CPAF2	14			.55		
CPAR1	15				.48	
CPAP3	16	.51			.53	
APCC3	17	.67				
APCK3	18	.45				
APCK2	19	.76				
APCM2	20	.69				
APTT2	21		.47			
APTT5	22			.54		
APTT6	23			.59		
APTD1	24		.57			
APFC1	25	.67				

(table continues)

Item	Item Number (see Nursing Care Survey Appendix B)	Factor I	Factor II	Factor III	Factor IV	Factor V
APFR13	26		.48	.47		
APFR19	27	.69				
APFR26	28	.69				
APAM4	29	.66				
APAK1	30	.54				
APAF1	31	.68				
APAK3	32		.47			
BPCT1	33	.72				
BPCT2	34	.61				
BPCM2	35					.50
BPCM3	36					.61
BPTT1	37	.44				
BPTP1	38		.48			
BPTD1	39			.50		
BPTM1	40		.74			
BPFC2	41		.55			
BPFR3	42		.53	.50		
BPFR1	43		.46			
BPFS3	44	.62				
BPAF1	45		.51			
BPAF2	46					.46
BPAR3	47					.47
BPAR2	48					.49
CR11	49	.63				
CR6	50		.48			
CR8	51	.66				

(table continues)

Item	Item Number (see Nursing Care Survey Appendix B)	Factor I	Factor II	Factor III	Factor IV	Factor V
AR1	52	.51	.54			
AR3	53	.75				
AR7	54	.73				
BR2	55		.69			
BR4	56		.71			
BR3	57		.61			
BR8	58	.70				
CR7	59	.57		.48		
AR16	60	.68				

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ABSTRACT

PATIENT-CONSUMER PERCEPTIONS AND RESPONSES TO
PROFESSIONAL NURSING CARE: INSTRUMENT DEVELOPMENT

by

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Advisor: Dr. Arnold Bellinger

Major: Nursing

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The purpose of the research was to develop instruments to assist nurse researchers and nurse managers in the measurement of patient satisfaction with nursing care. The final instrument differs from existing instruments in three important ways: 1) includes cognitive, affective, and behavioral aspects of attitude formation, 2) focuses on the nursing profession's view of nurses' roles as seen by the patient-consumer and 3) is conceptually based using theory derivation within King's (1981) systems framework.

The target population was adult hospital inpatients (obstetrical, surgical, medical) who were discharged within four weeks from inpatient units of five (urban, suburban, and rural) hospitals in a Midwestern state.

Content validity of the six instruments was estimated by eight experts' ratings of 221 items. The 60-item final study instrument's Content Validity Index was 82% (King panel) and 72% (relevancy panel).

An exploratory, descriptive, survey research design was utilized to test the instruments. The subject, or, if unable to participate, a family representative was asked to complete the instruments within one week (the returns were accepted for eight weeks). Subjects who completed one, two or

three instruments totaled 1,631 for a response rate of 68%.

Reliability of the instrument, titled the Killeen-King Patient Satisfaction with Nursing Care (KKPSNC), and related subscales were estimated using Cronbach's alpha. The six instruments had alpha's ranging from .84 to .97 and the KKPSNC's alpha was .99. The test-retest reliability was .88 demonstrating good stability reliability.

Construct validity of the instrument was estimated through convergent and divergent validity analysis. Pearson product-moment correlation of the scores of the KKPSNC and the Patient Satisfaction Instrument (Hinshaw & Atwood, 1982) was .59, providing initial support of the instrument's construct validity but divergent validity was not supported. A principal components factor analysis, with a varimax rotation, extracted five factors, leading to a reconfiguration of the instrument items and one new factor.

Findings supported initial reliability and validity of the KKPSNC. Instrument revision is planned with additional estimation of the revised instrument's reliability and validity. Findings also provide recommendations for nursing research, administration and practice.

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Wayne State University, Detroit, Michigan	Ph.D.	1996
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