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A Model of Patient Satisfaction and Behavioral Intention in Managed Care

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A MODEL OF PATIENT SATISFACTION AND BEHAVIORAL INTENTION IN MANAGED CARE

by

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Abstract

Determination of patient outcomes associated with new and return business is a primary objective of the managed care marketplace. Identification of variables which contribute to both positive and negative patient experiences in managed care systems is crucial to their effectiveness. The purpose of this study was to test the functional relationships between the variables of nurse practitioner attributes and behaviors, patient perceptions of the managed care system, and outcomes of patient satisfaction and intention to return to and recommend the managed care system. Functional relationships were measured with the Patient Satisfaction Semantic Differential (Greeneich & Long, 1992), and the Service Survey (Swan, Sawyer, Van Matre, & McGee, 1985). Subjects (N = 86) were primarily female, Caucasian, and had some college education. Nurse practitioner effects on positive and negative patient service experiences emerged. In the positive service experience, nurse practitioner practice and inherent personality characteristics accounted for 35% of the variance found in attributes of satisfaction. In addition, attributes of satisfaction explained 22% of the variance in the patient's positive perception of the managed care system. In the negative service experience, the inherent personality characteristics of the nurse practitioner explained 25% of the variance. While nurse practitioner practice and inherent personality characteristics

accounted for 35% of the variance in attributes of satisfaction, attributes of satisfaction only accounted for 4% of the variance in the negative service experience. An ANOVA post hoc analysis indicated that a difference in patient perceptions occurred relative to the number of visits during a one month period. These results demonstrated the effect of frequency of exposure to healthcare personnel attributes and behaviors on patient perceptions of their managed care experience, and their intention to return and recommend the system.

This work is dedicated to my husband, Edwin.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER 1

Introduction

The fierce competition for consumers in the health care marketplace has been fueled by industry financial constraints due to cost capitations, public concern over the quality of health care delivery and business efforts to curb the high cost of health care benefits (Davis-Martin, 1986). These trends have resulted in a health care reform movement which emphasizes managed care as the most viable alternative to meet societal demands for universal access to health care (Buerhaus, 1994; Mundinger, 1994).

Satisfaction with health care is a crucial consumer outcome associated with new and return business in any health care setting (Greeneich, 1993; Meisenheimer, 1991). Patient intention to return to the health facility for future health care needs, as well as new patients attracted by positive experiences of former patients, contributes to the economic well being of the service setting. Abramowitz, Cote, and Berry (1987) believe that nursing is the key determinant of overall patient satisfaction with a hospitalization experience. Several other hospital-based studies have corroborated this judgment (Doering, 1983; Nelson, Hays, Larson, & Batalden, 1989). Therefore, it is necessary to identify nursing

attributes and behaviors linked to attributes of satisfaction and patient expectation of fulfillment of nursing care that are differentiated from other health providers and staff members. This development will advance patient satisfaction as an outcome of nursing care and facilitate an approach to implementing satisfaction programs within nursing organizations. This process is even more cogent for nursing in a managed care organization where improvement of patient outcomes is predicated on the customer oriented performance rather than fee for service (Kerfoot, 1994; Porter-O'Grady 1994; Ray & Rinzler, 1993).

Nurse practitioners, as providers, play an increasingly important role in the managed care environment in the era of health care reform (Aiken et al., 1993; Safriet, 1992). Multiple studies have documented comparative satisfaction with physicians (Office of Technology Assessment, 1988). No studies have directly documented satisfaction and patient intention as influenced by the nurse practitioner visit in the managed care environment. This is important as the economic well being of the managed care plans de pends on continued enrollments and the recommendations of satisfied patients to bring in new business (Shortell, Gillies, Anderson, Mitchell, & Morgan, 1993).

McDaniel and Nash (1990) postulated that patient satisfaction is a potent indicator for the modifications

needed in the structure and process of nursing care delivery. In addition, in viewing the nursing service organization, Eck, Meehan, Zigmund, and Pierro (1988) ascribe the patient satisfaction rating as a measure of organizational effectiveness in response to consumer expectations. Low ratings may indicate that organizational goals are incongruent with consumer expectations of nursing care delivery. Finally, in light of the heightened participation of health care consumers in quality of care issues, Chang, Uman, Linn, Ware, and Kane (1984) cite a need for nurses to be socialized into understanding the dimensions associated with patient expectations and satisfaction.

Data from this study provide needed information on the functional relationship between nurse practitioner attributes and behaviors, managed care system variables, and the outcomes of patient satisfaction and intention to return to and/or recommend the managed care plan. This is essential to provide information about nurse practitioners as providers within the managed care setting. In addition, it is needed to determine the nurse practitioner's contribution in meeting the current wants and desires of the customer population which results in the judgment of satisfaction with the nurse practitioner visit, and patient intentions to return to and/or recommend the managed care plan. Differentiation between nurse practitioner and physician providers' attitudes and

behaviors may delineate significant variations in practice patterns which contribute to patient satisfaction.

Purpose

The purpose of this study was to test the functional relationships between the independent variables of patient perceptions of nurse practitioner attitudes and behaviors (Inherent Personality Characteristics, Nursing Care Characteristics, Nursing Proficiency, and Nursing Communication), patient perception of the managed care system (Attributes of Satisfaction and Fulfillment of Expectations) on the dependent variable outcomes of satisfaction (Patient Satisfaction) and intention (Patient Intention to Return to and/or Recommend the Health Care Facility).

Conceptual Framework

A conceptual model (see Figure 1) of patient satisfaction and behavioral intentions in a managed care setting was used to demonstrate the functional relationships between the independent variables and their effect on the dependent variables of patient satisfaction and intentions. Patient perceptions of nurse practitioner attitudes and behaviors were measured by the independent variables of: Inherent Personality Characteristics of the Nurse (Abramowitz et al., 1987; Swan, Sawyer, Van Matre, & McGee, 1985), Nursing Care Characteristics (Hinshaw & Atwood, 1982; Rempusheski, Chamberlain, Picard, Ruzanski, & Collier, 1988), Nursing Proficiency (Allanach &

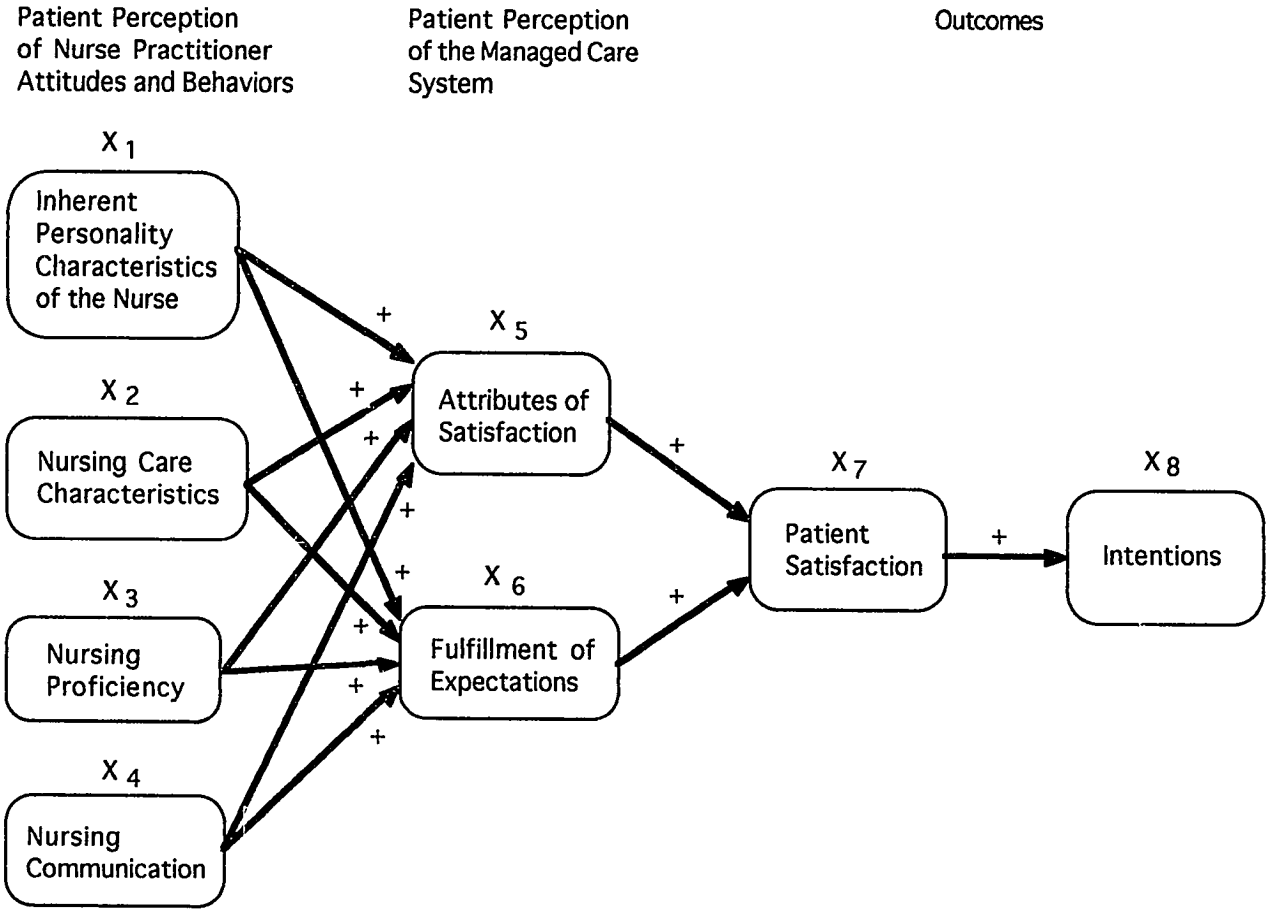

Figure 1. Conceptual model of patient satisfaction and behavioral intentions in a managed care setting.

Golden, 1988; Erickson, 1987), and Nursing Communication (Kovner, 1989; Seguin, Therrien, Champagne, & Larouche, 1989). These influenced the independent variables of Attributes of Satisfaction and Fulfillment of Expectations. Patient Perceptions of the Managed Care System were delineated by the variables Attributes of Satisfaction and Intentions to Return and to Recommend (Oliver & Swan, 1989; Peyrot, Cooper, & Schnapf, 1993; Swan et al., 1985). Attributes of Satisfaction and Fulfillment of Expectations affect the dependent variables of Satisfaction and Intention (Peyrot et al., 1993; Swan et al., 1985; Woodside, Frey, & Daly, 1989). Patient Satisfaction affects Intentions (Swan et al., 1985; Woodside et al., 1989).

The model for this study was adapted from a model of patient satisfaction by Swan et al. (1985). This model was theoretically developed for and empirically tested in a hospital setting. In phase one of this model, perceptions of hospital performance were formed. In the second phase, expectations of patient care and hospital performance perceptions were confirmed. In phase three, the outcome of the patient's perception of care expectations and performance resulted in increased levels of overall patient satisfaction and led to an intention to revisit the hospital in the future.

The effect of nurse practitioner attitudes and behaviors upon the dependent variables of patient

satisfaction and intention to return to and to recommend a managed care plan was not differentiated from other health providers in past marketing studies. This innovation was necessary to establish the effect of the independent variable, nurse practitioner attributes and behaviors on patient satisfaction and intention through the mediating systems variables of attributes of satisfaction and fulfillment of expectations.

Research Questions

In testing the functional relationships between the independent variables of patient perception of nurse practitioner attitudes and behaviors, patient perceptions of the managed care system on the dependent variable outcomes of satisfaction and intention, the following research questions were addressed:

1. What are the effects of the patient's perception of nurse practitioner attitudes and behaviors on the outcomes of patient satisfaction and intention?

2. What are the effects of the patient's perception of the managed care system on the outcomes of patient satisfaction and intention?

Definition of Terms

Inherent Personality Characteristics of the Nurse are those fixed personality characteristics of nurse practitioners which affect patient relationships as operationalized by the Patient Satisfaction Semantic

Differential (PSSD) (Greeneich & Long, 1993)--Inherent Personality Characteristics subscale.

Nursing Care Characteristics are the professional attributes and behaviors of nurse practitioners which facilitate the perception of caring to the patient as operationalized in the PSSD (Greeneich & Long, 1993)--Nursing Care Characteristics subscale.

Nursing Proficiency refers to the patient's perception of the nurse practitioner's ability to organize and implement a treatment regimen specific to the individual patient. Nursing proficiency was operationalized in the PSSD (Greeneich & Long, 1993)--Nursing Proficiency subscale.

Nursing Communication refers to the patient's perception of the nurse practitioner's ability to communicate effectively during patient-nurse interactions. Nurse communication was operationalized in the PSSD (Greeneich & Long, 1993)--Nursing Communication subscale.

Attributes of Satisfaction are those attributes and behaviors ascribed to managed care providers and staff which bring satisfaction to patients as operationalized by the Swan, Sawyer, Van Matre, and McGee (1985) Service Survey Instrument--Attributes of Satisfaction subscale.

Fulfillment of Expectations are the confirmations that a health provider behavior or attribute was displayed during a health care interaction as operationalized by the Swan, Sawyer, Van Matre, and McGee (1985) Service Survey

Instrument--Fulfillment of Expectations and Perceived Equity subscales.

Patient Satisfaction is the patient's judgment of the quality of care delivered (Donabedian, 1980). This concept was operationalized by the Swan, Sawyer, Van Matre, and McGee (1985) Service Survey Instrument--Patient Satisfaction subscale.

Intention to Return to and Recommend the Health Care Facility refers to the anticipation of the patient to return to and recommend the health care facility in the future. Intentions was operationalized by the Swan, Sawyer, Van Matre, and McGee (1985) Service Survey Instrument--Intentions subscale.

Summary

In Chapter 1, aspects of the study were delineated in terms of the problem and significance, the purpose, conceptual framework, and the operational definition of terms. The concepts of inherent personality of the nurse, nursing care characteristics, nursing proficiency and nurse communication focus on the discrete effects of the nurse practitioner's unique contribution to patient satisfaction and the patient's behavioral intention in the managed care setting. The nurse practitioner's ability to fulfill patient expectations within a managed care system may linearly affect overall patient satisfaction and intention to return to and/or recommend a managed care plan.

CHAPTER 2

Review of the Literature

Research findings have supported conceptual relationships between the study variables and patient satisfaction (see Figure 1). Summaries of correlational and predictive studies for all study variables are shown in Tables 1 and 2.

Nurse Practitioner Attributes and Behaviors

Inherent Personality Characteristics of the Nurse

Inherent personality characteristics are those attributes and behaviors that the nurse brings to the job. These attributes are unique to each nurse and are displayed on and off the job. Abramowitz et al. (1987) examined the multiple determinants of patient satisfaction (N = 840). A nursing attribute, attention to concerns, was significantly associated with patient satisfaction with nursing care (r = .65, p < .0001). Among nursing aides attributes, being helpful (r = .77, p < .0001) was significantly correlated with patient satisfaction.

Bader (1988) examined nursing behaviors which predicted patient satisfaction in medical/surgical patients. The results of the study, which utilized the Patient Satisfaction Instrument (PSI) (Risser, 1975), showed that patient satisfaction was associated with the

Table 1

Summary of Patient Satisfaction Studies Using Correlational Techniques

Variable	Researcher(s)	Sample	Instrument(s)	Dependent Variable(s)	Correlation Coefficient
Inherent Personality Characteristics	Abramowitz, Cote, & Berry 1987	840 Discharged Patients	Patient Questionnaire	Satisfaction - attention - quick - helpful	 .65*** .77*** .77***
Nursing Care Characteristics	Hinshaw & Atwood 1982	309 Patients	Patient Satisfaction Instrument	Satisfaction - education	 .29*
	Abramowitz, Cote, & Berry 1987	840 Discharged Patients	Patient Questionnaire	Satisfaction - explanation of procedures - explanation of room	 .70**** .57***
Nursing Proficiency	Erickson 1987	136 Patients	Patient Satisfaction with Nursing Care Checklist	Satisfaction	.84***
Nursing Communication	Kovner 1989	73 Patients	Patient Satisfaction Instrument	Satisfaction - mutual goal setting	 .39***

*p < .05. **p < .025. ***p < .01. ****p < .0001.

Table 2

Summary of Patient Satisfaction Studies Using Predictive Techniques

Variable	Researcher(s)	Sample	Instrument(s)	Dependent Variable(s)	Correlation Coefficient
Inherent Personality Characteristics	Bader 1988	50 Discharged Patients	Patient Satisfaction Questionnaire	Satisfaction - attentive - friendly	 ** **
Nursing Care Characteristics	Bader 1988	50 Discharged Patients	Patient Satisfaction Questionnaire	Satisfaction - explanation - communication	 ** **
Nursing Proficiency	Bader 1988	50 Discharged Patients	Patient Satisfaction Questionnaire	Satisfaction - Skill - Precision - Carrying out orders	 ** ** **
Nursing Communication	Sequin, Therrien, Champagne & Larouche, 1989	1790 Mothers	Delivery Questionnaire	- communication - decision making orders	R^2 = .281*** R^2 = .062***
Fulfillment of Expectations	Oliver & Swan 1989	426 New Car Buyers	Equity Scale	Satisfaction - disconfirmation	gamma = .344
	Swan, Sawyer, Van Matre & McGee 1985	184 Discharged Patients	Service Survey	Satisfaction	gamma = .997

Table 2, continued.

Variable	Researcher(s)	Sample	Instrument(s)	Dependent Variable(s)	Correlation Coefficient
Intention	Swan, Sawyer, Van Matre, & McGee 1985	184 Discharged Patients	Service Survey	Satisfaction	gamma = .705**
	Woodside, Frey, & Daly 1989	372 Discharged Patients	Telephone Survey	Satisfaction	R^2 = .37***
	Peyrot, Cooper, & Schapf (1993)	1,366 Outpatients	Survey Instrument	Satisfaction	
				-convenient	R^2 = .50*
				- pre-exam comfort	R^2 = .85**
				- info. procedure	R^2 = .29*
				- total info.	R^2 = .57*
				- explanation of report	R^2 = .86**
				- exam comfort	R^2 = 1.16****
				- exam worth	R^2 = .91**

Table 2, continued.

Variable	Researcher(s)	Sample	Instrument(s)	Dependent Variable(s)	Correlation Coefficient
Managed Care	Fincham & Wertheimer	486 patients	Questionnaire	Satisfaction -physician continuity -physican-patient communication	R^2 = .21****

*p < .05. **p < .01. ***p < .001. ****p < .0001.

nursing behaviors of being attentive, friendly, and pleasant ($p < .025$).

Abdellah and Levine (1957), in a study of 8,000 patients, reported that promptness, interest in the patient, and niceness were the most important components of patient satisfaction. In contrast, results of research conducted by Erickson (1987) utilizing the Abdellah and Levine Patient Satisfaction with Nursing Care Checklist, indicated that social courtesy was only moderately associated with patient satisfaction ($r = .36$, $p < .19$). Erickson suggested this finding reflected the patient's values, their expectations of nursing care , and changing societal norms in relation to nursing practice.

Nursing personnel and promptness of nursing care as a facet of patient satisfaction were studied by Hildman and Ferguson (1990). Fifty-five patients rated a significant difference between RNs and Non-RNs in promptness, $t(54) = 2.60$, $p = .012$. In addition, a significant difference in promptness was noted for the non-nurse by type of hospital unit, $F(10, 44) = 5.11$, $p = .0001$. Surgical patients noted a longer waiting time than those in other units. Finally, with respect to gender, males rated promptness of service lower, $F(1, 53) = 4.43$, $p = .04$. Delays in meeting male patient needs for pain medication, ambulation, and nursing assessment were related to this finding.

These studies reflected the importance of the inherent personality characteristics of the nurse to

patient satisfaction. Social courtesy, helpfulness, friendliness and prompt response to patient needs focus on the nurse as the point of service delivery to the patient. Nursing attributes and behaviors which enhance this service delivery promote the perception of an effective customer-oriented organization. The nursing literature to date, has not reported a study linking the effect of specific inherent personality characteristics in nonhospital clinical settings and patient satisfaction.

Nursing Care Characteristics

The nursing care characteristics are those professional characteristics that expedite meaningful patient-nurse interactions. Hinshaw and Atwood (1982) developed the Patient Satisfaction Instrument to be utilized in medical-surgical settings from the initial instrument which was specific to ambulatory care settings (Risser, 1975). During one of the six clinical trials conducted with the revised instrument, the care-comfort study, significant differences in the PSI subscale of education ($r = .29$, $p < .05$) was noted after the delivery of specific types of care-comfort activities which were designated as minimum standards of nursing care for all hospitalized patients in the institution.

Chang et al. (1984), in an exploration of global patient satisfaction and psychosocial care, studied 268 elderly women being seen in an ambulatory care setting. They found that satisfaction with nursing care was linked

to the patient's response to illness and the ability to express feelings to the nurse, $F = 5.137$, $p = 0.002$.

One additional study is worthy of note. Valentine (1991) reported a strong correlation between caring and patient satisfaction. Caring behaviors associated with patient satisfaction were professional vigilance ($R^2 = .57$) and nurse affective, cognitive, and ethical contributions during patient encounters ($R^2 = .20$). Caring behaviors associated with professional vigilance were: helping to feel safe, being knowledgeable and treated as an individual. Compassion, interest, caring, personal respect, and putting patient needs first are examples of the affective, cognitive, and ethical attributes of the nurse.

Caring is a unique professional characteristic connected to patient satisfaction. Empathy, compassion, comfort measures, and development of a trusting relationship convey caring to patients. These unique professional caring behaviors may modify patient perceptions of unfulfillment of expectations through buffering unpleasant or inept health care situations that would otherwise cause patient dissatisfaction. Other professional characteristics associated with the concept, such as touch, physical comfort measures, and advocacy have yet to be correlated to patient satisfaction (Valentine, 1989).

Nursing Proficiency

Organization skills, technical competency, and nursing knowledge comprise aspects of this dimension in which the patient judges nursing proficiency. Researchers have explored the connection of nursing knowledge and patient satisfaction. Erickson (1987) found, in a study of 136 patients, a high correlation between meeting the patient's need for oxygen and patient satisfaction ($r = .84$, $p < .004$).

Derdiarian (1990) studied ($N = 213$) the link between the nursing process and patient satisfaction utilizing the Johnson Behavioral System Model. The model measured patient satisfaction with the nursing process components of assessment, intervention, and evaluation of the effectiveness of outcomes. A significant increase in patient satisfaction was reported with patient self-report and observational instrumentation ($F = 5.5$, $p < .02$), with nursing assessment ($F = 9.0$, $p < .05$), and with nursing diagnosis ($F = 5.8$, $p < .02$).

Allanach and Golden (1988) found ($N = 26$) that technical quality was the most valued nursing care behavior associated with customer satisfaction. Using a modified Q sort method, patients ranked caring behaviors. The results of this study showed that the following nursing behaviors were most highly associated with proficiency on a 5-point Likert scale: knows how to give

shots (M = 3.90); knows when to call the physician (M = 3.90); and appears skillful at work (M = 3.82).

Bader (1988), utilizing multiple regression techniques, identified three technical-professional activities of nursing care as being highly correlated with patient satisfaction ($p < .025$). These activities were skill, precision, and carrying out the physician's orders.

Nursing proficiency has been demonstrated to be highly correlated with patient satisfaction. Nursing proficiency, the most activity-based component of patient satisfaction, is more clearly demonstrated to the patient than other dimensions of nursing care at the point of service. Organizational skills, technical competency, and nursing knowledge have more direct and immediate consequences to the patient, thus speak to the organization's concern for the efficient delivery of nursing service, and the promotion of wellness as an outcome of nursing care.

Nursing Communication

Nursing communication is comprised of those statements occurring during the patient-nurse interaction which advance patient care and meet patient expectations. Seguin et al. (1989) ascertained that nurse-patient communication is an important component of patient satisfaction. In a study of 930 maternity patients, explanations provided during a vaginal delivery (R^2 = 0.281) and nurse-patient decision-making during a cesarean

delivery (R^2 = 0.062) were significantly related to patient satisfaction.

Bader (1988) determined that nurse-patient communication is significantly linked to patient satisfaction as demonstrated by explanations and clear communication ($p < .025$). In addition, the Abramowitz et al. (1987) study determined explanation to be highly correlated with patient satisfaction. This was evidenced in the explanation of procedures ($r = .70$, $p < .0001$) and explanation about the room ($r = .57$, $p < .001$).

In a study by Valentine (1989), communication interactions between the nurse and patient were significant predictors. Teaching/learning activities and nurse patient communication ($R^2 = .23$) were positive predictors of patient satisfaction.

Focusing on a different aspect of communication, Kovner (1989) examined nurse-patient agreement and patient satisfaction in postoperative patients. The findings indicated that the process of mutual goal setting within a patient population is significantly linked to patient satisfaction ($r = .39$, $p < .001$).

Nursing communication has been delineated as being significantly correlated to patient satisfaction. These aspects of communication are explanations, mutual goal setting, teaching, and patient-nurse agreement. Each of these aspects were important to determining patient wants

and desires, implementation of nursing care, and the evaluation of expectation fulfillment.

Nurse Practitioners and Patient Satisfaction

Patient satisfaction and nurse practitioner practice has centered on comparison studies between nurse practitioner and physician practice characteristics where sphere of practice parameters overlap. Thompsen, Basden, and Howell (1982) found in a study of 603 patients, that satisfaction scores were higher with nurse practitioner visits than with physician visits at the two clinics polled. Indications of satisfaction for family nurse practitioners were call backs (88%), intention to return to the practitioner for the same type of exam (100%), patient participation by asking questions (94%) and that the breast self-exam was taught and/or reviewed by the nurse practitioner (97%).

Although patient satisfaction with specific nurse practitioner attributes and behaviors has been reported on a limited basis, studies comparing nurse practitioner practice attributes to physician practice attributes in managed care have yet to be done. It is the essential differences between the two different provider attributes and behaviors that may shape patient perceptions of patient-provider interaction and influence patient satisfaction.

Patient Perceptions of the Managed Care System

Providers and staff attributes and behaviors in the health care organization promote confirmation or disconfirmation of patient expectations. Furthermore, providers confirm judgments of specific health service needs which result in satisfaction. This provides information on the congruence of provider attributes and behaviors and the health wants and needs of the patient population served.

Attributes of Satisfaction in Health Care

Attributes of satisfaction are provider and staff attitudes and behaviors which bring satisfaction to patients. The expected performance standard related to each attribute is patient specific. Ware, Davies-Avery, and Stewart (1978) identified key dimensions of satisfaction cited in 100 prior studies on patient satisfaction. These dimensions were the art of care, technical quality of care, accessibility/convenience, physical environment, availability of services and providers, continuity of care, and efficacy/outcomes of care. The art of care, technical quality of care, availability of services and providers and efficacy/ outcomes are concerned with attributes of satisfaction within health care. Results of the 1985 study by Swan, Sawyer, Van Matre, and McGee indicated that specific attributes of satisfaction for the hospitalized patient, such as admission procedures, room, physician, nurses,

support services, dietary, personal services, billing, and emergency department were predictors of fulfillment of expectations (gamma = .793) and intention to return to the health care facility (gamma = .196).

In the managed care setting, predictors of satisfaction were explored by Fincham and Wertheimer (1986). Four variables were related to satisfaction utilizing a stepwise multiple regression (R^2 = .21, p < .000). These variables were physician continuity (b = .27), self-assessed health (b = .26), preventive health practices (b = .191) and communication appropriateness from the physician (b = .09). In a 1993 study by Peyrot, Cooper, and Schnapf of outpatient health services, two of the most significant predictors of satisfaction were staff behavior (R^2 = .90, p < .01) and prior information (R^2 = .36, p < .01).

While attributes of satisfaction vary for each patient, evidence suggests that they function to mediate patient satisfaction, and directly influence patient intentions. The care environment, staff behaviors, managed care characteristics, and accessibility are among categories identified as important to individual patients.

Fulfillment of Expectations

Patient satisfaction is the match between patient expectations and the reality of nursing care delivered (Greeneich, Long, & Miller, 1992). An expectation is the anticipation that an event will occur (Greeneich & Long,

1993). This anticipation is based upon prior experience with nurses, reports of patient-nurse encounters by relatives and friends, and media portrayals of patient-nurse relationships. Confirmation of patient expectations becomes the critical determinant of patient satisfaction (Gilbert, Lumpkin, & Dant, 1992; Nelson & Larson, 1993; Rempusheski et al., 1988). In the application of the expectations of equity and fulfillment of expectations of a product or a service, marketing studies preceded the empirical testing of these antecedents of expectations in health care. Oliver and Swan (1989), in a study of 426 new car buyers, reported equity of treatment by salesman as the highest predictor of satisfaction (gamma = .344). In a study of disconfirmation and satisfaction with a retail service (N = 346), Swan and Trawick (1981) found that perceived disconfirmation of expectations by exceeding the anticipated service was the greatest predictor (R^2 = .10, p not given) of satisfaction and intention to purchase the service again.

Swan et al. (1985), in a study of 184 discharged patients, found that confirmation of expectations, fulfillment of expectations (gamma = .84) and perceived equity of treatment (fairness) (gamma = .92) were the greatest predictors of the patient's overall satisfaction and intention to revisit the hospital.

Adaptation of health care client expectations was described in a study by Gilbert, Lumpkin, and Dant (1992).

Multivariate analysis of variance (MANOVA) analysis of satisfaction among three types of outpatient services was performed: private physicians, walk-in clinics, and emergency rooms. Of these three, satisfaction was the highest at the walk-in clinic (R^2 = .63, p < .001), because staff met patient expectations.

In the application of expectancy and equity theory in the hospital setting, Swan (1991), utilizing the focus group technique of qualitative marketing research (N = 14), explored satisfaction in terms of the meaning of the symbolic interactions between the provider and the patient. The findings of the focus group indicated that the renegotiation of expectations between the provider and the patient were key to high levels of patient satisfaction.

Patient expectations during hospitalization play an important role in determining overall satisfaction with the health care experience. Nelson and Larson (1993) explored expectations of the hospital experience for 69 discharged patients through an open-ended questionnaire to determine the type of happenings which caused disconfirmation of expectations. Content analysis of responses to an open-ended questionnaire revealed two categories pertinent to this study: good surprises and bad surprises. With good surprises, service and quality exceeded patient expectations. With bad surprises, service expectations were not met. These findings may indicate

that the changing nature of the health care encounter may alter expectations, and thus provide the patient both good and bad surprises. This is a critical point, given today's rapidly changing health care environment.

Expectations delineate the standard of nursing and health care system attributes and behaviors. Fulfillment of patient expectations may be correlated to the degree of satisfaction expressed at any one point in time with patient-nurse practitioner and patient-system interactions.

Outcomes

Patient Satisfaction and Intentions

The primary thrust in linking patient satisfaction to intention to return to a health care facility has taken place in the marketing arena. Swan et al. (1985) determined that patient satisfaction was a much stronger predictor of intention to revisit a specific hospital (gamma = .705, $\underline{t}$ = 7.101) than directly measuring intention to revisit a hospital (gamma = .196, $\underline{t}$ = 1.996). In another study, Woodside et al. (1989), investigated patient satisfaction with received hospital care utilizing multiple regression analysis. They found that patient satisfaction was effected by nursing care ($\underline{R}^2$ = .41, $\underline{p}$ < .001) and related directly to intention to return to the hospital ($\underline{R}^2$ = .72, $\underline{p}$ <. 001).

In a 1993 study, Peyrot, Cooper, and Schnapf examined outpatient satisfaction and intention to recommend

outpatient health services (N = 1,366). Predictor variables of patient recommendation of the outpatient health services were: convenient appointment (R^2 = .50, p < .05), preexam comfort (R^2 = .85, p > .01), enough prior information about the procedure (R^2 = .29 , p < .05), enough information throughout the visit (R^2 = .57, p < .05), physician explanation report after the diagnostic testing (R^2 = .86, p < .01), exam comfort (R^2 = 1.16, p < .0001) and perceived worth of the exam (R^2 = .91, p < .01).

Intention to return to the hospital setting was influenced by employee behaviors or by organizational attributes which contributed to the judgment of patient satisfaction with the health care service. In the managed care environment, levels of patient satisfaction may influence the patient's willingness to return for other than episodic emergency care. This type of access, while common for acute care settings, is inconsistent with the wellness focus of the managed care system.

The effect of patient satisfaction upon the intention to recommend a health care facility may be significant to the economic well being of that facility. This occurs when patients have a choice between managed care organizations in highly competitive market settings. Predictions of nursing and system attributes and behaviors which affect patient recommendations have not been found in the nursing literature. Identification of such specific attributes and

behaviors connected to patient intentions to reenroll or recommend the managed care plan can foster intervention efforts to bolster patient satisfaction within managed care systems.

Summary

Prior studies linking nursing attributes and behaviors, the health or managed care system variables, and the outcome variables of patient satisfaction and intention indicate that relationships among the variables in this study do exist in the service setting. Specific studies delineating attributes and characteristics of nurse practitioners in the managed care setting have not been reported. Examination of the effect of staff behaviors in relationship to intention in the managed care system has not been described in the research literature.

Nurse practitioners' attributes and behaviors can influence the fulfillment of patient expectations and the health care system attributes of satisfaction. This influence will, in turn, affect patient satisfaction and patient intentions within a managed care system. Intention to return to and/or to recommend the health care facility to others may be in part based on fulfillment of nurse provider expectations and not total staff attributes and behaviors as previously delineated in the research literature.

CHAPTER 3

Methodology

The research design, setting, sample, and instrumentation are delineated in Chapter 3. The procedure for data collection and data analysis techniques are also described.

Research Design

A predictive correlation design was used to test the functional relationships among independent variables of patient perceptions of nurse practitioner attitudes and behaviors (inherent personality characteristics, nursing care characteristics, nursing proficiency, and nursing communication), patient perceptions of the managed care system (attributes of satisfaction and fulfillment of expectations), and the dependent outcome variables of patient satisfaction and intentions (return to and/or recommend the managed care plan) (Burns & Grove, 1987).

The use of a predictive correlational design contained two threats to the validity of the research design: sampling and measurement (Brink & Woods, 1989). In consideration of the efficacy of this research design, a random sampling technique was utilized. This sampling technique assured the representiveness of the sample population seen by nurse practitioners. Prior studies

indicated that the instruments provided accurate measurement of the independent and dependent conceptual model variables (Greeneich & Long, 1993; Swan et al., 1985).

Setting

The study was done in one managed care organization (Health Maintenance Organization) in a southwestern city. This managed care system has a membership of 350,000 patients within a greater metropolitan area of 2,000,000 people. This organization maintains health care contracts with the Arizona's Medicaid agency, the Arizona Health Care Cost Containment System (AHCCCS), businesses, city, county, and state agencies. Seventeen satellite care centers provide the vehicle for provider services in this plan. This organization provided a broad array of services in addition to provider visits, such as Home Health Care, Hospice Care, an outpatient Diabetic Clinic, and a dedicated Wellness Department. The Wellness Department employs family nurse practitioners who perform initial patient physicals. In addition, this department disseminates extensive wellness materials and conducts classes on a variety of health care topics pertinent to aggregate patient populations within the plan. Nurse practitioners are employed by the managed care plan as family and OB/Gyn nurse practitioners. Family nurse practitioners also function in the wellness clinic.

Sample

A total sample of 86 respondents participated in the study, with a response rate of 27%. The power analysis for this N was computed to be .78 for an alpha level of .05 with a medium effect size (Cohen, 1988). Twelve males (14%) and 74 (86%) females comprised the patient sample. The ages of the participants ranged from 20 to 82, with a mean age of 42 years. Forty-five percent of the sample ranged in age from 20 to 39. Twenty (23%) of the sample were high school graduates, and 4 (5%) had not attained a high school diploma. Sixty-two (72%) of the subjects indicated some college attendance: Nine (10%) had attended college, 22 (26%) had 1 to 2 years of college, 21 (24%) were college graduates, and 10 (12%) had earned an advanced degree. Their occupational groupings were: 20 (23%) professional; 26 (30%) service; and 6 (7%) clerical. Two groups did not work outside of the home: 15 (17%) retired and 11 (9%) housewives.

The ethnic background of the subjects indicated that 71 (82%) were Caucasian. Seven (8%) Hispanics, 5 (5%) Native Americans, 2 (2%) Asians, and 1 (1%) African American comprised the other participants in the study. All spoke English as a primary language in the home.

The demographic profile of the clinic visit indicated that 75 (87%) of the visits were scheduled and 11 (13%) were emergency visits. More than half of the sample paid one to two visits to the nurse practitioner during the

calendar month surveyed: 33 patients (38%) one visit, 21 patients (24%) two visits, 9 patients (10%) three visits, 9 patients (10%) four visits and 11 patients (13%) five or more visits. Forty-three (50%) of the visits surveyed were made to OB/Gyn nurse practitioners, 28 (33%) of the patients visited family nurse practitioners, and 13 patients (15%) visited a designated wellness nurse practitioner for the initial admission physical for all new plan members.

Instrumentation

Two instruments and a demographic questionnaire were used in the study. An original instrumentation summary is provided in Table 3. Additional instrument testing was done within the study to ascertain psychometric properties of the instruments when used within the managed care setting.

Patient Satisfaction Semantic Differential

The Patient Satisfaction Semantic Differential (PSSD) is a 41 item, 7-point semantic differential that measures patient's perceptions of nursing attributes and behaviors known to be associated with patient satisfaction (Greeneich & Long, 1993) (see Appendix E). Previous psychometric data from studies conducted in acute care settings using Principal Component Analysis with a six factor Varimax rotation revealed four factors which were identified and named for the clustered descriptors: Nurse Care Characteristics, Nursing Proficiency, Inherent

Table 3

Summary of Acute Care Testing Instrumentation

Concepts	Measure	Reference	Validity	Reliability
1. Patient Satisfaction With Nursing Care	Patient Satisfaction Semantic Differential (PSSD)	Greeneich & Long 1993	Content	α = .97
	Subscales			
	- Nurse Caring			α = .95
	- Nursing Proficiency			α = .95
	- Inherent Personality Characteristics			α = .95
	- Nursing Communication			α = .84
2. Patient Expectations, Patient Satisfaction, Behavioral Intentions	Service Survey (SS)	Swan, Sawyer, Van Matre, & McGee 1985	Discriminant Convergent	Not Reported
	Subscales			
	- Attributes Satisfaction			Not Reported
	- Fulfillment of Expectations			α = .80
	- Fairness (Perceived Equity)			α = .83
	- Satisfaction			α = .87
	- Intentions			α = .88

Note. α = Cronbach's alpha coefficient.

Personality Characteristics of the Nurse, and Nursing Communication. Cronbach's alpha coefficients for each subscale were derived. The results were as follows: Nurse Caring, standardized alpha of .95, Nursing Proficiency, standardized alpha of .94, Inherent Personality Characteristics of the Nurse, standardized alpha of .95, and Communication, standardized alpha of .84. A standardized alpha was reported at .97 for the total scale. Content validity was demonstrated using average congruency percentage method. The resulting 95% congruency agreement on items was judged acceptable for preliminary instrument development (Waltz, Strickland, & Lenz, 1991).

In the initial PAF analysis of the PSSD in this study, 38 items factored into a two factor solution (Table 4), (Ferketich & Muller, 1990; Munro, Visintainer, & Page, 1986). Initially, internal consistency estimates using Cronbach's alpha statistic were computed on the existing scales and variable subscales. In addition, each instrument was factored using Principal Axis Factoring (PAF) to establish instrument validity dimensions when used in a managed care setting, and potential subscales. The criteria for factor extraction were: eigenvalues of greater than 1.0; factor loadings on the orthogonal rotation above .45, and confirmation that the resulting factor solutions were conceptually constant with previous empirical research (Ferketich & Muller, 1990; Kim & Mueller, 1978; Nunnally, 1978; Tinsley & Tinsley, 1987).

Table 4

Patient Satisfaction Semantic Differential Two-Factor Solution in a Managed Care Setting

PSSD Items	FACTOR 1 (Eigenvalue = 18.25) (Cumulative explained variance = 44.5%)	FACTOR 2 (Eigenvalue = 8) (Cumulative explained variance = 19%)
1	.74	
2	.71	
3		.80
4		.93
5	.63	
6	.53	
7		.84
8	.67	
9[a]		
10[a]		
11		.86
12	.83	
13	.82	
14		.83
15	.78	
16		.75
17		.90
18		.89
19	.85	
20		.86
21	.80	
22		.78
23	.78	
24	.76	
25	.80	
26	.70	
27	.75	
28		.84
29	.88	
30		.79
31	.75	
32		.79
33	.80	
34	.87	
35		.85
36	.83	
37	.75	
38[a]		
39		.90
40	.80	
41		.67

[a]Nonloading descriptors

Significant differences were noted in the resultant factor solutions specific to the managed care setting. The Cronbach's alpha statistic was computed on the resultant scales and subscales.

These factor solutions were examined for relevant factor loadings, interpretability and conceptual clarity. The first factor, which accounted for 44.5% of the total variance and had an eigenvalue of 18.25, contained 21 bipolar descriptors which met the loading criterion of .45. The second factor accounted for 19% of the variance and had an eigenvalue of 8. This second factor contained 15 bipolar descriptors. Only three of items failed to meet the factor loading criterion of .45. These bipolar descriptors were: prompt/not prompt, slow/fast, and busy/sluggish. This finding differed from the results of Hildman and Ferguson (1990) who found promptness of services to be an important correlate of patient satisfaction in a hospital setting.

The resulting two-factor solution of the PSSD using nurse practitioners demonstrated marked differences from previous factor solutions found in the pilot studies of the instrument (Greeneich & Long, 1993). In these studies, the 195 participants represented both the hospital and ambulatory care settings. Four factor solutions: inherent personality characteristics of the nurse, nurse care characteristics, nursing proficiency, and nursing communication, were supported in both studies. In this

study, the two emergent PSSD factors reflected the dimensions of provider practice and personality characteristics. Both of these dimensions may speak to the nature of the nurse practitioner practice as a primary health care provider in the managed care setting. A second explanation of this factor solution focuses on aspects of the nurse practitioner as a patient care provider in a managed care system as supported by empirical marketing and health service administration research on health care providers (Miller & Luft, 1994).

The nurse practitioner, as a health care provider, performs health assessments to diagnose and treat common acute illness, prevent new disease states, and to manage chronic stable conditions such as AIDS and Chronic Obstructive Pulmonary Disease (Aiken et al., 1993; Office of Technology Assessment, 1988; Safriet, 1992). Comparisons to physician practice characteristics have been noted in the medical and nursing literature (Flynn, 1974; Sox, 1979; Thompsen et al., 1982), although Prescott and Driscoll (1980) relate that these practices are only comparable where spheres of practice overlap.

Empirical research studies support the factor solution in the following areas of nurse practitioner practice: nursing proficiency, nursing communication, and interpersonal services of care. Studies detailing the caring dimension of nurse practitioner practice have not been found in the literature, although multiple other

studies in nursing have described this dimension as an inherent part of nursing practice (Larson, 1984; Riemen, 1986; Valentine, 1991; Von Essen & Sjoden, 1991).

Nurse practitioner proficiency has been described in four areas: patient data gathering during physical assessments (Bailet, Lewis, Hochheister, & Bush, 1975; Sox, 1979; Thompsen et al., 1982); triage decisions (DeAngelis & McHugh, 1977; Kane, Gardner, & Wright, 1978; Sox, 1978); diagnoses (Flynn, 1974; Powers, Jalowiec, & Reichelt, 1984); and use of health care services (Safriet, 1992). These areas have been compared to physician practice in comparable practice situations. A second consideration of nurse practitioner proficiency is found in the management of stable chronic diseases (Aiken et al., 1993).

Communication skill, as an integral part of nursing practice, has special significance in the nurse practitioner role (Office of Technology Assessment, 1988). Five different communication skills have been associated with patient satisfaction with nurse practitioners as providers: effectiveness of interpersonal communication (Flynn, 1974; Foye, Chamberlain, & Charney, 1974; Richards & De Castro, 1973); counseling (Simborg, Starfield, & Horn, 1978; Thompson et al., 1982); interviewing skills (Hastings, Vick, & Lee, 1980; Runyan, 1975), therapeutic listening (Komaroff, Sawyer, Flatley, & Browne, 1976; Powers et al., 1984), and, enhancing patient knowledge

about the disease state (Safriet, 1992; Stein, 1974). Empirical studies of physician and nurse practitioner practice note marked differences in communication skills such as depth of discussion, listening skills and the ability to throughly interview. (Diers & Molde, 1979; Molde & Diers, 1985; Office of Technology Assessment, 1988).

The nurse practitioner as a provider in a managed care system places the practitioner within the purview of expected system personality attributes and behaviors of providers and staff. Studies of physician providers have indicated that personality attributes are important to patient perceptions of empathy, competency and perceptions of satisfaction with staff behaviors (Cleary, Edgman-Levitan, McMullen, & Delbanco, 1992; Gilbert, Lumpkin, & Dant, 1992; Lytle & Mokwa, 1992). Nurse caregiver behaviors have been examined within the context of the health organization (Rempusheski et al., 1988).

Two items on factor two, inconsistent/consistent and irresponsible/responsible had been previously judged to be related to technical proficiency through interrater agreement for the instrument pilot studies. In the managed care setting they loaded on the personality characteristic factor. In a quantitative and qualitative study of 2,160 hospitalized patients, Nelson and Larson (1993) found that attitude and concern of physicians in hospital settings were related. This finding suggested that nurse

practitioners' personality characteristics may affect patients' perceptions of the provider-patient interaction differently than other nurse-patient care interactions.

The estimated total alpha for the newly factored PSSD was .43. This total scale alpha was judged nonreliable and thus each scale functioned independently in the study. Standardized alphas for the resultant two independent scales were nurse practitioner practice (PractNP), .97, and nurse practitioner personality characteristics (IPCNP), .97.

The conceptual model was revised to accommodate the two independent scales resulting from the factorial solution of the PSSD using nurse practitioners in the managed care setting. These nurses as providers displayed different attributes and behaviors as seen in the Nurse Practitioner Practice and Inherent Personality Characteristics scales.

Service Survey

The Service Survey (Swan et al., 1985) is a 51-item Likert instrument which measures attribute satisfaction, expectations fulfillment, satisfaction, intention to return in a hospital setting, and patient demographics. This instrument was adapted for the HMO setting specifically for this study (see Appendix F).

In the original instrument a 35-item subscale, Attribute Satisfaction, was scored using an 8-point Likert scale (delighted to terrible) to rate nine service

groupings found in a hospital: admission, room accommodations, physician/doctor, nurses/nursing staff, support services, food, personal services, billing, and emergency room. The subscales of Expectation Fulfillment, Fairness (Perceived Equity of Treatment), Satisfaction and Intentions were measured using a 5-point Likert scale (5 = strongly agree to 1 = strongly disagree). Cronbach's alphas were reported for the subscales of fulfillment, fairness, satisfaction, and intentions and ranged from .80 to .88. No Cronbach's alpha reliability score was reported for the Attribute Satisfaction subscale, as no one patient would utilize all services measured. Therefore, no overall scale reliability was reported. The construction of these five subscales was based on prior instruments constructed by Westbrook and Oliver (1981) and Cardotte, Woodruff, and Jenkins (1987) which reported discriminate validity in their measures of attributes, fulfillment, fairness, satisfaction, and intentions.

The Attributes of Satisfaction (AOS) subscale was adapted to the managed care environment. The resultant instrument was composed of 33 items. An 11-item Attributes of Satisfaction subscale focused on health provider behaviors and attributes, patient-staff interactions and emergency care in the managed care setting. The subscales of fulfillment, fairness (perceived equity of treatment), satisfaction, and intention items were also altered to be appropriate to the managed care plan setting. Items within

these subscales focused on provider behaviors, health plan services, and adaptation of behavioral intentions appropriate to the managed care setting.

Principal Axis Factoring was done to establish instrument validity, dimensions found in the managaed care setting,and potential scales and subscales. The criteria for factor extraction were: eigenvalues greater than 1.0, factor loadings on the orthogonal rotation above .45, and confirmation that the resulting factor solutions were conceptually constant with previous empirical research (Ferketich & Muller, 1990; Kim & Mueller, 1978; Nunnally, 1978; Tinsley & Tinsley, 1987).

Principal Axis Factoring of the Service Survey (SS) revealed that all Attributes of Satisfaction items along with six other items from the expectations (quality of care, staff made my visit more pleasant), fairness (perceived equity) (overall, I was treated fairly) and staff behaviors (enthusiastic about work, confidential communication and communication good) loaded on the same factor. This factor accounted for 38% of the variance with an eigenvalue of 12.64. The decision was made to consider this adapted subscale as an independent instrument based on the strength of the eigenvalue and the magnitude of variance accounted for by the factor (Nunnally, 1978). Items not part of the original attributes of satisfaction subscale were deleted. Factor loadings are presented in Table 5. This factor solution was examined for relevant

Table 5

Attributes of Satisfaction One-Factor Solution in a Managed Care Setting

AOS Items	FACTOR 1 (Eigenvalue = 12.64) (Cumulative explained variance = 38%)
1	.59
2	.57
3	.71
4	.79
5	.78
6	.58
7	.75
8	.89
9	.88
10	.78
11	.70

factor loadings, interpretability, and conceptual clarity. The resultant factor solution indicated conceptual unidimensionality. The factor solution accounted for 55.4% of the total variance of the instrument with an eigenvalue of 6.03. All 11 items on the 5-point Likert scale met the factor loading criterion of .45.

No prior data were available on the factor solutions for attributes of satisfaction subscale used in the hospital setting. Other research studies have indicated that three different aspects are associated with attributes of satisfaction: access to service (Oliver & Swan, 1989; Singh, 1991; Woodside et al., 1989), appropriate communication (Fincham & Wertheimer, 1986; Reed, Binks, & Ennew, 1991), and staff and provider behaviors (Gilbert et al., 1992; Singh, 1991; Swan et al., 1985; Woodside et al., 1989). Each aspect of this prior attributes of satisfaction research was represented by items found on the subscale. Access was represented by waiting time to see the provider, informed of delays, speed of telephone response, and quickness of emergency treatment. Appropriate communication items addressed sensitivity to patient, and answering patient questions. Staff and provider behaviors focused on social courtesy and inherent personality characteristics of providers and staff in relating to patients. The estimated total alpha for the newly factored AOS scale was .94.

Positive and Negative Service Experiences

The remaining 22 items of the adapted SS which contained the subscales of expectations, patient satisfaction, and intentions were factored utilizing PAF statistical procedure with an orthogonal Varimax rotation with a .05 criterion (Kim & Mueller, 1978; Nunnally, 1978). This statistical procedure was done to establish instrument validity, dimensions found in the managed care setting and potential scales and subscales. The criteria for factor extraction were: eigenvalues of greater than 1.0; factor loadings on the orthogonal rotation above .45, and confirmation that the resulting factor solutions were conceptually constant with previous empirical research (Ferketich & Muller, 1990; Kim & Mueller, 1978; Nunnally, 1978; Tinsley & Tinsley, 1987). The findings of the two-factor solution are presented in Table 6. The first factor accounted for 37% of the total variance with an eigenvalue of 7.82. This factor contained 11 Likert-type items which met the .45 factor loading criterion. Sixteen percent of the total variance was accounted for by the second factor which had an eigenvalue of 3.59, and was comprised of eight Likert-type items. Three items failed to meet the item factor loading criterion of .45, and were deleted.

This two-factor solution of the SS delineated the instrument items into positive and negative service experiences. These experiences reflected dimensions of the patient perceptions of positive and negative service

Table 6

Service Survey Two-Factor Solution in a Managed Care Setting

SS Items	FACTOR 1 (Eigenvalue = 7.82) (Cumulative explained variance = 37%)	FACTOR 2 (Eigenvalue = 3.59) (Cumulative explained variance = 16%)
1	.85	
2		.59
3		.65
4	.76	
5		.66
6	.57	
7		.72
8	.75	
9	.65	
10	.82	
11	.81	
12	.60	
13	.77	
14[a]		
15[a]		
16[a]		
17		.85
18	.56	
19		.80
20	.63	
21		.48
22		.81

[a]Nonloading descriptors.

in the managed care setting such as fulfillment of expectations, equity of treatment by staff, and communication which results in specific intentions. This has not been explored in published research studies to date. Expectations of service, antecedents of positive and negative perceptions of expectation fulfillment, and intentions have been extensively explored in marketing and health care studies. It is within this context that the theoretical evaluation of the instrument factor validity was made.

Each factoring solution contained either positive or negative items associated with expectations, perception of service aspects, and intentions in relation to perceptions of the managed care environment. Expectations are mutually exclusive, individually held beliefs about service delivery that are situation specific, influenced by environmental factors, past experience, and properties of the situation (Boulding, Kalra, Staelin, & Zeithaml, 1993; Frank, 1968; Ross, Frommelt, Hazelwood, & Chang, 1987; Swan & Trawick, 1981). Perception of service is manifested in the interpretation of staff and provider behaviors in relation to expectations of the service setting (Gilbert et al., 1992; Nelson & Larson, 1993; Singh, 1991). The behavioral outcome of intentions has been noted as a result of perceptions of discomfirmation or confirmations without the perception of satisfaction (Inguanzo & Harju, 1985; Nelson & Larson, 1993).

Although three of the previously designated adapted patient satisfaction items were nonloading, the fourth item, I am sorry I have this health plan, loaded on Factor Two. This result may have indicated that, in this context, this item was not a judgment of level of satisfaction, but rather is a cumulative judgment of the service quality of the managed care plan (Boulding et al., 1993; Cardotte et al., 1987; Oliver, 1977: Swan & Trawick, 1981).

Internal consistency estimates were computed for the factored solutions of the AOS and the SS utilizing SPSS-PC Cronbach's alpha statistic. The total alpha for the SS was .72. The positive service experience subscale had an alpha of .94 and the negative service experience alpha was .89. The interitem correlations, means, and corrected item-total correlations for all revised instruments are found in Table 7.

Revised Conceptual Models

The conceptual model (see Figure 1) was revised into two models (see Figures 2 and 3) to accomodate the newly emergent PractNP (Y1), IPCNP (Y2) and AOS (Y3) scales and the emergent subscales of the SS: the PSE (Y4) and the NSE (Y5). These revised conceptual models were tested to ascertain the functional relationships between these variables in the managed care setting (Davis, 1985).

The Positive Service Experience Model (see Figure 2) was composed of four composite variables: nurse practitioner practice (PractNP), personality

Table 7

Patient Satisfaction Semantic Differential, Attributes of Satisfaction, and Service Survey Alpha Reliabilities

Scale/ Subscales	Number of Items	Inter-item Mean	Standardized alpha	Corrected Item-Total Correlation Range
PractNP	21	.74	.96	.63 - .88
IPCNP	15	.79	.97	.77 - .90
AOS	11	.57	.85	.42 - .80
Service Survey				
PSE	11	.76	.94	.57 - .88
NSE	8	.66	.89	.21 - .86

Note. PractNP - Practice of Nurse Practitioners
IPCNP - Inherent Personality Characteristics
AOS - Attributes of Satisfaction
PSE - Positive Service Experience
NSE - Negative Service Experience

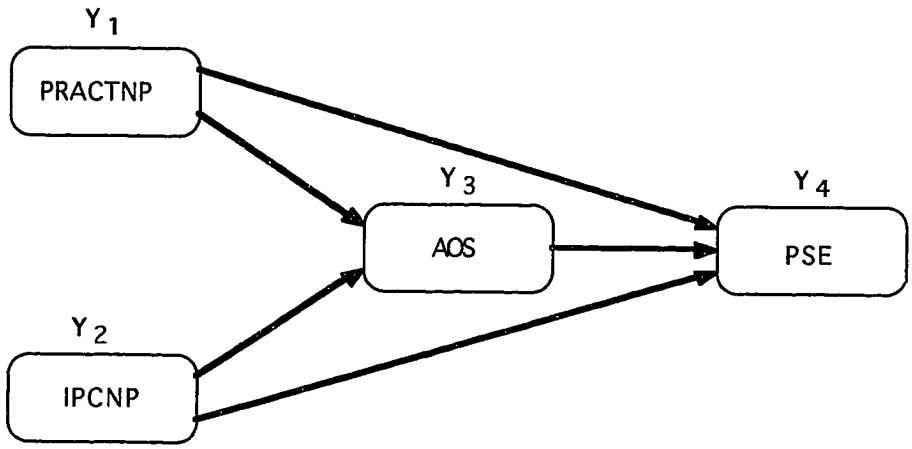

Figure 2. Positive managed care service experience model.

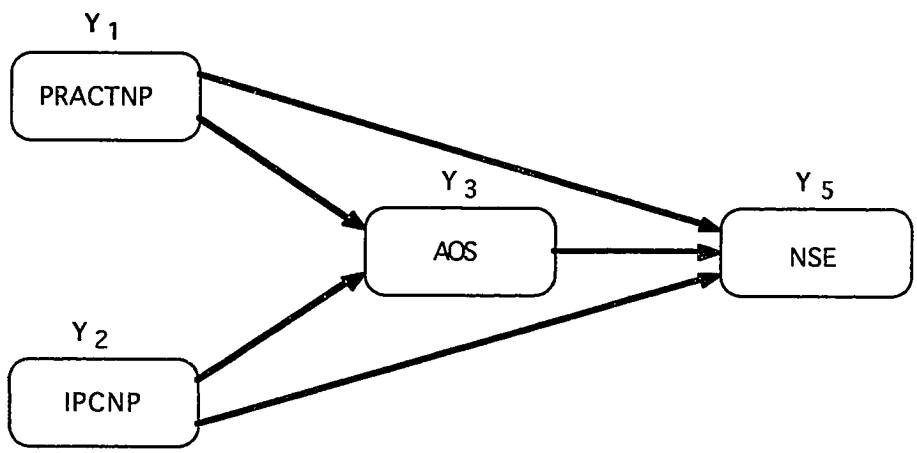

Figure 3. Negative managed care service experience model.

characteristics of nurse practitioners (IPCNP), attributes of satisfaction found in the managed care plan (AOS), and the positive perception of the service experience (PSE). This model tested the functional relationship between nurse practitioner attributes and behaviors, staff and provider attributes and behaviors found in the managed care system which resulted in fulfillment of patient expectations and intention to recommend the plan to other potential new members.

The Negative Service Experience Model (see Figure 3) was composed of four composite variables: nurse practitioner practice (PractNP), personality characteristics of nurse practitioners (IPCNP), attributes of satisfaction found in the managed care plan (AOS), and the negative perception of the service experience (NSE). This model tested the functional relationship between nurse practitioner attributes and behaviors, staff and provider attributes and behaviors found in the managed care system which resulted in disconfirmation of expectations, resulting in the intentions of: not to return except for emergency treatment; to seek another health plan in the future; and not to recommend the plan to others.

In summary, the initial study variables were redefined for analysis based on the instrument evaluation findings. These findings were as follows: nurse practitioners as providers in the managed care setting

were perceived and judged by patients as to their nursing practice and displayed personality characteristics; the managed care system attributes of satisfaction focused on staff and provider attributes that facilitated or impeded the provider visit; and finally, the fulfillment of expectations resulted in a positive or negative service experience.

Demographic Questionnaire

Demographic information was collected to provide descriptive information on the sample and permit comparisons among sample groups on known demographic correlates of patient satisfaction (see Appendix G) (McDaniel & Nash, 1990; Ware et al., 1978). The questionnaire items included: gender, age, educational level, total yearly income, occupation, number of immediate family members living in the household, ethnic background, and provider designation.

Data Collection

A request was made to the manager of Quality Assurance at a managed care plan in a large southwestern city to conduct dissertation research on nurse practitioners, patient satisfaction, and patient intentions within that setting. A letter of support for the project was obtained from the managed care plan (see Appendix A).

Human subject approval was obtained from the University of San Diego Committee on the Protection of

Human Subjects and the institutional review board of the managed care plan prior to the implementation of the study (see Appendices B & C). The participant letter required of all subjects in the study shared the purpose of the study, the voluntary nature of participation in the study, noneffect upon care they would receive at the managed care plan, the length of time to complete the questionnaire, the confidentiality of all responses, and that the return of the questionnaire indicated their willingness to participate in the study (see Appendix D).

Each participant received a questionnaire packet which contained a participant letter (see Appendix D), the Patient Satisfaction Semantic Differential (see Appendix E), the Service Survey, (see Appendix F), and a patient demographic profile (see Appendix G). To maintain confidentiality, a research assistant affixed 350 address labels and mailed questionnaires to subjects. Completed questionnaires were returned to the researcher over a 3-week period of time. Thirty-eight questionnaires were returned 1 week following the initial mailing of the questionnaires. A second wave of 30 questionnaires appeared 1 week after the mailing of the reminder postcard. The remainder of the questionnaires were received over the 1-month period of the study.

Data Analysis

Statistical analysis was comprised of descriptives, correlations, and regressions among the study variables.

Analyses were computed using the statistical package SPSS/PC+ (1990). Descriptive statistics were used to analyze all demographic data and to assess for errors in data input. To meet the assumptions of the correlational research design, statistical tests were done to ascertain linearity, normality, and homoscedasticity. Scatterplots and histograms were run to ascertain normal distributions and linearity of conceptual model variables. Stepwise linear regression was performed as specified in the revised conceptual models (see Figures 2 & 3). The output for the regression equation was examined to determine beta weight, levels of significance, and the amount of variance (adjusted $\underline{R}^2$) accounted for by each regression equation (Pedhazur & Schmelkin, 1991). A post hoc analysis was done between the demographic variables and the study variables utilizing the ANOVA statistical procedure to ascertain significant differences between group.

Summary

Chapter three presents the methodology used in the study. The setting and sample characteristics were delineated. Psychometic evaluation of the instrumentation used in the study revealed the emergence of distinct scales and subscales when study instruments were used in a managed care setting. The resultant composite variables were utilized to test the functional relationships between nurse practitioner attributes and behaviors, and the managed care system attributes of satisfaction on positive

and negative service experiences of patients which resulted in fulfillment or disconfirmation of expectations and divergent intentions. Data collection and analysis procedures were described.

CHAPTER 4

Results

The results of the study are presented in Chapter 4 in terms of data reduction, analyses of research questions, and post hoc analyses. Findings from the data reduction include correlations of all variables in the revised models. Outcomes of the regression analysis and testing for the functional relationships of these models are delineated. Results of the post hoc analyses address additional findings between subsets of the sample and study variables.

Data Reduction

Prior to the testing of study research questions, statistical tests were conducted to ascertain linearity and normality of the variables. In addition, the assumption of homoscedasticity was tested (Munro et al., 1986; Waltz et al., 1991). The findings of the tests indicated that residual means were zero at the 95% confidence level. Histograms of the residuals in the regression revealed normal distributions around a mean of zero. Scatterplots of the residuals showed that the linearity assumptions of the model were met (Verran & Ferketich, 1984). A bivariate correlation matrix was done on the revised conceptual model variables (Table 8). The

Table 8

Correlation Matrix for the Revised Conceptual Model

Scale/Subscale	IPCNP	AOS	PSE	NSE
PRACTNP	.36***	.59***	.24	.20
IPCNP		.35*	.18	.71***
AOS			.79***	.41**
PSE				.57***

Note. ICPNP = Inherent Personality Characteristics of Nurse Practitioners Scale

PRACTNP = Nurse Practitioner Practice Scale

AOS = Attributes of Satisfaction Scale

PSE = Positive Service Experience Subscale of the Service Survey

NSE = Negative Service Experience Subscale of the Service Survey

*p < .05. **p < .01. ***p < .001.

bivariate correlations of the revised subscales indicated the presence of multicollinearity between independent variables of the revised conceptual models (Pedhazur & Schmelkin, 1991). These scales were the Nurse Practitioner Practice scale and Inherent Personality Characteristics of Nurse Practitioner scale (r = .36, p < .05), Nurse Practitioner Practice scale and the Attributes of Satisfaction scale (r = .59, p < .000), and Inherent Personality Characteristics of Nurse Practitioner scale and Attributes of Satisfaction scale (r = .35, p < .05). Output of independent variable regression was examined. These independent variables were regressed on each other for evidence of high R^2 as an indicator of the presence of multicollinearity (Ferketich & Verran, 1990; Pedhazur & Schmelkin, 1991). The results were as follows: Nurse Practice scale on Attributes of Satisfaction scale (R^2 = .12), Nurse Practitioner Practice scale on Attributes of Satisfaction (R^2 = .03). No R^2 value was judged sufficiently high for confirmed evidence of multicollinearity.

Testing of Relationships

Linear regression analysis was performed to test the strength and direction of the functional relationships between independent and dependent variables in the two conceptual models depicted in Figures 2 and 3. Using stepwise regression, variables were entered as indicated for each model. The output from both regressions was

examined for the direct effect of the independent variables on the dependent variable. This examination included beta weights, level of significance, and the amount of variance accounted for by the independent variable. The criterion for inclusion in the conceptual model for each independent variable was a beta weight of .10 and a significance of .05 (Munro et al., 1986).

The conceptual models reflected the coefficients of determination of the functional relationships among the model variables of (a) nurse practitioner practice (b) inherent personality characteristics, (c) attributes of satisfaction, and (d) positive and negative service experiences. A summary of the functional relationships between independent variables and the positive and negative service experiences is found in Tables 9 and 10.

Positive Service Experience

In the positive service experience model (see Figure 4), nurse practitioner practice and inherent personality characteristics of the nurse practitioner were regressed on attributes of satisfaction. Nurse practitioner practice accounted for 18% of the explained variance (F = 20.20, p = .0000) of attributes of satisfaction. Inherent personality characteristics explained 17% (F = 10.07, p = .0001) of the variance in attributes of satisfaction. Attributes of satisfaction was regressed on the positive service experience subscale of the Service Survey. This regression accounted for an adjusted R^2 = 22% (F = 25.50,

Table 9

Functional Relationships of Variables of Revised Models Summarizing Independent Variables and Positive Service Experiences

Independent Variables	r	Beta	B	SE/BETA	Adj.R^2
Positive Service Experience (Y4)					
PractNP (Y1-Y4)	.24	.13	.08	.06	.007
IPCNP (Y2-Y4)	.18	.12	.03	.03	.002
PractNP (Y1-Y3)	.59***	.44***	.32***	.07	.18
IPCNP (Y2-Y3)	.34*	.04***	.01***	.04	.17
AOS (Y3-Y4)	.79***	.48***	.38***	.07	.22

Note. Scales: PractNP = Practice of Nurse Practitioners
IPCNP = Inherent Personality Characteristics of Nurse Practitioners
AOS = Attributes of Satisfaction
Subscales of the Service Survey
PSE = Positive Service Experience

*p < .05. **p < .01. ***p < .001.

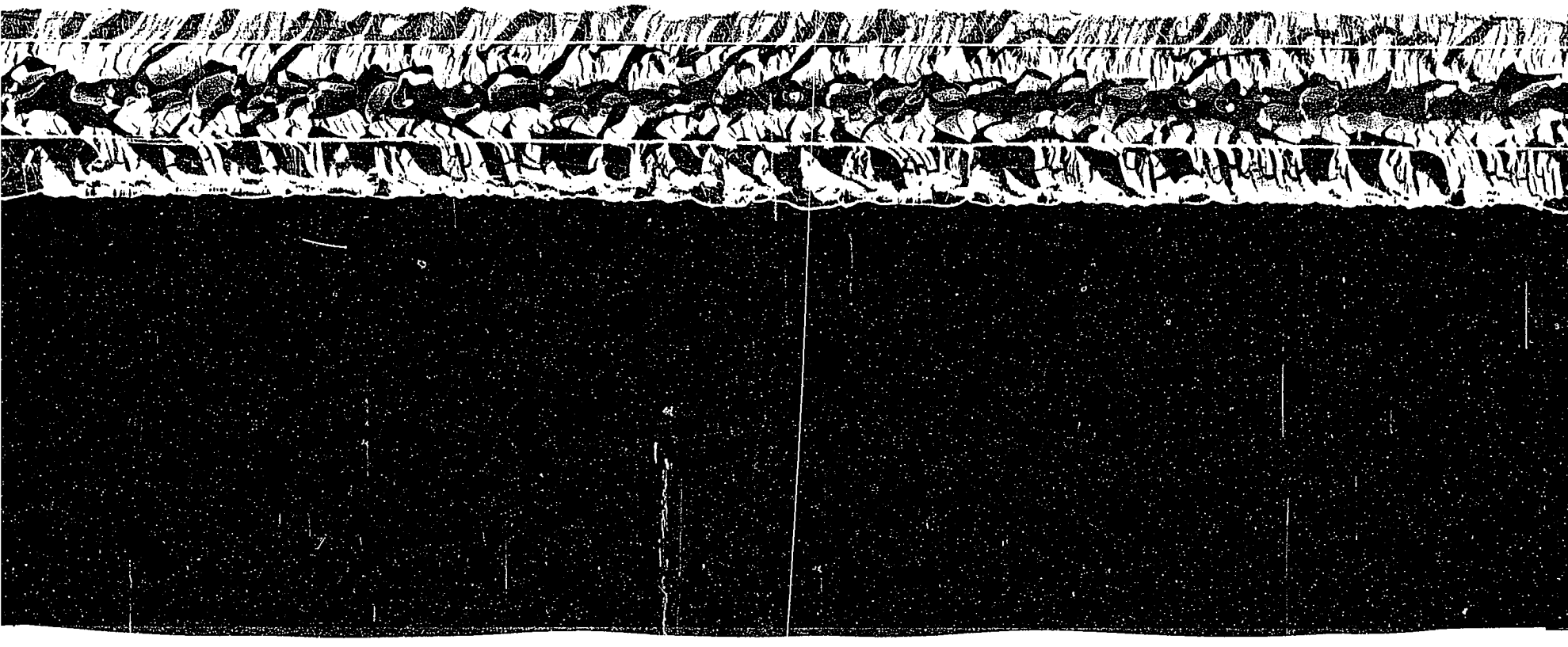

Table 10

Functional Relationships of Variables of Revised Models Summarizing Independent Variables and Negative Service Experiences

Independent Variables	r	Beta	B	SE/BETA	Adj.R^2
Negative Service Experience (Y5)					
PractNP (Y1-Y5)	.19	.16	.16	.19	.01
IPCNP (Y2-Y5)	.70***	.57***	.28***	.05	.25
PractNP (Y1-Y3)	.59***	.44***	.32***	.07	.18
IPCNP (Y2-Y3)	.34*	.04***	.01***	.04	.17
AOS (Y3-Y5)	.40**	.21**	.29**	.14	.03

Note. Scales: PractNP = Practice of Nurse Practitioners
IPCNP = Inherent Personality Characteristics of Nurse Practitioners
AOS = Attributes of Satisfaction
Subscales of the Service Survey
NSE = Negative Service Experience

*p < .05. **p < .01. ***p < .001.

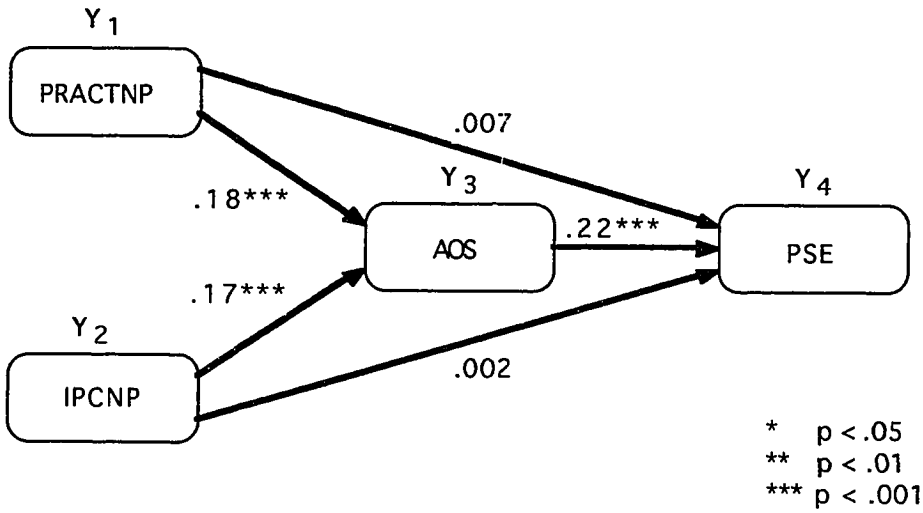

Figure 4. Adjusted R^2 values of the positive service experience (PSE).

p = .0000) of the explained variance in the positive service experience model. Nurse practitioner practice attributes and inherent personality characteristics predicted the greatest amount of variance (35%) associated with the outcome of positive patient service experience scale, yet failed to regress at a significant level of confidence on the positive service experience scale, explaining only 0.7% (F = 1.62, p = .207) of the variance for nurse practitioner practice, and 0.2% (F = 1.233, p = . 270) for inherent personality characteristics of nurse practitioners.

Negative Service Experience

In the negative service experience model (see Figure 5), nurse practitioner practice and inherent personality characteristics of the nurse practitioner were regressed on attributes of satisfaction. Nurse practitioner practice accounted for 18% of the explained variance (F = 20.20, p = .0000) of satisfaction. Inherent personality characteristics explained 17% (F = 10.07, p = .0001) of the variance in attributes of satisfaction. Attributes of Satisfaction predicted 3% (F = 4.220, p = .0430) of the variance of the negative service experience. Nurse practitioner practice failed to regress significantly on the negative service experience subscale, accounting for 1% of the variance (F = 2.46, p = .120). Inherent personality characteristics of the nurse significantly

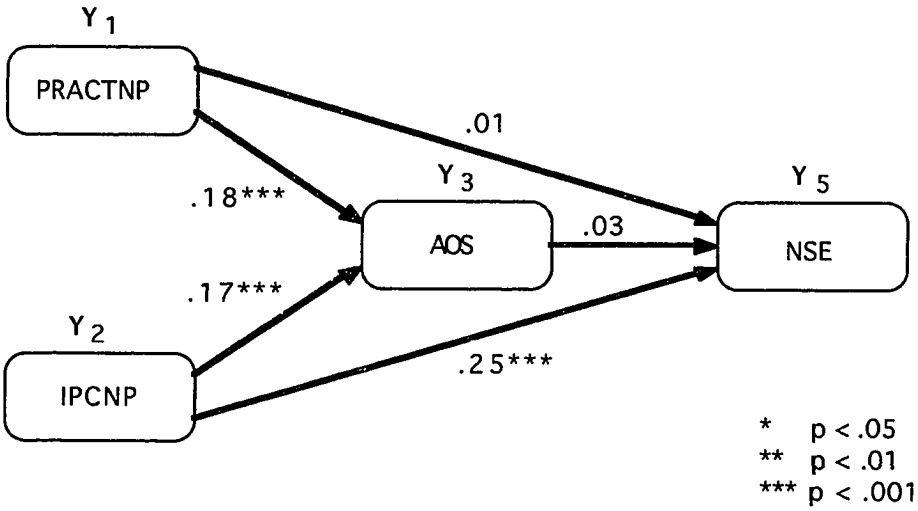

Figure 5. Adjusted R^2 values of the negative service experience (NSE).

predicted the negative service experience with an explained variance of 25% (F = 30.17, p = .000).

Positive and Negative Service Experience

In summary, in the positive service experience model, three functional relationships were predicted: PractNP and AOS, IPCNP and AOS, and AOS and PSE. Nurse practitioner practice and inherent personality characteristics influenced attributes of satisfaction in the managed care setting. The nurse practitioner, through attributes of satisfaction, indirectly influenced the positive service experience. In the negative service experience, two functional relationships were predicted, that of nurse practitioner practice and nurse practitioner inherent personality characteristics. A third functional relationship was predicted. Nurse practitioner inherent personality characteristics both directly and indirectly influenced the negative service experience as mediated by attributes of satisfaction. Thus, a fourth functional relationship was added to the revised model for the negative service experience.

Results by Research Questions

1. What were the effects of the patient's perception of nurse practitioner attitudes and behaviors on the outcomes of patient satisfaction and intention?

Patient satisfaction as an study variable did not meet the factor loading criterion and was omitted from the study. Intentions, as an outcome of the health care

experience, were found in both the positive and negative service experience and the research questions will address intentions only.

The relationships between nurse practitioner practice and personality characteristics were examined in the positive (see Figure 4) and negative (see Figure 5) service models. The inherent personality characteristics indirectly influenced the positive service experience (b = .3226, F = 20.20, p = .0000), but directly affected the negative service experience (b = .2797, F = 30.16, p = .0000) (see Tables 9 and 10).

2. What was the effect of the patient's perception of the managed care system on patient outcomes of satisfaction and intention?

Attributes of satisfaction in the managed care setting predicted positive service experiences. In relation to negative service experiences (b = .3920, F = 25.50, p = .0001), attributes of satisfaction only moderately effected the functional relationship (b = .2935, F = 4.22, p = .0430) (see Table 10).

Post Hoc Analyses

Post hoc analyses were done to determine differences among groups evidenced in known demographic correlates such as gender, age, occupation, and number of family members found related to consumer satisfaction and the revised model variables. The ANOVA procedure was selected. Bartlett's-Box F tests were done and were nonsignificant,

showing homogeneity of variance. The number of visits may have mediated perceptions of positive (F = 2.48, p = .05) and negative service experiences (F = 2.44, p = .04). Utilizing the Scheffé procedure, no significant differences between the number of visits in the last calendar month groups at the .05 level were found.

Summary

Chapter 4 includes the results of the study. Data reduction, testing for statistical assumptions of the predictive correlational model, and bivariate correlations were explained. Positive and negative service model regressions were disclosed. Research questions were analyzed and answered. Post hoc analyses results were explained with the ANOVA statistical technique.

CHAPTER 5

Discussion, Recommendations, and Summary

Discussion

The functional relationships between nurse practitioners, the managed care system, and the outcomes of patient satisfaction and intention have not been published. Long-term relationships with nurse practitioners and managed care staff differ from episodic hospital admissions. Intention to return to and/or recommend the managed care plan may be directly linked to the concept of quality of care rather than patient satisfaction. Quality of care delineates how well patient expectations are met on a long term basis by the provider in a managed care setting, rather than patient satisfaction, which is a judgment of one patient-nurse practitioner interaction during one visit (Boulding et al., 1993).

Instrumentation

Although prior research studies have assessed dimensions of nursing in relationship to patient satisfaction, no instrumentation study to-date has investigated the inherent personality characteristics of nurse practitioners as providers. This finding may indicate that nurse practitioner practice is comparable to

physician practice, thus supporting studies on the effect of physician personality characteristics on patient intention (Inguanzo & Harju, 1985; Nelson & Larson, 1993).

Elements of nurse practitioner practice, although different from nursing practice due to the provider role, supported the known dimensions of nursing practice. These known dimensions such as nursing care characteristics, technical proficiency, and nursing communication were associated with intention in nonnursing studies (Peyrot et al., 1993; Woodside et al., 1989). This has important implications for a comparison by profession of provider characteristics which are most compatible with patient intentions in the managed care setting.

The inherent personality characteristics of the nurse practitioner, as an independent scale, supported that nurse practitioners in this managed care setting were perceived differently than were other nurses on which this scale was originally tested (Greeneich & Long, 1993). One explanation of this finding is in the provider role; other aspects of the organization may be less evident to patients. In the one-to-one encounter of the patient-provider, patient perceptions strongly center on elements of practice and personality characteristics.

The managed care system influenced patient perceptions as depicted in the Attributes of Satisfaction scale (Swan et al., 1985). This finding presented a differing view from the hospital environment where no

single aspect of the hospital system functioned to strongly influence patient satisfaction and intention with the hospitalization experience. This finding may also be associated with the difference in terms of personal service expectations which exists between managed care organization and the hospital organization. Swan's Service Survey (Swan et al., 1985) included such attributes of satisfaction as food, room accommodations, and other personal services commensurate with lodgings and restaurant services.

Positive and negative service experiences included fulfillment of expectations, fairness (perceived equity), and intentions. The element of patient satisfaction provided by the item, "I am sorry that I have this plan," did not load on either the positive or negative experience. Clear distinctions between dimensions of the service experience in the positive and negative service scales present a profile of how expectations are linked to intentions. Although qualitatively discussed in the literature by Nelson and Larson (1993), this factoring solution presented the first quantitative evidence of the functional relationships existing between unfilled and fulfilled expectations and intentions for instrumentation subscales to date.

Resultant high reliabilities (.89 - .97) of the revised instruments indicated a redundancy among scales and subscales. This finding is consistent with other

instruments measuring aspects of patient satisfaction and intention (Reeder & Chen, 1994).

The Service Experience

The results of this study demonstrated that the revised conceptual models of behavioral intentions in the managed care setting can be effective for understanding the patient's service experience in the managed care setting. The fact that the models are sensitive to both the positive and negative service experience increases their relevance to application in the managed care setting.

The subsequent factorial solutions presented in this study challenged the assumptions of the conceptual model depicted in Figure 1, which was based primarily on hospital studies of patient satisfaction and behavioral intention. In the managed care environment, the resultant two models shown in Figures 4 and 5 indicated significant quantitative differences between the positive and negative experiences of patients and predicted effects of the conceptual model variables. Theoretically and empirically, patient satisfaction should predict intention (Swan et al., 1985; Woodside et al., 1989). In this study patient satisfaction did not predict intention, rather, the positive and negative aspects of expectations fulfillment and intentions aggregated to form separate subscales. These resultant subscales were definitive in the description of met and unmet expectations of the

managed care setting, as well as the resultant influence of the outcomes of intentions in response to prior expectations. This finding suggested that in the managed care setting, instead of satisfaction with a single managed care encounter, the patient perceptions were formed in terms of service quality over multiple encounters (Boulding et al., 1993; Teas, 1993).

Positive service experience. Nurse practitioner practice and inherent personality characteristics directly accounted for 35% of the variance in attributes of satisfaction in the revised model of the positive service experience, while attributes of satisfaction accounted for only 22% of the variance in the positive service experience. An explanation for these variances is that perception of providers and staff attributes and behaviors influenced the positive service experience. This finding is in the range of the Fincham and Wertheimer (1986) and Peyrot et al. (1993) studies in which physician and staff behaviors predicted intention in managed care and outpatient services.

Negative service experience. The negative service experience presented an added direct functional relationship between nurse practitioner's inherent personality characteristics on the negative service experience. Although practice of the nurse practitioner (18% of the variance), and inherent personality characteristics (17% of the variance) indirectly

influenced negative perceptions of the managed care plan, inherent personality characteristics of the nurse practitioner directly accounted for 35% of the variance in the negative service experience. This variance was the most robust finding of the study. One explanation for this variance is that the patient-provider relationship has a significant impact on intentions. Other studies support the finding that discourteous behavior may contribute to change in intentions (Oliver & Swan, 1989; Singh, 1991; Swan et al., 1985).

Differences between the number of visits in a month's period of time and patient perceptions of the negative service encounter were found in the study subjects. This difference in perception may be mediated by the patient's perception of an unsuccessful outcome of the provider visit, and provider attributes or behaviors associated with it. This phenomenon was first identified by Remphusempski et al. (1988) as the critical juncture; thus, frequency of patient visits associated with adverse outcomes may cause negative perceptions of the managed care plan quality of care.

In summary, findings of the study indicated that behavioral intention in managed care is influenced by the patient's perception of a positive or negative service experience. These results differed from those of other studies on intention which were conducted in a hospital setting. These differences may be due to provider access,

a service versus a provider focus, and the development of long term personnel relationships (Greeneich, 1992; Greeneich, 1994). Inherent personality characteristics of the nurse practitioner had the greatest effect on behavioral intention.

Recommendations

The following recommendations are made for nursing research, nurse practitioner practice, and nurse practitioner education.

Nursing Research

Further research is needed to detail yet undiscovered variables that account for differences in nurse practitioner and physician practices. Qualitative studies focusing on the nature of the practices through observation and patient interview might reveal subtle variables that account for differences in patient perception of the providers.

Nurse Practitioner Practice and the Managed Care Setting

Changing practice norms and societal expectations of managed care present a challenge to nurse practitioners in the era of health care reform. The distinct separation of provider practice attributes and inherent personality characteristics in the factorial solution of this study illustrates the emergence of a distinct and complex view of advanced nursing practice. Unanswered questions about the different nature of this practice need to be explored. One variable to study is the effect of increased workload

on the inherent personality characteristics of nurse practitioners. Patient perceptions of the managed care organization include the nurse practitioner, as an employee of the organization. The practitioner as a provider promotes the need for the organization to identify the nurse practitioner in terms of the organizational mission, goals, and valuing system. Professional values reflected in nursing care characteristics, nursing proficiency, and nursing communication, must be evaluated in relationship to efficiency and cost effectiveness in the managed care system. Nursing practice by nurse practitioners in the managed care system needs to be distinguished from other providers in the system.

Patient intentions are integral to the financial well-being of the managed care plan. Continued enrollment in the plan becomes a criterion for success in the managed care environment. System interventions by the organization need to be directed toward successful patient outcomes for both office and emergency visits. Nurse practitioner participation in the development of outcome protocols to treat frequently seen disease states among plan populations is essential. This collaborative approach may assist with successful outcomes for all providers in the managed care system.

Evaluation of specific attributes and behaviors of nurse practitioners that are associated with patient

intention are important. Specific workload factors which hinder optimal display of inherent personality characteristics by nurse practitioners must be identified and evaluated. These factors may include the numbers of patients to be seen during designated time frames, triage of emergency patients which delay scheduled office visits, and type of patient seen (Bruner, 1994). Specific strategies to offset the workload congestion need to be developed jointly by all in the facility.

Nursing Education

An important implication of this research for nursing education is the emergent role of the nurse practitioner in the managed care system. Basic nursing education and advanced practice are influenced by the considerations of this emerging environment. Collaborative practice, team membership, and the patient as the point of service become "the mind set" in the competitive managed care environment (Packard, 1993; Porter-O'Grady, 1994). Therefore, the focus of nursing education must consider this environment for novices in nursing practice.

In undergraduate education, in addition to traditional nursing course work, elements of business orientation and consumer focus must be introduced. Processing of patient dissatisfaction incidents in clinical conferences provides an empirical basis for beginning professional awareness for the nurses's role in patient satisfaction and intention in a health care

setting (Greeneich, 1993). Students must have exposure to the patient satisfaction and intention questionnaires, in order to intervene in response to the results. Undergraduate students need experience in order to learn and understand the collaborative practice environment.

Nurse practitioner curriculums must integrate specific business and management skills necessary to work within the emerging integrated system setting (Office of Technology Assessment, 1988). This education necessitates clinical placements that teach not only practitioner physical assessment, diagnosis, and treatment, but also the business of the managed care environment.

Summary

This correlational study examined the effect of nurse practitioner attitudes and behaviors, attributes of satisfaction, fulfillment of expectations, and patient satisfaction on patient intentions in managed care. The nurse practitioners in this study did influence patients' intention for continued reenrollment or recommendation of the managed care organization to others. The positive service experience was a global experience of the effective managed care organization. Nurse practitioner personality characteristics influenced perceptions of a negative experience decreasing markedly the influence of system variables such as staff behaviors in this study.

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APPENDIX A

Support Letter

CIGNA Healthplan of Arizona, Inc.
a CIGNA company

11001 North Black Canyon Highway
Phoenix, Arizona 85029
(602) 942-4462

Phoenix

September 16, 1993

Diane Greeneich
6927 E. Freiss Dr.
Scottsdale, AZ 85254

Dear Diane:

It was a pleasure to speak with you on the telephone at the end of last week regarding your dissertation study. I look forward to hearing more about the development and testing of your patient satisfaction instrument.

Since I spoke with you, I have briefly talked to Dr. Clifford Harris, the Vice President for Quality and Risk Management for the Healthplan and Peggy Alton, a Process Manager who is particularly involved with patient satisfaction issues. They both expressed interest in hearing more about your study and think that the Healthplan is a real possibility for a source of patients for your study.

Attached is the research questionnaire that I mentioned during our telephone conversation. You will note that is particularly aimed towards medical research projects, but it is the form that needs to be completed. If there are questions that do not apply to you, simply put N/A. It also would be helpful if you would include a copy of your dissertation proposal.

I look forward to speaking with you in the near future. Please don't hesitate to call me if I can provide any assistance or you need additional information about the process here at CIGNA.

Sincerely,

Patricia Kurtzeman, R.N.
Manager, Quality Management

APPENDIX D

Participant Letter

Dear Health Plan Member:

Health care is an important concern for many Americans. Information about what patients expect of health care providers can provide important insights into what constitutes quality health care today. Nursing, as the largest professional group within the health care industry, is especially concerned in identifying specific nursing attributes and behaviors that fulfill patient expectations of nursing care resulting in patient satisfaction. This study can improve future patient care by furnishing information on what patients need and want from their health care provider and health plan.

You have been selected in a random sample of all patients who have visited your Health Plan offices during the last month in Maricopa County to give your opinion about your health plan visit. It is important to fill out and return the survey so that as many opinions can be represented as possible.

The questionnaire will take approximately 20-25 minutes to complete. Participation in the study is voluntary and you may withdraw at any time. There is no penalty if you do not choose to participate in the study, nor will your non-participation effect any of your care at the Health Plan. Questionnaires are not numbered. All information will be kept confidential, therefore your anonymity is assured. Return of the questionnaire indicates your willingness to participate in the study. Please put the completed questionnaire in the stamped, addressed envelope and mail to the researcher.

The conduct of this study meets the requirements for protection of human subjects established at the University of San Diego. If you have any questions about this research study please contact Diane Greeneich RN MS at 223-0677 (beeper) or 948-2278 (home).

Thank you for your time and participation in my doctoral dissertation research.

Sincerely,

Diane S. Greeneich RN MS
Doctoral Candidate
Philip Y. Hahn School of Nursing
University of San Diego

APPENDIX E

Sample Patient Satisfaction Semantic Differential Items

Make an X in the space closest to the word which best describes the way your feel about that nurse practitioner.

anticipates care __:__:__:__:__:__:__ does not anticipate care

enjoys giving care __:__:__:__:__:__:__ dislikes giving care

asks my opinion __:__:__:__:__:__:__ does not ask my opinion

gives me comfort __:__:__:__:__:__:__ causes discomfort

communicative __:__:__:__:__:__:__ noncommunicative

unavailable __:__:__:__:__:__:__ available

supportive __:__:__:__:__:__:__ nonsupportive

rough __:__:__:__:__:__:__ gentle

skillful __:__:__:__:__:__:__ incompetent

disrespectful __:__:__:__:__:__:__ respectful

enjoys nursing __:__:__:__:__:__:__ dislikes nursing

positive attitude __:__:__:__:__:__:__ negative attitude

insincere __:__:__:__:__:__:__ sincere

trustworthy __:__:__:__:__:__:__ not trustworthy

confident __:__:__:__:__:__:__ uncertain

busy __:__:__:__:__:__:__ sluggish

crabby __:__:__:__:__:__:__ pleasant

friendly __:__:__:__:__:__:__ aloof

humorless __:__:__:__:__:__:__ sense of humor

APPENDIX F

Sample Service Survey Items

SERVICES

How do you feel about the services that you received at this Health Care Plan? Please circle the number following each service that best expresses how you now feel about each service.

[5] Delighted
[4] Mixed (about equally satisfied and dissatisfied)
[3] Neutral (not satisfied)
[2] Mostly dissatisfied
[1] Terrible
[9] Does not apply to me

	I FEEL					
	Delighted	Mixed	Neutral	Mostly	Terrible	Does not apply
1. My reception desk experience.....	5	4	3	2	1	9
4. The amount of concern shown me.....	5	4	3	2	1	9
5. The amount of time spent with the provider.....	5	4	3	2	1	9
6. Speed with which my telephone calls were returned.....	5	4	3	2	1	9
8. The courtesy shown me.....	5	4	3	2	1	9
10. The way in which my questions were answered.....	5	4	3	2	1	9
11. How quickly emergency treatment was given.....	5	4	3	2	1	9

Below are some statements about the Health Care Plan. Please read each one and tell us how much you agree or disagree by circling the number at the top of the statement that best gives your opinion. Circle "9" if you have no opinion or if does not apply.

			NEUTRAL			
	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree	No Opinion
1. The quality of the care I received was better than I expected.....	5	4	3	2	1	9
3. I had more problems than I expected getting service during my recent visit.....	5	4	3	2	1	9
6. My monthly premium is fair considering the equipment and facilities used in my treatment.....	5	4	3	2	1	9
8. Overall, I was treated fairly by Health Plan during my recent appointment.....	5	4	3	2	1	9
9. Whenever I had pain or discomfort the staff tried to make me feel better...	5	4	3	2	1	9

Please continue to next page.

APPENDIX G

Patient Demographic Profile

DEMOGRAPHIC PROFILE

Directions: Please check only one correct response in each category.

1. Gender:

Male ..... 01 [ ]

Female ..... 02 [ ]

2. In what age range are you?

20-29 years ..... 01 [ ]
30-39 ..... 02 [ ]
40-49 ..... 03 [ ]
50-59 ..... 04 [ ]
60-69 ..... 05 [ ]
70-79 ..... 06 [ ]
80+ ..... 07 [ ]

3. Highest educational level:

Less than high school graduate .... 01 [ ]
High school diploma ..... 02 [ ]
1-2 years of college..... 03 [ ]
Attendance in college courses ..... 04 [ ]
College graduate ..... 05 [ ]
Advanced degree ..... 06 [ ]
Other ..... 07 [ ]

Please specify _____

4. Total yearly family income:

Less than $20,000 per year... 01 [ ]

More than $20,000 per year.. 02 [ ]

5. Occupation:

Please specify _____

6. Number of immediate family members in household?

1 - 2 ..... 01 [ ]
3 - 5 ..... 02 [ ]
6 or greater ... 03 [ ]

7. Ethnic background:

Caucasian . . . . . 01 [ ]
Hispanic. . . . . 02 [ ]
African American. . . . . 03 [ ]
Native American . . . . . 04 [ ]
Other . . . . . 05 [ ]

Please specify _____

8. Primary language spoken at home_____

9. What type of nurse practioner did you see while at Cigna?

OB/ Gyn . . . . . 01 [ ]
Wellness . . . . . 02 [ ]
Family/ Internal Medicine . 03 [ ]

10. Number of visits to Cigna in the last 30 days?

01( )
02( )
03( )
04( )
05( )
More____

11. What was the purpose of your most recent Cigna visit?

Office Visit . . . . . 01( )
Emergency Visit . . . . . 02( )