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# Nurse-Physician Collaboration and Nurse Satisfaction

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**NURSE-PHYSICIAN COLLABORATION AND NURSE SATISFACTION**

**By**

**Michelle R. Troseth, R.N.**

**A THESIS**

**Submitted to  
Grand Valley State University  
in partial fulfillment of the requirements for the  
degree of**

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## **ABSTRACT**

### **NURSE-PHYSICIAN COLLABORATION AND NURSE SATISFACTION**

**By**

**Michelle R. Troseth**

The purpose of this study was two-fold: (a) to describe nurses' perception of collaborative practice behaviors with physicians in a 529 bed mid-western acute care hospital setting and to relate those findings to nurses' satisfaction, and (b) to describe the perceptions of collaborative practice behaviors reported by physicians.

The study was a cross-sectional descriptive correlational design. The convenience sample included 264 nurses, 72 staff physicians and 22 medical residents in a sample setting of medical-surgical, critical care, pediatrics, women's health services, emergency, and surgical services departments. The study used the Collaborative Practice Scales (CPS) to measure nurse and physician perceptions of collaborative practice behaviors and the Work Quality Index (WQI) to measure nurse satisfaction with their work and work environment.

The hypothesis was tested utilizing ANOVA followed by a Scheffe's test on all significant results. A statistically significant relationship was found between medical-surgical nurses' perception of nurse-physician collaboration and nurse satisfaction.

## **Dedication**

**This thesis is dedicated to Bonnie Wesorick, who has impacted me as a nurse and as a person in so many ways. It has been a blessing to live, learn and work with a partner whose mind and spirit are bigger than physical life itself.**

## **ACKNOWLEDGMENTS**

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## Table of Contents

List of Tables.....	vi
List of Figures.....	vii
List of Appendices.....	viii
<b>CHAPTER</b>	
<b>1 INTRODUCTION.....</b>	<b>1</b>
<b>Purpose.....</b>	<b>4</b>
<b>2 CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW.....</b>	<b>5</b>
<b>Conceptual Framework.....</b>	<b>5</b>
<b>Literature Review.....</b>	<b>7</b>
<b>Hypothesis.....</b>	<b>14</b>
<b>Definition of Terms.....</b>	<b>14</b>
<b>3 METHODOLOGY.....</b>	<b>15</b>
<b>Research Design.....</b>	<b>15</b>
<b>Sample and Setting.....</b>	<b>15</b>
<b>Instruments.....</b>	<b>20</b>
<b>Procedure.....</b>	<b>24</b>
<b>4 RESULTS.....</b>	<b>26</b>
<b>Nurses Perception of Nurse-Physician Collaboration.....</b>	<b>26</b>
<b>Nurses' Satisfaction with their Work and Work Environment.....</b>	<b>27</b>
<b>Hypothesis Testing Results.....</b>	<b>27</b>
<b>Physicians' Perception of Nurse-Physician Collaboration.....</b>	<b>31</b>
<b>Summary.....</b>	<b>31</b>

<b>5</b>	<b>DISCUSSION AND IMPLICATIONS.....</b>	<b>33</b>
	<b>Discussion.....</b>	<b>33</b>
	<b>Limitations.....</b>	<b>35</b>
	<b>Implications.....</b>	<b>36</b>
	<b>Recommendations for Future Research.....</b>	<b>38</b>
	<b>Summary.....</b>	<b>40</b>
	<b>References.....</b>	<b>50</b>

## List of Tables

### Table

1	Hospital Departments and Roles of Registered Nurses .....	17
2	Means and Standard Deviations of Nurses' Age and Years Worked in Hospital Department.....	18
3	Percentages of Highest Level of Nurses' Education by Hospital Department.....	19
4	Frequencies and Percentages of Physicians by Hospital Departments.....	21
5	Means and Standard Deviations of Nurses' Perception of Nurse-Physician Collaboration by Hospital Department.....	27
6	Means and Standard Deviations of Nurses' Satisfaction by Hospital Department.....	28
7	Levels of Perceived Nurse-Physician Collaboration.....	29
8	Analysis of Variance on Nurse Satisfaction Scores.....	30
9	Differences Between Medical-Surgical Group Means of Satisfaction.....	31
10	Means and Standard Deviations of Physicians' Perception of Nurse-Physician Collaboration by Hospital Department.....	32



## List of Figures

### Figure

- 1 Two-Dimensional Model for Resolving Conflict .....6

## **List of Appendices**

### **Appendix**

<b>A</b>	<b>Demographic Surveys.....</b>	<b>41</b>
<b>B</b>	<b>Collaborative Practice Scales (CPS).....</b>	<b>44</b>
<b>C</b>	<b>Work Quality Index (WQI).....</b>	<b>46</b>
<b>D</b>	<b>Cover Letter for Nurse Subjects .....</b>	<b>48</b>
<b>E</b>	<b>Cover Letter for Physician Subjects .....</b>	<b>49</b>

## CHAPTER ONE

### INTRODUCTION

As we move into the next millennium, it is very apparent that health care in the United States is undergoing great change. Part of that change is reflected in major paradigm shifts related to how providers and consumers look at the whole concept of health and what it means, as well as the nature of relationships within the health care system. Specifically there is the shift from "medical care to health care" and the shift from "hierarchical relationships to partnering relationships" occurring in the United States health care organizations (Wesorick, 1995). Collaboration is a means on which to facilitate these major shifts. In her work on organizational leadership, Wheatley (1994) states: "Relationships are all there is". By focusing on the relationships between health care providers as well as the relationships between providers and consumers, desired outcomes may emerge. Historically, the relationship between nurses and physicians has played a significant role in creating the old paradigms, and so it makes sense then that the nature of this relationship can reshape the future of health care and move us into the new paradigms. The literature on collaboration and this author's own rewarding experiences in collaborative relationships with physicians indicate that true collaboration is the essential foundation on which to deliver and practice health care in the future.

The presence of collaboration among nurses and physicians has been linked to a number of positive outcomes. A landmark patient outcome study by Knaus, Draper, Wagner, and Zimmerman (1986) found that collaboration among health care providers was significantly correlated with decreased mortality rates in hospitalized acutely ill adults. There also has been inquiry and initial investigations into the relationship between

participation in collaborative practice relationships and job satisfaction. Studies in the 1970s found nurse-physician relationships to be one of the best predictors of hospital nurses' job satisfaction (Everly & Falcione, 1976; Longest, 1974). Alt-White, Charnes and Strayer (1983) found a statistically significant positive relationship between nurse satisfaction and nurse-physician collaboration. In 1990, Baggs and Ryan reported a statistically significant positive correlation between nurses' perception of collaboration and satisfaction with decision-making.

One of the major barriers to collaborative relationships is limited knowledge of each other as people and colleagues as well as the scope of each other's practice (Albert, Goldman, Kilroy, & Pike, 1992). Nurses' scope of practice has been delineated in the American Nurses Association's (ANA) Social Policy Statement (1980, 1995). In the 1980 Nursing: A Social Policy Statement, nursing was defined as "the diagnosis and treatment of human response to actual or potential health problems". Since 1980, nursing philosophy and practice have been influenced by a greater elaboration of the science of caring and its integration with the traditional knowledge base for diagnosis and treatment of human responses to health and illness. As such, definitions of nursing more frequently acknowledge four essential features of contemporary nursing practice (ANA, 1995, p.6):

1. Attention to the full range of human experiences and responses to health and illness without restriction to a problem-focused orientation.
2. Integration of objective data with knowledge gained from an understanding of the patient or group's subjective experience.
3. Application of scientific knowledge to the processes of diagnosis and treatment.
4. Provision of a caring relationship that facilitates health and healing.

Wesorick (1990) stresses the importance of nurses having clarity on the essence of nursing before strong partnerships can exist with other disciplines. Wesorick has delineated three categories of service that one can expect from a nurse: delegated, interdependent, and independent (1990, p. 110). Delegated services are those which enhance the health of a

person and require a physician's order. Interdependent services are those which enhance health by assessing, monitoring, detecting, and preventing physiological complications associated with certain health situations or treatment plans. Independent services are those which enhance health by assessing, monitoring, detecting, diagnosing and treating the human responses to health status or situation.

A clearly defined scope of practice for physicians could not be found in the literature or by contacting the American Medical Association (AMA) although the focus of medical care is commonly referred to as being the diagnosis and treatment of disease. Although efforts to find an AMA published report on physician scope of practice did not prove fruitful, a report to the AMA House of Delegates provided some reflection of physicians' perspective of nursing's scope of practice that is interesting to note. The review of the scope of practice of nurses was presented primarily related to the role of the Advanced Practice Nurse. The report did state that "in traditional roles, nonphysicians such as [nurses] advanced practice nurses (nurse practitioners, nurse midwives, nurse anesthetists, and clinical nurse specialists) and physician assistants act as extensions of physicians and their services are complimentary" (AMA, 1993, p. 1). No reference was made in the AMA report of ANA's definition of nurses' scope of practice.

In an effort to learn more about nurse and physician role differentiation, Weiss (1983) studied nurses, physicians and consumers while they engaged in dialogue sessions. While no unique nursing domain emerged from the respondents' data, a substantial percent of responsibilities and behaviors were viewed as "overlapping" areas of practice. Weiss and Remen (1983) identified critical behaviors of nurses, including a lack of identification with the nursing profession, invalidation of professional nursing expertise, and a reluctance to assume greater responsibility. Another landmark collaboration study was done by Prescott and Bowen (1985) who studied physician-nurse relationships. The majority of the nurses and physicians described their relationships as mostly positive. However, they

differed in their descriptions of the characteristics of a good relationship and few gave examples of joint problem solving or collaborative behaviors.

Several national organizations have recognized collaboration as a pivotal component in the delivery of high quality care. In 1971 the ANA and the AMA jointly supported the development of the National Joint Practice Commission (NJPC). The NJPC defined joint practice as "nurses and physicians collaborating as colleagues to provide patient care" (1981). The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires that all special care units be guided by multidisciplinary committees that include nurses and physicians who manage the unit collaboratively (1995). In addition, specialty organizations such as the American Association of Critical-Care Nurses (AACN) and the Society of Critical Care Medicine (SCCM) jointly published a position statement in 1982 entitled "Collaborative Practice Model: The Organization of Human Resources in Critical Care Units".

Despite the empirical evidence of positive outcomes from collaborative practice and the recommendations and requirements from national health care organizations, collaborative practice is not easily recognized as a foundation for professional relationships in health care settings today.

### Purpose

The purpose of this research is two-fold: (a) to describe nurses' perception of collaborative practice behaviors with physicians in a 529-bed mid-western acute care hospital setting and to relate those findings to nurses' satisfaction, and (b) to describe the perceptions of collaborative practice behaviors reported by physicians. This study is part of a larger study conducted within the hospital's Division of Nursing.

## CHAPTER TWO

### CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

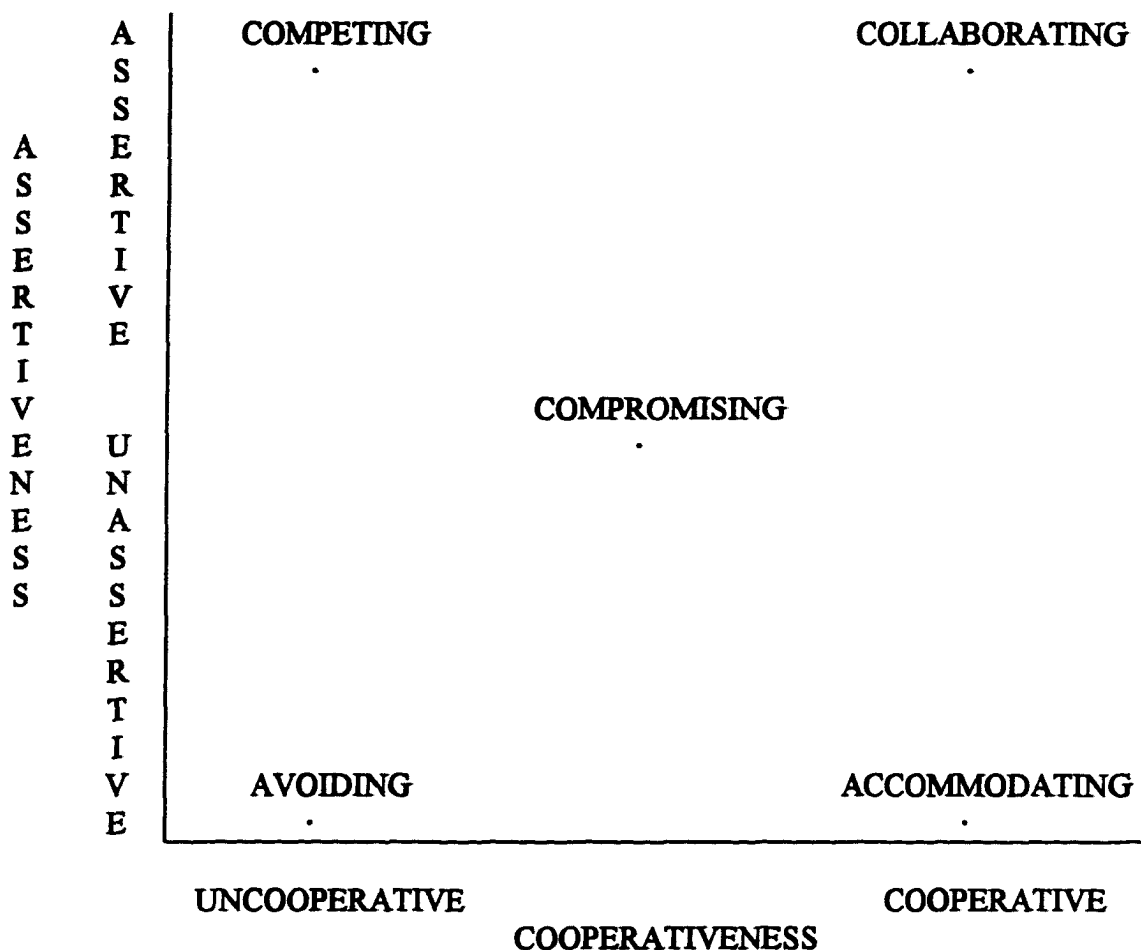
#### Conceptual Framework

The conceptual framework for this study is a conflict resolution framework developed by social psychologists Blake and Mouton (1970) and later refined by organizational theorists Ruble and Thomas (1976), Kilmann and Thomas (1977, 1978) and Thomas (1982). Blake and Mouton (1970) originally operationalized collaboration as one type of problem solving on their conflict grid used for societal problem solving. Ruble and Thomas (1976) in their work on the managerial grid broadened the conception of the two underlying dimensions to cooperation (an attempt to satisfy the other party's concern) and assertiveness (an attempt to satisfy one's own concerns) (Figure 1).

Collaboration occurs when the highest degree of assertiveness and cooperativeness are present in problem solving and is needed in situations where two parties have common interests and stakes are high (Thomas, 1976). Collaboration involves attempts to find integrative solutions where both parties' concerns are recognized and important concerns are not compromised. It merges the insights of persons with differing perspectives, and consensus is gained. Other modes in resolving conflict are accommodating (cooperative and unassertive); avoiding (uncooperative and unassertive); competing (uncooperative and assertive); compromising (moderate in cooperation and assertion).

Kilmann and Thomas (1978) designed an instrument to measure the five styles of conflict resolution. The measurement of these styles depended on the degree of assertiveness and cooperativeness involved in problem solving. This instrument is called the Management of Differences Exercise Mode (MODE).

**Figure 1. Two-dimensional model for resolving conflict.**



**Note.** From "Support for a Two-Dimensional Model of Conflict Behavior" by T. L. Ruble and K. W. Thomas, 1976, Organizational Behavior and Human Performance, 16, p. 145.

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Prescott and Bowen (1985) used the MODE instrument to study the type of disagreement resolution among nurses and physicians in acute care settings. The method used to settle disagreements were categorized into the five modes of competition, collaboration, avoidance, accommodation, and compromise. Weiss and Davis (1985) used the conceptual framework of Kilmann and Thomas to develop a newer instrument for measuring collaborative practice of nurses and physicians. In the Weiss and Davis instrument the concept of assertiveness and cooperativeness in collaboration have been changed to represent the nurse's perception of assertiveness and clarification and the physician's perception of consensus and acknowledgment or cooperativeness. The focus of the Weiss and Davis tool, the Collaborative Practice Scales (CPS), is only on the concept of collaboration as a problem solving behavior and does not include the other modes in the conflict grid.

The focus of this study is to learn more about nurse-physician collaboration and its relationship to nurse satisfaction. Collaboration will be the only conflict resolution style measured out of the five modes defined in the conflict resolution conceptual framework outlined above. The nurses' perceived collaborative practice behaviors with their physician colleagues will be analyzed to see if there is a relationship to nurse satisfaction with the quality of their work and work environment. In addition, physicians' perceived collaborative practice behaviors will be measured and described.

### Literature Review

A review of the literature identifies three general categories related to collaboration specific to nurses and physicians. First, there are some pertinent studies from the literature on physician-nurse interactions. Several authors have done the important work of studying the role differences and have gained perspective on the positive and negative aspects of physician-nurse interactions. A second significant area of research has been the study of nurse-physician collaboration. These studies focus on collaboration in isolation of other variables. Finally, the review concludes with

collaboration and outcomes. The literature in this area examines nurse-physician collaboration and its relationship to patient outcomes and nurse satisfaction.

Physician-nurse interactions. Weiss (1983) identified a representative sample of nurses, consumers, and physicians who met together in multidisciplinary dialogue groups over a 20 month period. The sample consisted of 24 nurses, 24 consumers, and 24 physicians. The purpose of the study was to determine if dialogue sessions among nurses, consumers, and physicians would result in consensus regarding unique areas of nursing practice as differentiated from those of medical practice as well as areas of common practice shared by both professions. Throughout the 20 months data were collected regarding collaborative relationship in health care. After role differentiation analysis, the study results indicated that respondents, as a whole, saw the majority of health care activities being overlapping or shared responsibilities of both nurse and physician. However, they consistently allocated a greater degree of responsibility to physicians than nurses. In addition, there was a lack of clarity within the nursing sample regarding the competencies specific to the discipline of nursing and a continuing public image of nursing as a mere extender of functions performed by the physician.

Prescott and Bowen (1985) conducted a milestone national qualitative study in which nurses and physicians were questioned regarding the nature of their relationship, areas of disagreement related to patient care, and how disagreement is resolved. The sample was from 15 acute care hospitals from six metropolitan cities across the United States. Within each hospital, six patient care units were selected for the study for a total of 90 units and included 17 medical, 16 surgical, 22 intensive care, and 35 medical-surgical specialty care units. Three staff nurses, two physicians, the head nurse, and nursing supervisor of each unit were interviewed and asked to complete questionnaires. In addition, questionnaires were distributed to the staff nurses working the week of data collection and to both the housestaff and attending physicians regularly admitting patients to the study unit. The investigators interviewed 264 staff nurses and 180 physicians. In

addition, questionnaires were obtained from 1044 staff nurses and 536 physicians, representing a response rate of 68% for staff nurses and 58% for physicians. The majority of nurses and physicians described relationships as mostly positive (69% of nurses and 70% of physicians). For physicians, improved relationships would require clinical competence on the part of the nurse, a willingness to cooperate with or help physicians, and diplomacy or tactfulness in interactions with them. For nurses, respect and trust from physicians were critical issues, as was demonstrating support for nurses in the presence of patients. The study revealed three major areas that nurses disagreed with physicians: general plan of care, specific orders, and patient disposition. Finally, the study investigated how disagreements were handled between nurses and physicians by classifying the respondents descriptions in Kilmann and Thomas's five-conflict-handling modes. The results showed that most physicians (65%) and nurses (53%) were competitive, that is, both assertive and uncooperative, in the way they handled disagreements. Only 14 % of physician and 7% of nurse descriptions demonstrated collaborative behaviors.

Coeling and Wilcox (1994) conducted a four-part series of research studies as a beginning attempt to understand the communication elements necessary for collaboration between nurses and physicians. A total of 270 practicing physicians (n = 90) and nurses (n = 180) responded to open-ended questions and/or a survey assessing the communication elements of content; relationship (aggressive, affirming and collaborative styles); and opportunity to communicate. One study revealed that physicians put more emphasis on the content dimension of communication, whereas nurses put more emphasis on the relationship dimension. Both nurses and physicians emphasized collaboration as the relationship style that would most facilitate nurse-physician communication. Also revealed was that time to communicate is becoming an increasing concern. Several possible limitations to this series of studies were noted. The first was that convenience samples were obtained for each of the four studies. Secondly, it was not clear if respondents were

part of one or more studies. Thirdly, graduate students were data collectors and no mention was made of efforts to minimize variation in the interview process. And finally, three scales were used in one of the studies and the reliability and validity of the measurement tools were not delineated.

Nurse-physician collaboration. Jones (1994) reported a descriptive study on nurse-physician collaboration in which the nature of nurse-physician collaboration using four indicators derived from the American Nurses Association's (ANA's) Social Policy Statement was investigated. The four collaboration indicators studied were power-control, practice spheres, goals, and concerns. A random sample of 400 registered nurses and 600 physicians from a metropolitan midwestern county were mailed the study instruments. The investigator received 126 responses in which nurses ( $n = 59$ ) and physicians ( $n = 67$ ) completed four different instruments to measure the four collaborative indicators. The first instrument was a nurse and physician communication scale designed by the investigator to measure the power-control collaboration indicator. A second instrument was a practice spheres checklist designed by the investigator to determine the degree of agreement for respect, recognition, and acceptance of perceived separate and combined practice spheres. A third instrument designed by the investigator was a goals checklist to measure the degree of agreement for individual and common patient goals. A fourth instrument was an adaptation of the Weiss and Davis Collaborative Practice scales to measure the degree of mutual safeguarding of concerns. A strength of the study was that each tool was supported by reliability and validity testing. A factor analysis supported construct validity of the adapted Collaboration Practice Scales and Cronbach's alphas of .64 to .83 supported reliability for both practitioner groups. Study results showed that nurses and physicians were homogeneous on concern measured by the Collaborative Practice Scales,  $\chi^2(4, N = 126) = 7.2, p = .13$ . Almost half ( $n = 50, 40\%$ ) of the nurse and physician responses received a total score of 2 representing competition, compromise, or accommodation. Thus, most nurses and physicians achieve equal levels of

assertiveness and cooperativeness or high levels of one dimension with low levels of the other, but not high levels on both dimensions resulting in collaboration. A limitation to this study is the small percentage of return rate (14.8% nurses and 11.7% for physicians).

King and Lee (1994) conducted a study to examine the extent to which Navy nurses and physicians perceive that collaborative practice exists in the intensive care unit (ICU), and to examine the difference in perceived use of collaborative practice by Navy nurses and physicians in the ICU. Tools used in this study were the Collaborative Behavior Scale (CBS) and the Weiss's Collaborative Practice Scales (CPS). The study results indicated that Navy nurses and physicians perceive that collaborative practice exists in the ICU setting at a moderate level. Other conclusions of interest are that physicians perceived greater collaborative practice behaviors than did nurses and each may be unaware of elements that the other profession values.

An extensive research project conducted at Stanford University Hospital investigated the relationship between nurses' self-esteem and their views of and willingness to collaborate with physicians (Baldwin, Welches, Walker, & Eliastam, 1987). Again, Weiss's CPS was used to measure nurse's collaboration with physicians, as well as Rosenberg's Self-Esteem Scale (SES). The hypothesis that nurses with high self-esteem would report high collaboration with physicians was supported.

Collaboration and outcomes. Alt-White, Charns, and Strayer (1983), conducted a study to examine the personal, organizational and managerial factors that contribute to nurse-physician collaboration on patient care units. The relationship between nurse satisfaction and nurse-physician collaboration was significantly positive ( $r = .26$ ). The authors' published results did not include the reliability and validity of the measurement tools used.

One of the most well-known studies linking positive patient outcomes to the interaction between nurses and physicians was conducted by Knaus, Draper, Wagner, and Zimmerman (1986). The researchers prospectively studied treatment and outcome in

5030 patients in intensive care units at 13 tertiary care hospitals in an attempt to predict mortality rate. Data collected included the Apache II severity of illness index, sophistication of technology, organizational structure, and whether the hospital was a teaching or non-teaching hospital. The results indicated that there were important differences between the predicted and actual mortality rates. The researchers concluded that these differences were not related to the patients' physiologic status, technical capabilities, or teaching vs. non-teaching status. The most critical variable for the differences between predicted and observed death rates was the degree of interaction and communication between nurses and physicians.

Another study linking collaboration in the intensive care environment to patient outcomes was a demonstration project by the American Association of Critical-Care Nurses (AACN) to profile excellence in critical care nursing (Mitchell, Armstrong, Simpson, & Lenz, 1989). The project implemented five elements of valued organizational structure and processes in critical care nursing: collaboration between nurses and physicians, all registered nurse staffing, critical care nurse certification of nursing staff members, participative management, and use of the standards of critical care nursing. The data of the study supported the assumptions that valued organizational elements were present and that positive organizational and clinical outcomes coexisted with these desirable attributes. High nursing morale and satisfaction, and lower patient mortality rates than predicted were positive outcomes. Unfortunately, because there were five different independent variables, the positive outcomes cannot be conclusively related to nurse-physician collaboration.

The study of nurse-physician collaboration has been the focus of multiple investigations by Baggs and colleagues (Baggs & Schmitt, 1988; Baggs, 1989; Baggs, 1990; Baggs & Ryan, 1990; Baggs, Ryan, Phelps, Richeson, & Johnson, 1992). In her doctoral dissertation, Baggs (1990) evaluated the association of nurse-physician collaboration in intensive care units with patient outcomes and nurse satisfaction. She

studied the degree of collaborative practice in general, as well as the specific degree of collaboration as it related to the decision to transfer patients out of the ICU. To measure the degree of nurse-physician collaboration, Weiss's Collaborative Practice Scales (CPS) were used. To measure the specific degree of collaboration, a Likert-type question was asked of the nurse and physician about how much they collaborated in making a decision to transfer the patient. Nurse satisfaction was measured using the Index of Work Satisfaction (IWS). The sample consisted of 68 registered nurses, 32 residents, and 59 attending physicians. Patient outcome results showed that the more collaboration nurses reported in making transfer decisions, the less likely patients were to be readmitted to the ICU or die. There was no significant correlation between the general measure of collaborative practice (CPS) and the general measure of nurse satisfaction (IWS). The correlation between the two measures was low and not significant ( $r = .08$ ).

In summary, nurse-physician collaboration has been studied in various ways by several nurse researchers. Most of the investigators have utilized the Weiss and Davis Collaborative Practice Scales to measure collaborative behaviors and some have reported additional Cronbach alpha's which further demonstrated adequate to strong internal consistency reliability. Only one researcher (Baggs, 1990) has studied the relationship between the degree of collaboration using the CPS and nurse satisfaction. This study will also examine the relationship between nurse-physician collaboration using the CPS and nurse satisfaction but will include a broader sample (not inclusive to an ICU setting) and will utilize a different instrument to measure nurse satisfaction.

As we live in a chaotic, rapidly changing health care environment, the significance of investigating the nature and impact of relationships in our health care system is equally, if not more important than investigating other variables commonly associated with health care reform. Additional significance of this research is demonstrating nursing's proactivity in gaining greater insight and understanding to improve partnering relationships with physicians as well as sharing the findings with physician colleagues. While this present

research study is defining the current reality of nurse-physician collaboration and, therefore, establishing a baseline upon which to measure future outcomes against, it also contributes to this investigator's long term goal of gaining an ongoing deeper understanding of nurse-physician relationships utilizing various research methodologies across multiple sites.

### Hypothesis

This study will test the following hypothesis: Nurses who have a higher degree of nurses' perception of nurse-physician collaboration will also have more satisfaction with the quality of their work and work environment.

### Definition of Terms

Collaborative practice and collaboration are used interchangeably throughout the literature and are defined as interactions between nurse and physician that enable the knowledge and skills of both professionals to synergistically influence the patient care being provided (Weiss & Davis, 1985). Nurse satisfaction and job satisfaction are also interchangeably used throughout the literature and are defined as a subjective perception from the employee's point of view and implies fulfillment of work expectations (Duffy, 1993).



## CHAPTER THREE

### METHODOLOGY

#### Research Design

This study was part of a large descriptive study conducted by the Division of Nursing of a 529 bed mid-western acute care hospital. The purpose of the larger study was to establish an identifiable group of variables to serve as baseline data by which to evaluate changes in the work environment or nursing or organizational culture. Data collection took place in October, 1994 via mailed surveys. The mailed surveys to nurses and physicians included questions from previously developed instruments to measure a variety of variables. This present study used data from three of all the mailed instruments.

This present study consisted of a cross-sectional descriptive correlational design examining the relationship of degrees of collaborative practice behavior reported by nurses and nurse satisfaction. The independent variable was the nurses' perception of collaborative practice behaviors and the dependent variable was nurse satisfaction. In addition, physicians' perception of collaborative practice behaviors was measured and described.

Data for this study were obtained over a one month period through the use of a multiple-part survey and questions regarding specific demographic variables. Subjects for the study were convenience samples of registered nurses on staff as well as active and associate physicians on staff and medical residents.

#### Sample and Setting

The population included all registered nurses in the Division of Nursing as well as all active and associate medical staff and medical residents at the study hospital. The study hospital was a 529 bed acute care teaching hospital. It serves as a referral center for

the surrounding area and is a designated Level I Regional Trauma Center with a helicopter rescue program. The hospital is also recognized regionally as the center of care for high-risk obstetrical patients and pediatric services. Specialty areas include urology, neurology, oncology, cardiology, women's health, surgery, out-patient center, emergency department, family-centered maternity care, pediatrics, pediatric ICU, medical and surgical critical care services, lithotripsy, cardiac catheterization lab, and ambulatory clinic. The hospital is the original site of an internationally known professional practice model for nurses called the Clinical Practice Model (CPM). In addition, the hospital has developed a regional health care network which includes multiple hospital/clinic/home care sites in the surrounding area.

Nurse sample. The data were obtained from 330 (28%) out of 1200 registered nurses working in a mid-western hospital. The 330 registered nurses represented 24 different units and/or departments at the study hospital. For the purposes of this present study, individual units were combined and/or deleted for a final sample setting of six different hospital departments and a final sample size of 264 registered nurses or 22% of the total population. Different department characteristics and sample size distribution could be revealed to identify potential data biases by separating subjects into hospital departments.

Table 1 presents the frequencies and percentages of the registered nurse sample by hospital department worked and their current roles. Almost one half of the nurse sample came from the critical care department (n = 124 or 47%) which consisted of two adult and one pediatric critical care unit. About one quarter of the sample came from the medical-surgical department (n = 61 or 23.1%) which consisted of five different medical-surgical units. Women's health services consisted of a women's health unit and all obstetrical units or areas. Surgical services consisted of the operating room and post-anesthesia care unit. The nurse sample from the six different hospital departments was primarily staff nurses (n = 247 or 93.6%).

**Table 1**

**Hospital Departments and Roles of Registered Nurses**

Variable	Frequency	%
	<b>Department</b>	
Medical-surgical	61	23.1
Critical care	124	47.0
Pediatrics	10	3.8
Women's health services	25	9.5
Emergency	13	4.9
Surgical services	<u>31</u>	<u>11.7</u>
Total	264	100.0
	<b>Role</b>	
Staff nurse	247	93.6
Staff/Patient educator	1	0.4
Clinical coordinator	15	5.7
Other	1	0.4

Table 2 presents the measured means and standard deviations of the nurse subjects' ages by hospital department and the number of years they have worked in their department. The nurses' ages ranged from 21 to 58 years ( $M = 35.5$ ,  $SD = 8.3$ ) with the medical-surgical nurses having the youngest mean age ( $M = 31.2$ ,  $SD = 6.7$ ) and surgical services having the oldest age mean ( $M = 40.1$ ,  $SD = 8.7$ ). The number of years worked in their own hospital department ranged from less than one year to 25 years ( $M = 7.0$ ,  $SD$

= 5.8). The medical-surgical nurses reported the least number of years worked in their hospital department (M = 5.8, SD = 5.1) and the critical care nurses reported the most (M = 7.7, SD = 5.8).

**Table 2**  
**Means and Standard Deviations of Nurses' Age and Years Worked in Hospital Department**

Variable	M	SD	Range	n
<b>Nurses' age</b>				
Medical-surgical	31.2	6.7	22 - 50	61
Critical care	36.3	8.5	21 - 58	124
Pediatrics	33.4	4.8	27 - 42	10
Women's health services	35.4	7.0	25 - 47	25
Emergency	37.4	9.1	24 - 54	13
Surgical services	<u>40.1</u>	<u>8.7</u>	<u>28 - 54</u>	<u>31</u>
Total	35.5	8.3	21 - 58	264
<b>Years worked in department</b>				
Medical-surgical	5.8	5.1	<1 - 20	61
Critical care	7.7	5.8	<1 - 21	124
Pediatrics	7.6	6.5	1 - 21	10
Women's health services	7.5	6.7	<1 - 20	25
Emergency	7.3	6.5	<1 - 25	13
Surgical services	<u>6.2</u>	<u>6.1</u>	<u>&lt;1 - 25</u>	<u>31</u>
Total	7.0	5.8	<1 - 25	264

Table 3 shows that almost one half of the nurse sample had a BSN for their highest level of education (46.6%), followed by Diploma (25.8%) and then AD (19.3%). Five of the six hospital departments had BSN as either their highest level of nursing education or equally as high as Diploma. Surgical services was the only hospital department that had a higher percentage of Diploma than BSN as their highest level of nursing education.

Table 3

Percentages of Highest Level of Nurses' Education by Hospital Department

Department	Diploma	AD	BSN	BA	MSN	Other Masters	Other
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Medical-surgical	11.5	23.0	57.4	6.6	0.0	1.6	0.0
Critical care	25.0	21.0	46.0	4.0	0.8	1.6	0.0
Pediatrics	10.0	20.0	50.0	10.0	0.0	0.0	10.0
Women's health	40.0	12.0	40.0	4.0	0.0	4.0	0.0
Emergency	46.2	0.0	46.2	7.7	0.9	4.0	0.0
Surgical services	<u>41.9</u>	<u>19.4</u>	<u>32.3</u>	<u>0.0</u>	<u>3.2</u>	<u>3.2</u>	<u>0.0</u>
Total	25.8	19.3	46.6	4.5	0.8	1.1	1.9

Physician sample. The surveys were sent to 451 active and associate staff physicians and 114 medical residents from the list obtained from the hospital's Medical Staff Office. Ninety-one active and associative staff physicians ( 20% of total population) and 22 medical residents (19% of total population) returned completed surveys. Like the

nurse sample, the physicians represented 24 different units and/or departments at the study hospital. Again, for the purposes of this present study, individual units were combined and/or deleted for a final sample setting of the same six hospital departments as the nurse sample setting. The final physician sample size ( $N = 94$ ) consisted of 72 active and associative staff physicians or 16% of the total population and 22 medical residents or 19% of total population. The demographic characteristics of the staff attendings will be described first, followed by the demographic characteristics of the medical residents.

The majority of staff physicians were of active status ( $n = 69, 95.8\%$ ) and had a university faculty appointment ( $n = 59, 85.5\%$ ). Sixty-one of the staff physicians were female (84.7%) and 11 were male (15.3%). The number of years the staff physicians had practiced medicine ranged from 2 to 40 years ( $M = 14.3, SD = 9.5$ ). The number of years practicing medicine at the study hospital ranged from 1 to 39 years ( $M = 11.1, SD = 9.0$ ).

The majority of the medical residents were in their first two years of residency ( $n = 15, 68.2\%$ ). The remaining seven medical residents were in their last two years (31.8%). Like the staff physicians, the majority of the medical resident respondents were female with 16 (72.7%) females and six (27.3%) males.

All physicians were requested to select one particular unit in which to provide opinions for on their survey. Table 4 presents the frequencies and percentages of those hospital departments selected by physicians to which their survey responses correspond. Staff physicians and medical residents are presented together due to the small sample size of medical resident subjects. Percentages of physicians were fairly equally distributed among hospital departments with the exception of surgical services.

### Instruments

The mailed surveys to nurses and physicians in October, 1994 included questions from previously developed instruments to measure a variety of variables. This study used data from only three of all the mailed instruments. The following instruments were used

to study the variables in this research: Collaborative Practice Scales (nurse and physician) and Work Quality Index scale. In addition, demographic tools were utilized to describe the sample.

**Table 4**

**Frequencies and Percentages of Physicians by Hospital Department**

Department	Frequency	%
Medical-surgical	18	19.1
Critical care	15	16.0
Pediatrics	20	21.3
Women's health services	15	16.0
Emergency	17	18.1
Surgical services	9	9.6
Total	94	100.0

**Demographic Tools.** A demographic tool accompanied both the nurse and physician surveys (see Appendix A). Each demographic tool was created by the primary investigator of the larger hospital study, L. Urden (1996). Demographic questions on the nurse and physician surveys sought information such as designated unit/department of practice, age, number of years in practice, and number of years practiced at study hospital. The nursing survey also included current role in nursing and highest level of education obtained.

**Collaborative Practice Scales (CPS).** Weiss and Davis (1985) designed this instrument to measure collaborative practice behavior as it is reportedly used by nurses

and physicians (see Appendix B). The theoretical basis for the CPS is the collaboration portion of the two dimensional model of interpersonal problem-solving behavior from the works of Thomas and Ruble (1976) and Thomas and Kilmann (1977). The two dimensions are assertiveness and cooperativeness in which collaboration has a high degree of both.

The nursing scale of the CPS (RNCPS) has nine questions and the physician scale (MDCPS) has ten. The respondent answers each item on a seven point Likert-type scale rating frequency of behaviors of the respondent from never to always. The total possible range for the nursing scale is 0 to 54 and for the physician scale is 0 to 60. Higher scores imply greater use of collaborative practice by the nurse or physician completing the scale (Weiss & Davis, 1985).

Weiss and Davis (1985) tested the reliability and validity of the CPS. The Cronbach's alphas for internal consistency were .80 for nurses and .84 for physicians. The coefficients remained high on retest with the nurses being .83 and the physicians .85, indicating acceptable internal consistency reliability. The Cronbach alpha coefficients for internal consistency in present study were computed as .88 for nurses and .91 for physicians.

Factor analysis supported construct validity for both nurse and physician scales. Weiss and Davis (1985) utilized the Health Role Expectation Index (HREI), a tool designed to measure attitudes toward the amount of shared responsibility that should exist in relationships among nurse, physician and consumer, to support the concurrent validity of the nursing scale. Correlation with the collaboration portion of the Management of Differences Exercise (MODE), a tool designed by Thomas and Kilmann (1978), supported concurrent validity of the physician scale. Predictive validity testing supported the fundamental integrity of the CPS items of the physician scale as there was a significant correlation between physicians' own self-report and the evaluations of their behavior by



the nurses with whom they work. Predictive validity was not supported on the nurses scale.

Weiss and Davis (1985) performed factor analysis on both scales and found two factors for each. The first factor of the RNCPS, composed of five items, measures the degree to which a nurse directly asserts professional expertise and opinion when interacting with physicians about patient care. The second factor, composed of four items, measures the degree to which a nurse clarifies with physicians mutual expectations regarding the nature of shared responsibilities in patient care. The first factor of the MDCPS, composed of five items, measures the degree to which a physician acknowledges the importance of nurses' unique contribution to different aspects of patient care. The second factor, also composed of five items, measures the degree to which a physician seeks consensus with nurses regarding mutual responsibilities and patient care goals. It is important to note that although the nurse and physician scales measure different specific elements of collaborative practice, the synergistic interaction between the nurse and physician in providing care (collaborative practice) is the dominant construct being measured on both scales (Weiss & Davis, 1985).

Work Quality Index (WQI). The 38-item WQI was designed by Whitley and Putzier (1994) to measure nurses' satisfaction with their work and work environment. In this present study, the WQI was only 30 items due to the instrument being modified for the purpose of the larger hospital study (Urden, 1996). The WQI is a seven point Likert scale with possible total score ranging from 30 to 210 (see Appendix C). The higher the score the greater the satisfaction with work and work environment. The instrument contains six subscales that measure nurses' satisfaction with 1) work environment as well as with job properties of 2) autonomy, 3) work worth, 4) professional relationships, 5) role enactment, and 6) benefits. The specific modifications to the WQI for this present study were done to subscale 1 and subscale 6. Two of the eight items in subscale 1 were omitted and six of the eight items in subscale 6 were omitted. The remaining four

omitted. The remaining four subscales remained fully intact. Cronbach's alpha test for internal consistency produced a total scale reliability coefficient of .94. The six subscale reliability coefficients ranged from .72 to .87. Construct validity was established through factor analysis (Whitely & Putzier, 1994). The Cronbach alpha coefficient for internal consistency in this present study was computed for 30 items as .91 and the six subscale reliability coefficients ranged from .64 to .82.

### Procedure

A convenience sample of 330 registered nurses was obtained from a target population of all 1200 registered nurses in the Division of Nursing at the hospital. This represented a nurse return rate of 28%. The sample included staff nurses, managers, educators and clinical nurse specialists. From the overall convenience sample, the final sample size for this present study was 264 registered nurses representing six specific departments of the study hospital (22% of the total population). Research packets, including a cover letter and the surveys, were prepared by hospital volunteers and distributed through the hospital mail system using individual mailing labels provided by the Human Resources department. A cover letter (see Appendix D) explained the purpose of the larger study, the voluntary nature of participation, the maintenance of the responder's confidentiality, and the instructions on returning the completed surveys to the office of the Administrative Director, Quality, Education and Research. A return envelope with the appropriate mailing label was included for the responder's convenience. Two weeks after distribution of the surveys, reminders to complete and return them were sent to all nursing units/departments for notification and posting. Data collection was completed one month after the distribution of the surveys.

A convenience sample of 113 physicians consisted of 91 active and associate staff physicians and 22 medical residents. The sample of 91 active and associate staff physicians was obtained from a target population of all 451 physicians on active and

associate medical staff status at the hospital, as identified by the Medical Staff Office. This represented a physician return rate of 20% from active and associate staff physicians. The sample of 22 physicians who were medical residents was obtained from a target population of all 114 medical residents in residency status at the hospital, as identified by the Medical Staff Office. This represented a physician return rate of 19% from medical residents. From the overall convenience sample, the final sample for this present study was 94 physicians that consisted of 72 active and associative staff physicians (16% of total population) and 22 medical residents (19% of total population) representing six specific departments of the study hospital. All physicians were asked to complete two surveys: demographic data and Physician Collaborative Practice Scale. Research packets including these surveys were prepared by hospital volunteers and distributed through the U.S. Mail using labels provided from the Medical Staff Office. A cover letter (see Appendix E) explained the purpose of the study, the voluntary nature of participation, the maintenance of the responder's confidentiality, and provided instructions to return the completed surveys in the addressed/stamped envelope provided in the packet. Data collection was completed one month from the original mailing of the surveys.

Prior to the above data collection, permission to conduct the study was granted by the hospital's Research and Human Subjects Committee. After data collection, the university's Human Research Review Committee's approval was obtained for the purpose of this present study.

## CHAPTER FOUR

### RESULTS

As described in Chapter Three, this present study was part of a large descriptive study conducted by the Division of Nursing of a 529 bed mid-western acute care hospital. For this reason, the data received for this present study had already been coded by the primary investigator of the larger hospital study, L. Urden (1996). Consistent with the purposes of this present study, descriptive techniques were done to further analyze the data. A computer software program, Statistical Package for Social Sciences (SPSS-PC), was used for the analysis of data.

Each item on the RNCPS and WQI Likert scale responses was an ordinal level of measurement, however, the total score of a Likert scale enhances the discriminatory ability and can be treated as an interval measure for the purposes of data analysis (Polit & Hungler, 1991). RNCPS results and WQI results will be reported first. To prepare the data for hypothesis testing, the RNCPS scores were equally distributed by sample size into three groups of perceived collaborative practice: low, moderate, and high. A one-way analysis of variance (ANOVA), a versatile inferential statistical procedure, compared the means of these groups. If ANOVA results were significant, then post hoc pairwise comparison of group means was done by the Scheffe's test. The results from the MDCPS will be reported last.

#### Nurses' Perception of Nurse-Physician Collaboration

A summary of the data on collaborative practice reported by nurses using the RNCPS appears in Table 5. The higher the score, the more collaboration in practice the nurse perceived. The range of mean scores were 30.7 to 35.5 with a total possible score of 54. All hospital departments had one to three missing cases, therefore, the mean score was calculated from only those scores reported.

Table 5

**Means and Standard Deviations of Nurses' Perception of Nurse-Physician Collaboration by Hospital Department**

Department	M	SD	Range	n
Medical-surgical	30.7	9.2	11 - 54	60
Critical care	34.4	10.0	5 - 54	121
Pediatrics	34.1	10.0	12 - 49	9
Women's health services	32.0	10.8	8 - 51	23
Emergency	35.5	7.2	25 - 49	12
Surgical services	<u>32.1</u>	<u>10.4</u>	<u>10 - 54</u>	<u>28</u>
Total	33.1	9.9	5 - 54	253

**Note.** Missing cases: Medical-surgical = 1, Critical care = 3, Pediatrics = 1, Women's health services = 2, Emergency = 1, and Surgical services = 3.

**Nurses' Satisfaction with their Work and Work Environment**

The Work Quality Index (WQI) measures nurses' satisfaction with their work and work environment. A summary of the data on the nurses' satisfaction using the WQI appears in Table 6 with higher scores indicating more satisfaction. The range of mean scores were 130.5 to 146.3 out of a total possible score of 210. All hospital departments were missing between 1 to 12 cases, therefore the mean was calculated from only those scores reported.

**Hypothesis Testing Results**

The research hypothesis stated that nurses that have a higher degree of nurses' perception of nurse-physician collaboration will also have more nurse satisfaction with the

Table 6

**Means and Standard Deviations of Nurses' Satisfaction by Hospital Departments**

Department	M	SD	Range	n
Medical-surgical	133.7	24.0	75 - 185	60
Critical care	138.8	20.6	85 - 187	112
Pediatrics	146.3	13.2	126 - 163	9
Women's health services	135.5	21.1	89 - 182	24
Emergency	130.5	26.9	83 - 173	11
Surgical services	<u>144.9</u>	<u>19.1</u>	<u>99 - 182</u>	<u>27</u>
Total	137.9	21.6	75 - 187	243

**Note.** Missing cases: Medical-surgical = 1, Critical care = 12, Pediatrics = 1, Women's health services = 1, Emergency = 2, and Surgical services = 4.

quality of their work and work environment. To test the hypothesis, ANOVA was used in analyzing the data for each department. Prior to using ANOVA, it was necessary to divide nurse subjects equally by sample size into groups of low, moderate and high perception levels of nurse-physician collaboration as shown in Table 7. The majority of medical-surgical nurses perceive nurse-physician collaboration to be low (n = 27, 45%), closely followed by perceptions of moderate level (n = 24, 40%), and only 15% (n = 9) perceive a high level of nurse-physician collaboration. Critical care nurses' perceptions were fairly equally distributed between low, moderate and high levels of nurse-physician collaboration. The four departments of pediatrics, women's health services, emergency, and surgical services may have invalid results due to the small sample sizes.

**Table 7**

**Levels of Perceived Nurse-Physician Collaboration**

<b>Department</b>	<b>Low n (%)</b>	<b>Moderate n (%)</b>	<b>High n (%)</b>
<b>Medical-surgical</b>	<b>27 (45.0)</b>	<b>24 (40.0)</b>	<b>9 (15.0)</b>
<b>Critical care</b>	<b>36 (29.8)</b>	<b>43 (35.5)</b>	<b>42 (34.7)</b>
<b>Pediatrics</b>	<b>2 (22.2)</b>	<b>5 (55.6)</b>	<b>2 (22.2)</b>
<b>Women's health services</b>	<b>9 (39.1)</b>	<b>9 (39.1)</b>	<b>5 (21.7)</b>
<b>Emergency</b>	<b>4 (33.3)</b>	<b>4 (33.3)</b>	<b>4 (33.3)</b>
<b>Surgical services</b>	<b>15 (53.6)</b>	<b>5 (16.1)</b>	<b>8 (28.6)</b>

A one-way ANOVA was then used to compare the levels of perceived collaboration to nurse satisfaction scores to test if a significant portion of the variability could be attributed to the independent variable, nurses' perception of collaborative practice behaviors with physicians. Table 8 summarizes the analysis of variance results. Again, the results may be invalid for the hospital departments of pediatrics, women's health services, emergency and surgical services due to the small sample sizes in each group.

The results of the ANOVA on the nurse satisfaction scores revealed only one statistically significant difference among the three levels of perceived collaboration and nurse satisfaction within the medical-surgical department. Table 9 presents a post hoc pairwise comparison of group means conducted by the Scheffe's test of the medical-surgical groups which revealed a statistically significant difference between the low and moderate levels of collaboration in correlation to nurse satisfaction scores ( $p < .05$ ).

**Table 8****Analysis of Variance on Nurse Satisfaction Scores**

Source of Variation	df	MS	F
<b>Medical-surgical</b>			
Between groups	2	2907.2	5.9*
Within groups	53	492.5	
<b>Critical care</b>			
Between groups	2	888.2	2.2
Within groups	107		395.4
<b>Pediatrics</b>			
Between groups	2	261.8	1.8
Within groups	6	144.4	
<b>Women's health services</b>			
Between groups	2	871.8	2.2
Within groups	19	399.0	
<b>Emergency</b>			
Between groups	2	1718.5	3.4
Within groups	7	502.6	
<b>Surgical services</b>			
Between groups	2	118.5	0.38
Within groups	22	310.4	

**\*p < .01**



Therefore, nurses who perceived a moderate level of nurse-physician collaboration in the medical-surgical department were more likely to report satisfaction with work and work environment. There is a trend in that it appears the high level collaboration group has a higher mean score than the lower two groups, however, it is not statistically significant due to the small sample size (n = 9).

**Table 9**

**Differences Between Medical-Surgical Group Means of Satisfaction**

Levels of Collaboration	M	SD	n
Low	122.9 <sub>a</sub>	21.3	27
Moderate	142.9 <sub>b</sub>	22.4	24
High	144.4 <sub>ab</sub>	24.4	9

Note. Means that do not share same subscripts differ at  $p < .05$  using the Scheffe Test.

**Physicians' Perception of Nurse-Physician Collaboration**

A summary of the data on collaborative practice reported by physicians using the MDCPS appears in Table 10. The higher the score, the more collaboration in practice the physicians' perceived. The range of mean scores were 34.6 to 45.9 with a total possible score of 60. The results of the surgical services physicians could be invalid due to the small sample size (n = 9).

**Summary**

This chapter presented the data analysis and statistical outcomes of the study. Descriptive statistics were utilized in summarizing all of the data presented in this study. Furthermore, inferential statistics were employed in an effort to identify statistical

significance for the WQI score and level of reported collaboration, the independent variable in this study. Given the results of the data analysis, the hypothesis was not supported with one exception. The nurses who perceived a moderate level of nurse-physician collaboration in the medical-surgical department were more likely to report satisfaction with their work and work environment. The chapter was concluded with the reported results of the physician collaborative practice scores.

Table 10

**Means and Standard Deviations of Physicians' Perception of Nurse-Physician Collaboration by Hospital Department**

Department	M	SD	Range	n
Medical-surgical	36.9	10.7	19 - 54	18
Critical care	45.9	9.7	27 - 59	15
Pediatrics	40.6	10.3	20 - 60	20
Women's health services	38.1	9.4	18 - 51	15
Emergency	39.0	7.2	28 - 52	17
Surgical services	<u>34.6</u>	<u>11.1</u>	<u>16 - 51</u>	<u>9</u>
Total	39.6	10.1	16 - 60	94

## CHAPTER FIVE

### DISCUSSION AND IMPLICATIONS

#### Discussion

A major purpose of this study was to describe nurses' perception of collaborative practice behaviors with physicians and to relate those findings to nurses' satisfaction. Data analysis suggested a statistically significant relationship between the medical-surgical nurses' perception of nurse-physician collaboration and their satisfaction. The nurses who perceived a moderate level of nurse-physician collaboration in the medical-surgical department were more likely to report satisfaction with their work and work environment. This is consistent with other studies that found positive relationships between nurse-physician relationships/collaboration and nurse satisfaction (Everly & Falcione, 1976; Longest, 1974; Alt-White, Charnes, and Strayer, 1983). Also in relation to other studies, the mean score of 33.1 on the RNCPS for the total sample (N = 264) is lower compared to mean values found in other reported studies ranging from 38.5 to 39.8 (Baggs, 1990; Weiss & Davis, 1985). The medical-surgical nurses reported the lowest RNCPS with a mean score of 30.7. It is difficult to compare this finding to other research reporting RNCPS scores because none clearly delineate a medical-surgical unit/department or they report a sample setting of other units/departments (e.g., medical intensive care).

The nature of the nurse-physician interaction on medical-surgical units is uniquely different from other specialty areas and possibly accounts for the lower RNCPS results and the significant relationship found between nurse-physician collaboration and nurse satisfaction. Although each of the medical-surgical units that comprised the medical-surgical department in this present study are in and of themselves "specialty units" (e.g., orthopedics, oncology), there is still a greater degree of cross-patient populations in these areas. In addition, the number of patient beds within the medical-surgical department are

much greater than the other departments in this study. The underlying impact of both these factors is that the medical-surgical units see a much greater number and variety of physicians who round through their patient care areas and who potentially spend less overall time in their areas. This may actually decrease the overall quantity and quality of nurse-physician interactions and impact collaborative practice which is defined as interactions between nurse and physician that enable the knowledge and skills of both professionals to synergistically influence the patient care being provided ( Weiss & Davis, 1985). All of the other hospital departments in the sample setting tend to work more consistently and frequently with the same physicians due to the physicians working exclusively in one area (e.g., emergency staff physicians, critical care intensivists, pediatricians) or much of their time is spent in one area (e.g., anesthesiologists, surgeons, gynecologists). More consistent and frequent interaction between the same nurses and physicians may provide more opportunity to exchange professional knowledge and skills to synergistically influence patient care. Other interesting findings related to the medical-surgical nurses is that demographically they were the youngest in age with a mean score of 31.2 years and reported the least amount of years working in their department as evident by a mean score of 5.8 years which raises the question of a possible relationship.

Although no other statistically significant findings were discovered, other reported mean scores were of interest. Of particular interest was the reported mean scores of the emergency department nurses for both RNCPS and WQI. While the emergency department nurses scored highest on the RNCPS ( $M = 35.5$ ) for perceived nurse-physician collaboration they also scored lowest on the WQI ( $M = 130.5$ ) for nurse satisfaction with work and work environment. This raises a very important point that there are multiple variables that impact nurses' satisfaction. The following variables have been cited in the literature to have a relationship to satisfaction: stress, communication with supervisor, autonomy, routinization, age, and work experience ( Irvine & Evans, 1995). Any of the

hospital department's reported nurse satisfaction scores in this study could have been related to one or more of the above variables or potentially other variables as well.

Kilmann and Thomas's (1978) two-dimensional model for conflict resolution was used for this study and will be related to the major findings in this study. First, it is important to recall that Weiss and Davis (1985) used this model to develop the two Collaborative Practice Scales (CPS) used in this study. In the model and the instruments, collaboration is regarded as a high level of concern for self (assertiveness), combined with a high level of concern for others (cooperativeness). In the Weiss and Davis RNCPS, the concept of assertiveness and cooperativeness in collaboration have been changed to represent the nurse's perception of assertiveness and clarification with physicians to measure collaboration as a problem solving behavior. Accordingly, an inference can be made that medical-surgical nurses tend to perceive themselves as less assertive and perceive they clarify their practice less with physicians than the nurses in the other departments. Whereas the nurses in the emergency department tend to perceive themselves as more assertive and perceive they clarify their practice more with physicians, followed by the nurses in the critical care areas. The possible reasons for this are the same as discussed above related to the unique nature of each work environment that may influence the degree and type of nurse-physician interaction that takes place, as well as potential relationships to age and experience.

The physicians' mean score for perceived collaboration with nurses was 39.6 (SD = 10.1) out of a possible score of 60. No data from other studies were available to compare the mean to from this present study. The physicians' mean score and individual hospital department scores are higher than the nurses in part due to the RNCPS having a total possible score of 54 versus 60. While the RNCPS measures more of an assertive dimension of collaboration, the MDCPS measures more of a cooperative dimension. Therefore, an inference can be made that physicians in the critical care department tend to

perceive themselves more cooperative with nurses than the physicians in other departments.

### Limitations

Subjects for this study were convenience samples of registered nurses and physicians, therefore, selection is a limitation of this present study due to the voluntary participation of the subjects. History is also a limitation to this present study due to the variety of external events that may have affected the dependent variable of nurse satisfaction.

The final sample size for nurses representing only 22% of the total population, for staff physicians representing only 16% of the total population, and for medical residents representing only 19% of the total population, limits the generalizability of this present study. Another limitation is the potential biased physician results due to the high percentage of female respondents (> 80%). Some of the small sample sizes for the ANOVA may have produced invalid results in some of the hospital departments which also limit this present study.

Utilizing existing data was another limitation to this present study in that it limited the available data to only what was obtained in the larger hospital study. Another limitation was using a modified WQI instrument versus an intact instrument.

### Implications

This study's findings of a statistically significant relationship between the level of perceived nurse-physician collaboration and nurse satisfaction in the medical-surgical work environments has implications for nursing practice, administration, education and research. An implication for nursing practice is for both clinical nurses and managers to give more attention to the nature of nurse-physician interactions and collaborative practice behaviors in the medical-surgical practice areas. While this deserves attention for many reasons, one serious implication of findings in this research to be considered is the relationship

supported in the literature of nurse job satisfaction and turnover among nurses (Irvine & Evans, 1995).

New ways of relating and interacting between nurses and physicians could be explored for the general medical-surgical practice areas. Albert, Goldman, Kilroy and Pike (1992) described a model of primary nurse-physician collaboration implemented on a general medical-surgical unit in a 504-bed tertiary-care teaching hospital, comparable to this present study hospital, and the outcomes of collaborative care. Strategies developed to create a collaborative practice environment were an established commitment from nurses and physicians who practiced on the unit, Nurse for a Day and Doctor for a Day programs in which nurses and physicians shadow each other, Critical Incident Rounds as a creative exchange and learning forum, unit social activities planned and attended by both nurses and physicians ( fondly termed "schmoozing"), and daily nurse-physician rounds. Although the authors stated the evaluation of the medical-surgical Unit of Collaborative Care (also referred to as "7 Gryzmish) was ongoing, they did report outcomes that had already been identified. These included enhanced understanding of collaboration, the stages leading to the development of collaborative practice relationships, changes in attitudes toward collaboration among caregivers, increased job satisfaction for clinical nurses, and increased patient functional status on discharge. It is important to note that in relation to this study, the tool to measure nurse job satisfaction was different than the WQI, however, the CPS was used to measure attitudes toward collaboration for both nurses and physicians. The CPS was administered to clinical nurses at the start of their practice on 7 Gryzmish and again after one year. The CPS was also administered to surgical house staff at the beginning of their residency year and then again at the end of that year. Although attitudes favorable toward collaboration increased among members in both groups, only the nurses' results were statistically significant. One contrast noted between the 7 Gryzmish medical-surgical unit and other medical-surgical units was that it was small and the same nurses and physicians practiced there on a routine basis. Still, the

lessons learned from nurses and physicians making efforts to create more collaborative medical-surgical practice environments are worth noting and can help stimulate new considerations for clinical nurses and managers in other medical-surgical areas.

Implications for nursing administration are to be supportive of empowered practice environments and to encourage activities or strategies that enhance the collaboration between nurses and physicians at the bedside. There is an important emphasis on "at the bedside". While it is important for national organizations, as well as educational and health care organizations, to formally support collaborative practice between nurses and physicians, new and different strategies should be placed on creating it at the point where patient care is delivered. Just as Weiss (1983) conducted dialogue sessions as a research methodology to learn more about differences and similarities of nurses and physicians, others are now using dialogue as a strategy to learn more about relationships in the workplace. Dialogue is about the nature of communication and conversations that enhance continuous learning, expanded thinking, and respectful learning (Wesorick & Shiparski, 1997). Dialogue may be one possible strategy for nurses and physicians to learn more about each other. It is also important for nursing administration to advocate for joint decision making of nurses and physicians as it relates to issues that impact patient care.

An implication for education is for nursing schools and medical schools to teach about collaboration and outcomes of collaborative practice. Schools could also partner together to create collaborative practice and learning experiences for students. Hospitals could partner with schools to provide opportunities for "collaborative clinicals". Having clarity on each other's scope of practice is foundational to collaborative practice and it makes sense to start that clarity in the schools and to enhance it by providing or exploring collaborative experiences.

#### Recommendations for Future Research

Based on the statistical findings of this study, further investigation needs to be done on nurse-physician collaboration and nurse satisfaction on medical-surgical units.



The relationships of nurses' collaboration and satisfaction with age and experience also could be further studied.

Research is also recommended to determine nurses' and physicians' clarity and perceptions of each other's scope of practice. It has been stated in the literature and it is this author's belief that lack of clarity on scope of each others practice negatively impacts collaborative practice behaviors. It also would be interesting to research nurses' and physicians' clarity on their own scope of practice and what implications that would have on collaborative practice. Based on the literature review done for this study searching for defined nurse and physician scopes of practice, one could even raise the question if nurses and physicians have the same definition for "scope of practice".

Nursing is still predominantly a female profession. With more females entering the field of medicine it would be interesting to study the impact on nurse-physician collaboration over time in relationship to gender.

There is a need for further research on the development of instruments to measure nurse-physician collaboration. While nurses and physicians styles of resolving their differences determines the collaborativeness of their interactions, it is limiting to measure collaboration based on conflict resolution. More tools are needed to measure open and direct communication, mutual patient care planning and implementation, mutual decision making and coordination of care.

It is important to research the effect of specific strategies or interventions to improve collaborative practice. It would be interesting to measure collaboration before and after either a collaborative practice change (e.g., implementation of interdisciplinary rounds) or planned learning experiences (e.g., dialogue sessions, partnership workshops). Also, research that identifies specific behaviors that promote collaborative practice between nurses and physicians would greatly contribute to the literature.

Finally, while much focus has been with nurse-physician collaboration, more research is needed to explore collaboration amongst all interdisciplinary team members.

Further research on collaboration must also emphasize the patient as a critical partner in collaborative relationships.

### Summary

We have learned from this present study, that the perceived nurse-physician collaboration of medical-surgical nurses does significantly relate to their satisfaction with work and work environment. The nurses who perceived a moderate level of nurse-physician collaboration in the medical-surgical department were more likely to report satisfaction with their work and work environment. We have also learned from a review of the literature that others have shown statistically significant relationships between nurse-physician collaboration and positive outcomes such as nurse satisfaction and decreased mortality rates. It will be critical that future research will continue to expand our knowledge and thinking related to nurse-physician collaboration because the challenge for nurses and physicians to work together to address the real health care issues has never been greater. Collaborating, working together to synergistically influence the patient care provided, may be a significant stabilizing experience for nurses and physicians encountering the rapid changes in health care as we move into the next millennium.

## APPENDICES

Appendix A - Nurse

**REGISTERED NURSE SURVEY**

**PART I**

1. In which unit or department do you work? \_\_\_\_\_
2. How long have you worked on this unit? \_\_\_\_\_ years
3. How long have you practiced as an RN at Butterworth Hospital? \_\_\_\_\_ years
4. What is your age? \_\_\_\_\_ years
5. What is your current role in nursing (Check one)
  - \_\_\_ Staff Nurse
  - \_\_\_ Staff/Patient Educator
  - \_\_\_ Clinical Nurse Specialist
  - \_\_\_ Unit Director
  - \_\_\_ Clinical Coordinator
  - \_\_\_ Other
6. What is the highest level of educational degree you have attained? (Check one)
  - \_\_\_ Diploma
  - \_\_\_ AD
  - \_\_\_ BSN
  - \_\_\_ BA (what field?) \_\_\_\_\_
  - \_\_\_ Masters Degree in Nursing
  - \_\_\_ Other Masters Degree (what field?) \_\_\_\_\_
  - \_\_\_ Other \_\_\_\_\_

Appendix A - Staff Physician

**PHYSICIAN SURVEY**

**PART I**

1. For which unit or department will you be giving opinions on this survey? (Please choose only one) \_\_\_\_\_
2. How long have you practiced medicine? \_\_\_\_ years
3. How long have you been on staff at Butterworth Hospital? \_\_\_\_\_ years
4. Butterworth Hospital status:  
\_\_\_\_ Active  
\_\_\_\_ Associate
5. Gender:  
\_\_\_\_ Male  
\_\_\_\_ Female
6. MSU faculty appointment:  
\_\_\_\_ Yes  
\_\_\_\_ No
7. On an average, how many patients do you admit/consult on at Butterworth Hospital?  
\_\_\_\_ per month

**RESIDENT SURVEY**

**PART I**

1. For which unit or department will you be giving opinions on this survey?  
(Please choose only one) \_\_\_\_\_
2. In what year of your residency program are you currently practicing?  
\_\_\_\_\_ year
3. How long have you been a practicing resident at Butterworth Hospital?  
\_\_\_\_\_ months
4. In what year of your residency program did you come to Butterworth?  
\_\_\_\_\_ year
5. Gender:  
  
\_\_\_\_\_ Male  
  
\_\_\_\_\_ Female

Appendix B - Nurse

**PART II**

*For each statement that follows, please circle the number of one response that best reflects your personal opinion or perception.*

<u>RNCPS</u>	<u>Never</u>	<u>Always</u>
1. I ask physicians about their expectations regarding the degree of my involvement in health care decisions.	0 1 2 3 4 5 6	
2. I negotiate with the physician to establish our responsibilities for discussing different kinds of information with patients.	0 1 2 3 4 5 6	
3. I clarify the scope of my professional expertise when it is greater than the physician thinks it is.	0 1 2 3 4 5 6	
4. I discuss with physicians the degree to which I want to be involved in planning aspects of patient care.	0 1 2 3 4 5 6	
5. I suggest to physicians patient care approaches that I think would be useful.	0 1 2 3 4 5 6	
6. I discuss with physicians areas of practice that reside more within the realm of medicine than nursing.	0 1 2 3 4 5 6	
7. I tell physicians when, in my judgment, their orders seem inappropriate.	0 1 2 3 4 5 6	
8. I tell physicians of any difficulties I foresee in the patient's ability to deal with treatment options and their consequences.	0 1 2 3 4 5 6	
9. I inform physicians about areas of practice that are unique to nursing.	0 1 2 3 4 5 6	

Appendix B - Physician

**PART II**

*For each statement that follows, please circle the number of one response that best reflects your personal opinion or perception.*

<u>MDCPS</u>	<u>Never</u>	<u>Always</u>
1. I reinforce the value of nursing care when talking to the patient.	0 1 2 3 4 5 6	
2. I ask for the nurse's assessment of what may be needed to strengthen the patient's support system.	0 1 2 3 4 5 6	
3. I discuss with nurses the similarities and differences in medical and nursing approaches to care.	0 1 2 3 4 5 6	
4. I consider nurses' opinions when developing a treatment plan.	0 1 2 3 4 5 6	
5. I discuss areas of agreement and disagreement with RN's in an effort to develop mutually agreeable health goals.	0 1 2 3 4 5 6	
6. I discuss with RN's the degree to which I think they should be involved in planning and implementing patient care.	0 1 2 3 4 5 6	
7. I work toward consensus with RN's regarding the best approach in caring for a patient.	0 1 2 3 4 5 6	
8. I discuss with RN's their expectations regarding the degree of their involvement in the health care decision process.	0 1 2 3 4 5 6	
9. I acknowledge to nurses those aspects of health care where they have more expertise than I do.	0 1 2 3 4 5 6	
10. I clarify whether the nurse or I will have the responsibility for discussion different kinds of information with patients.	0 1 2 3 4 5 6	



Appendix C - Nurse

**PART III**

*For each statement that follows, please circle the number of one response that best reflects your personal opinion or perception.*

<u>WOI</u>	<u>Not Satisfied</u>	<u>Satisfied</u>
1. The work associated with your position allows you to make a contribution to the hospital.	1 2 3 4 5 6 7	
2. The work associated with your position allows you to make a contribution to the profession.	1 2 3 4 5 6 7	
3. The work associated with your profession allows you to make a contribution to your own sense of achievement.	1 2 3 4 5 6 7	
4. You receive adequate praise for work well done from your peers.	1 2 3 4 5 6 7	
5. You receive adequate praise for work well done from Hospital physicians.	1 2 3 4 5 6 7	
6. You receive adequate praise for work well done from Nursing Administration.	1 2 3 4 5 6 7	
7. The work associated with your position provides you with opportunity to use a full range of nursing skills.	1 2 3 4 5 6 7	
8. The work associated with your position provides you with a variety of clinical challenges.	1 2 3 4 5 6 7	
9. The work associated with your position provides you with the opportunity to be of service to others.	1 2 3 4 5 6 7	
10. The nursing practice environment allows you to make autonomous nursing care decisions.	1 2 3 4 5 6 7	
11. The nursing practice environment allows you to be fully accountable for those decisions.	1 2 3 4 5 6 7	
12. The nursing practice environment encourages you to make adjustments in your nursing practice to suit patient needs.	1 2 3 4 5 6 7	
13. The nursing practice environment provides a stimulating intellectual environment.	1 2 3 4 5 6 7	

**WQI**

	<b><u>Not Satisfied</u></b>			<b><u>Satisfied</u></b>			
14. The nursing practice environment provides time to engage in research if you want.	1	2	3	4	5	6	7
15. The nursing practice environment promotes a high level of clinical competence on your unit.	1	2	3	4	5	6	7
16. The nursing practice environment allows opportunity to receive adequate respect from nurses on other units.	1	2	3	4	5	6	7
17. The hospital organizational structure allows you to have a voice in policy making for nursing service.	1	2	3	4	5	6	7
18. The hospital organizational structure allows you to have a voice in overall hospital policy making.	1	2	3	4	5	6	7
19. The hospital organizational structure facilitates patient care.	1	2	3	4	5	6	7
20. You receive enough time to complete patient physical care tasks.	1	2	3	4	5	6	7
21. You receive enough time to complete the indirect patient care tasks.	1	2	3	4	5	6	7
22. You receive support for your work from nurses on other shifts.	1	2	3	4	5	6	7
23. You receive support from your peers for your nursing decisions.	1	2	3	4	5	6	7
24. You receive support from physicians for your nursing decisions.	1	2	3	4	5	6	7
25. Good working relationships exist between you and your supervisor.	1	2	3	4	5	6	7
26. Good working relationships exist between you and your peers.	1	2	3	4	5	6	7
27. Good working relationships exist between you and physicians.	1	2	3	4	5	6	7
28. Nursing service gives clear direction about advancement.	1	2	3	4	5	6	7
29. Nursing service provides adequate opportunities for advancement.	1	2	3	4	5	6	7
30. Nursing service decides advancements for nurses fairly.	1	2	3	4	5	6	7

## Appendix D

### RESEARCH STUDY: Nursing Division Assessment of Organizational, Management, Productivity and Quality Indicators

#### Research Study Information Sheet

Dear Nursing Colleague,

You are invited to participate in a research study that is very important to the Division of Nursing at Butterworth Hospital. The information received from this study will form baseline data from which to evaluate our Division in subsequent years as we implement any new programs or changes. Specifically, this study addresses the following questions:

1. What is nursing care at Butterworth Hospital relative to time, quality, efficiency, and documentation?
2. What is the professional practice environment for nursing at Butterworth Hospital in the areas of unit and organizational climate, accountability, satisfaction, caring, MD collaboration, and professional relationships.
3. What are patient perceptions of nurse caring and satisfaction with nursing care?
4. What are physician perceptions of nursing unit/departmental effectiveness and collaboration with registered nurses?

Question number one will be addressed by a Work Sampling Study that is being conducted in the Division at this time. Questions three and four will be assessed by surveys that are being sent to physicians and patients also during the time period. Question number two is addressed by surveys that are included in this packet and that you are asked to complete at this time.

You are under no obligation to participate in this study. All responses will be held confidential and participation in the study poses no risk to your employment status. The only inconvenience will be the 10-15 minutes that you expend in completing the survey. Completion of this survey implies your consent to participate in the study. You are expected to complete the survey independent of your work time.

If you choose to participate, retain this information sheet for your own record of participation. Return the completed survey to me in the enclosed labeled envelope by October 28, 1994.

Thank you in advance for your participation and time in answering the survey questions. Remember, the accuracy of your responses will be invaluable in our Division assessment. If you have any questions about the project, please feel free to call me at 774-1625.

Linda D. Urden, DNSc, RN, CNA

**RESEARCH STUDY**  
**Nursing Division Assessment of Organizational, Management,  
Productivity and Quality Indicators**

Research Information Sheet

Dear Physician Colleague,

The Nursing Division at Butterworth Hospital is investigating multiple variables that impact the environment, professional relationships and quality patient care. Concurrently, we are sending surveys to nurses and patients, along with conducting a work sampling study in which we are assessing nursing care in relation to patient care activities. The study is significant to us as it will measure variables demonstrated to be important in the evaluation of any programmatic, personnel, policy, staffing, or organizational/nursing culture changes. Study results are important as we may find certain areas that need to be addressed via specific immediate interventions. In addition, findings will serve as baseline data by which to evaluate any of the above mentioned changes. This study has been approved by the Butterworth Hospital Research and Human Subjects Committee.

As both our customers and colleagues, we value your input and ask for your participation in the study by completing a survey that is enclosed in this mailing. Although I greatly encourage you respond, you are under no obligation to participate in this study. All responses will be held confidential. The only inconvenience will be the 15-20 minutes that you expend in completing the survey. Completion and return of the survey implies your consent to participate in the study.

If you choose to participate, retain this information sheet for your own record of participation. Return the completed survey in the enclosed, stamped envelope by October 26, 1994.

Thank you in advance for your participation and time in assisting us to complete our most important research study. If you have any questions about the project, feel free to contact me at 774-1625.

Linda D. Urden, DNSc, RN, CNA  
Administrative Director, Nursing Services  
Quality, Education and Research

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October 17, 1996

Michelle R. Troseth  
1625 Millbrooke, SE  
Grand Rapids, MI 49508

Dear Michelle:

Your proposed project entitled "*Nurse-Physician Collaboration and Nurse Satisfaction*" has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

A solid black rectangular box redacting the signature of Howard Stein.

Howard Stein, Acting Chair  
Human Research Review Committee

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April 9, 1996


To Whom It May Concern:

I am a Master's nursing student and am seeking permission to reprint a model from a 1976 Academic Press, Inc. copyrighted publication for my Master's thesis.

The publication I am referring to is "Support for a Two-Dimensional Model of Conflict Behavior" by Thomas L. Ruble and Kenneth W. Thomas in *Organizational Behavior and Human Performance*, 16, 143-155 (1976). The model I would like to reprint is Figure 1, entitled "Two-dimensional model of conflict behavior" on page 145.

Thank-you for your attention to my request.

Cordially,

  
Michelle R. Troseth  
1625 Millbrook SE  
Grand Rapids, MI 49508

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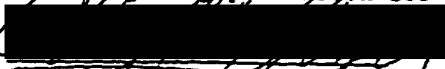
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