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Nurses' Perceptions of the Profession of Physical Therapy in the Inpatient Setting

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**NURSES' PERCEPTIONS OF THE PROFESSION OF PHYSICAL
THERAPY IN THE INPATIENT SETTING**

BY

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THESIS

Submitted to the Department of Physical Therapy
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1996

NURSES' PERCEPTIONS OF THE PROFESSION OF PHYSICAL THERAPY IN THE INPATIENT SETTING

ABSTRACT

The purpose of this study was to investigate the interprofessional relationship that exists between nurses (RNs) and physical therapists (PTs) as perceived by RNs in the inpatient setting. A questionnaire, the Interprofessional Perception Scale, (Ducanis & Golin 1978) was modified and sent to 230 day shift nurses who have contact with PTs at four West Michigan hospitals. Forty-five percent of the surveys were returned. RNs responded to the following questions regarding the nursing and physical therapy professions: how would you answer; how would PTs answer, and how would PTs say that you answered, for 15 interprofessional issues. Differences between how RNs responded, how RNs thought PTs would respond, and how RNs thought PTs would predict RNs would answer were analyzed by a Z-test for correlated proportions (Wild & Seber, 1993). Significant differences at the 0.05 significance level ($p \leq 0.0033$) were identified for the following interprofessional issues: capabilities; professional territory; expectations; status; defensiveness; advisement; utilization; competency; trust; and cooperation. However, the overall trend revealed that nurses hold positive perceptions toward both the nursing and physical therapy professions.

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DEFINITION OF TERMS

Conceptual Definitions

Team: A group of individuals who work together collaboratively and independently to accomplish their goals (Ducanis and Golin 1979).

Collaboration: A purposeful relationship where the participants interact to solve a problem, create or discover something using complementary skills, because the charisma, authority, or expertise of one individual is not enough (Koerners, Bunkers 1992).

Interdisciplinary Team: The multidisciplinary participation, collaborative sharing of information, case coordination and goal setting achieved through group input in the decision making process (Fiorelli, J.S. 1988).

Perceptions: Observations interpreted in the light of experience. The mental process of becoming aware of or recognizing an object. The process is primarily cognitive rather than affective (Stedman's Medical Dictionary 1988).

IPS: Interprofessional Perception Scale.

Operational Definitions:

Degree of knowledge: Is defined as the number of correct answers to questions 38-52 of the survey (see Appendix C).

Perceptions: For the purposes of our study are defined by questions 8-37. (see Appendix C).

Team: A group of persons who actively cooperate to achieve the same ends.

Collaboration: Using other people on the team as resources in order to achieve a goal.

Interdisciplinary Team: members who value and utilize the skills and perspectives of other disciplines as well as their own discipline when providing patient care.

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CHAPTER 1

INTRODUCTION

The health care system today is being driven toward reform by the necessity for cost containment, limited resources, and increased competition. The need to provide high quality care, at the lowest possible cost, while remaining competitive in the health care market will result in a growing trend toward increased collaboration between professionals through team care (Selker, 1995). This trend is based on an assumption existing in the health care community that teamwork will lead to improved outcomes in patient care, even though there is little evidence to support this belief (Griffiths, Luker, 1994).

"Comprehensive health care today requires the broad spectrum of knowledge that no one practitioner can provide" (Fagin, 1992, p. 357). Health care professionals have discovered that inpatient needs often exceed the scope of competence of any one discipline and have sought new ways to meet those needs. Interprofessional collaboration and teamwork is one method espoused to meet patient care needs (Dunn, Janata, 1987).

Effective teamwork is dependent on the ability of two or more professionals to work together . This is true whether they are members of the same profession or members of different disciplines. Misperceptions and misunderstandings may occur between professions because professionals are often not aware of the specific competencies and roles held by members of other disciplines (Ducanis, Golin, 1979). A study performed by Ducanis and Golin revealed that allied health professionals, 31% of which were physical therapists, thought that only 13.8% of nurses and 10.3% of physicians understood the capabilities of allied health professionals (1979). Another study that revealed a

lack of knowledge about a profession involved physicians and their understanding of the capabilities of physical therapists. Physicians completed a test on the types of treatments performed by physical therapists and the resultant mean test score was only 34% correct responses (Stanton, et al 1983).

Interprofessional collaboration requires an understanding of the roles and functions of other professionals and a willingness to relinquish interprofessional rivalries. "Overlapping roles, status differences, and differences in viewpoint can easily lead to interprofessional conflict and thus create discord within the team" (Ducanis, Golin, 1979, p. 31). Additional barriers to teamwork include: gender, age, pay differences, lack of contact between professions, and lack of time for collaboration (Griffiths, Luker, 1994).

A critical factor for effective teamwork is communication. Inadequate communication results in misunderstandings, poor coordination of care by team members, and may potentially compromise the quality of inpatient care (Lowe, Herranen, 1981). Transmission of information between caregivers may be compromised if negative perceptions exist between professionals. Negative perceptions may lead to mistrust of other professions' competency to provide appropriate inpatient care (Koerner, 1992). Therefore, the authors of this study have examined the interprofessional perceptions held by nurses toward the profession of physical therapy and the nursing profession.

Purpose of the Study

The purpose of this study was to 1) identify the interprofessional perceptions held by RNs toward the profession of physical therapy in the inpatient setting, 2) identify the perceptions held by nurses toward their own profession and the perceptions nurses think physical therapists have toward the

nursing profession, and 3) identify specific knowledge deficits that are perceived by nurses to exist between these professions. This study may identify areas of potential conflict between the nursing and physical therapy professions. The information gathered in this study could be used to improve the understanding and communication between these two professions. The study may also help to determine further research areas to improve collaboration by identifying strategies that may lead to greater cooperation, and thereby, improve inpatient care.

CHAPTER 2
LITERATURE REVIEW
The Value of the Team

According to Ducanis and Golin, one value of health care teams was that they encourage greater participation of the patient and family in treatment planning. Interdisciplinary teamwork has also led to improved patient treatment outcomes at reduced costs (1979).

Erickson and Perkins (1994) reported that utilization of an interdisciplinary approach to inpatient care at DeKalb Medical Center resulted in reduced lengths of stay and improved functional outcomes following hip and knee arthroplasty surgery. The team which consisted of physical therapists, occupational therapists, and nurses also reported that the length of stay for total hip and knee replacement patients decreased by 3.95 and 4.59 days, respectively. The patients also demonstrated improved functional outcomes. The utilization of daily interdisciplinary rounds and frequent reassessment of patient goals was credited for the improvement in functional outcomes.

The team approach has also been utilized by some home health care agencies. One study by Hey (1993), stated that the team approach when coordinated with home health care resulted in a decreased rate of rehospitalization and emergency room visits by elderly patients. Patients discharged from the hospital were assigned a nurse case manager to coordinate interdisciplinary home care by physical therapists, occupational therapists, and other home health services. The resulting continuum of care enabled the patient to access necessary health services more appropriately and to receive early intervention

for health problems before they worsened and required hospitalization (Hey, 1993).

Specialized surgical and stroke teams have been shown to decrease mortality and improve functional outcomes. A teamwork approach used by nurses, physicians, and therapists showed improved outcomes in a comparison study performed by Indredavik et al on acute stroke patients (1991). Mortality, functional outcomes, and discharge settings were measured on 220 stroke patients. Half the patients were treated by specialized stroke teams and the other half within general medical wards. Both groups had similar make-up in regard to age, sex, medical history and impairment on admission. Outcome measures for both groups were taken at 6 weeks and again at 52 weeks using the Barthel Index. Those patients treated by the stroke team had higher Barthel Index scores, more home discharges, and less mortalities than the group treated within the general medical ward. Indredavik et al hypothesized that better outcomes in the stroke units may be due to an integrated team approach within the nursing and rehabilitation specialties with an emphasis on patient and family participation. Another benefit of the team approach was that more patients were discharged to their home, therefore the stroke units saved health care dollars by reducing the number of patients needing institutional care (Indredavik et al 1991).

Linda Gallarneau (1993) described an interdisciplinary approach to mobility and safety education for caregivers and stroke patients. Occupational therapists (OTs), physical therapists (PTs) and nurses evaluated and co-treated stroke patients as a team. Nurses, whose training does not emphasize mobility training, were able to incorporate OTs and PTs expertise in meeting the mobility

and transfer needs of individual patients. Working as a team allowed OTs, PTs, and nurses to provide valuable feedback and assistance to each other when working with patients. Another benefit of the team approach was that the various disciplines were able to consistently reinforce patient and caregiver education for ambulation, transfers, and the activities of daily living (ADLs). The reinforcement of the preceding activities throughout the day may lead to greater retention and faster learning by the patient and earlier discharge (Galarneau, 1993).

The effects of an inter-departmental communication problem between nursing staff, computerized tomography (CT) technologists, and the transport teams was identified at Beth Israel Hospital of Boston by a total quality management team (TQM) (Juran, 1994). The team began to investigate why 50% of inpatients scheduled for CT scan arrived more than 20 minutes late for appointments. Since 4,000 of the 12,000 CT scans performed annually were for inpatients, the late arrivals resulted in significant overtime costs for the hospital. The TQM team discovered that 50% of the late arrivals came predominately from three hospital floors. One of the reasons identified for the delays was a misunderstanding due to different interpretations of the terminology used for appointments. The phrase "on call time" was interpreted by nurses to mean the time to get the patient ready for transport. CT technologists and the transport team interpreted the phrase to mean appointment time. Another area of poor interdepartmental communication occurred when both the nursing and CT department failed to assume responsibility for informing the transport team of the

patients mobility and ambulatory status. This resulted in the use of inappropriate equipment for patient transport which further delayed the CT scans. A third area of poor communication occurred when CT technologists called the nursing station to schedule patient appointments during nursing shift changes. By improving interdepartmental communication and discontinuing the use of the phrase "on call time", the hospital was able to decrease patient delays. Within one year, 80% of patients arrived within five minutes of their appointed times (Juran, 1994).

Patients with numerous medical complications may require a team approach in treatment. For example, Eleanor Davis (1995), a wound care specialist advocated a multidisciplinary approach in her case study of a diabetic patient with a plantar ulcer. The patient presented with a medical history complicated by uncontrolled diabetes, serious microvascular damage, and chronic smoking. Davis described the integrated team effort of the dieticians, nursing staff, podiatry, and pharmacy to manage this patient's wound care. The team efforts were geared to normalize glucose levels, eliminate infection, and promote healing (1995).

The complex needs of this patient were met by the utilization of a multidisciplinary team. This study demonstrated that patients can benefit from the multiple viewpoints and expertise of various professionals working together to find solutions for complicated problems (Davis, 1995).

Interprofessional Relationships

For the multidisciplinary team to function effectively, the various disciplines need knowledge and confidence in each others specific competencies (Koerner, 1992). Unfortunately, a paucity of information exists concerning the proficiency of physical therapists' performance and how other professionals perceive their performance in the inpatient setting. A review of the literature revealed few studies examining the relationships and the perceptions existing between any closely interacting health professionals.

The Interprofessional Perception Scale (IPS), developed by Ducanis and Golin (1978), examines how professionals view themselves, how they view other health professions, and how they think other health professionals view them. In a pilot study utilizing the IPS , the perceptions of 29 allied health professionals were measured regarding physicians and nurses. The subjects included physical therapists (n=9), medical technologists (n=9), nutritionists (n=5), respiratory therapists (n=2), and one from each of the following professions: occupational therapy, child care worker, and a social worker. Each subject was asked to complete the 15 item scale for physicians, nurses, and their own profession. Results of the survey revealed that allied health professionals felt that only 13.8% of nurses and 10.3% of physicians understood their capabilities. Only 20.7% of allied health professionals thought nurses, and 6.9% thought that physicians, fully utilized the skills of allied health professionals. In general, the allied health respondents viewed themselves, nurses, and physicians as competent, but thought nurses and physicians lacked sufficient knowledge to fully utilize the abilities of the other professions (1979).

A second study using the IPS was conducted with 115 health professionals including nurses, physical therapists, and others. As in the previous

study, most respondents viewed members of their profession and that of others as competent. However, 25% of the health professionals surveyed perceived social workers, nurses, and physicians as unethical. Other areas of possible strain for professional relationships included overlapping practice areas and under utilization of allied health professionals' capabilities (Ducanis and Golin, 1979).

Dunkel (1974) conducted a survey to investigate the attitudes of physicians and physical therapists toward the professional capacity of physical therapists. Data was collected to determine how both professions rated physical therapists in the areas of competence, personal responsibility, and concern for the patient. Survey results indicated that physicians and physical therapists were satisfied with the professional competence of physical therapists. However, both professions felt that improvement was needed in the area of recording patient care. The study also revealed that 73% of the physician respondents did not feel well informed regarding the capabilities of physical therapists.

Stanton et al (1983) studied resident physicians knowledge of physical therapy treatment and evaluative procedures with a multiple choice test and a demographic questionnaire. Of the physicians surveyed, 98% reported that they referred patients for physical therapy, but only 54% felt adequately informed to do so. Eighty-six percent of physicians taking the test on physical therapy treatments and evaluative procedures had test results that ranged between 0 and 49% for correct responses. The physicians scored best on questions pertaining to physical therapists' evaluation skills and worst on treatment skills. Analysis of the demographic profile revealed a positive correlation between test

score and frequency of communication with PTs. The number of years of residency and reported interest in PT had no effect on test scores.

In 1986, Parker and Chan investigated the stereotypical attitudes held between physical and occupational therapists with the Health Team Stereotype Scale (HTSS). The HTSS utilized paired adjectives with positive and negative connotations that represent opposite ends of a continuum. Subjects then indicated the extent that each word pair was representative of a profession. Overall, the study revealed that physical therapists (PTs) viewed themselves more positively than occupational therapists (OTs) viewed them. These findings indicate that potential sources of friction exist between the two professions. PTs had both positive and negative perceptions of the personal and work behaviors of OTs, but they tended to regard OTs less positively than they did themselves.

Streed and Stoecker (1991) performed a similar study with the HTSS to examine stereotypes held by OT and PT students. Their study revealed that both PTs and OTs viewed their own profession more positively than that of the other profession. "Although, this preferential view of one's own group may result in feelings of professional pride and commitment, it may also result in labeling of the behaviors of other groups" (Streed and Stoecker, 1991, p. 19). The same traits and behaviors perceived as positive in your own group may be viewed as negative in the other group and lead to friction between professions.

In 1994, a study by Parizon and Snyder (1994) examined physical therapists views of certified athletic trainers (ATCs) in the clinical setting. In general, the results of this study indicated that PTs had a positive attitude toward ATCs. This overall positive attitude was further improved by actual work experience with ATCs and greater knowledge of their educational background.

Background of the Instrument

The Interprofessional Perception Scale (IPS) was developed by Ducanis and Golin to examine the views held by professionals about themselves, other professions, and how they think other professionals view them (1979). The IPS was based on the Interpersonal Perceptions Method (IPM) developed by Laing, Phillipson, and Lee (Laing, et al 1966) to measure and identify the areas of agreement and disagreement between two individuals on key issues that affect their relationship.

The IPM was designed to examine several levels of perspectives held by members of a dyad. Laing identified three types of perspectives 1) direct perspectives; 2) metaperspectives; and 3) meta-metaperspectives. Direct perspectives are what an individual thinks about an issue. Metaperspectives are what an individual thinks another person will respond to an issue. Meta-metaperspectives examines what individuals believe others think they will respond to an issue (Laing, et al 1966).

Ducanis and Golin incorporated the three levels of perspective into the IPS. Professionals were asked to give their opinion of another profession on several issues. They were also asked to predict the other professions' response to the same issue, and how they think the other profession believes they would respond to that issue. Therefore, the IPS provides data in three areas: 1) a professional's views of a profession, 2) whether that professional thinks members of the another profession agree with those views, and 3) whether the professional thinks the other professional would accurately predict their response to an issue (1979).

Ducanis and Golin conducted a pilot study with the initial version of the IPS which consisted of 25 items on interprofessional issues. Thirty-eight nurses

enrolled in a masters course completed the scale. Results of the pilot study led to the elimination of items considered redundant or ambiguous. The revised version of the IPS contains fifteen items that were reworded. The format was changed so that the instrument could be used with any pair of professions (1979).

Content validity of the IPS is face validity. The questions are direct and appear to address interprofessional issues. Ducanis and Golin established reliability through a test-retest procedure using the responses of 24 students in a graduate rehabilitation counseling program. Scales for physicians, social workers, and "own profession," were used to determine reliability as measured by the percent of agreement. Direct perspective responses ranged from 74% to 86% with a mean across professions of 80% reliability. Metaperspective responses showed a range of reliability from 74% to 81% with a mean of 79%. Meta-metaperspective responses had a reliability range of 72% to 80% and a mean of 74% (1979).

Summary of Interprofessional Relation Findings and the Instrument

The studies performed on interprofessional relations indicate that there is a lack of knowledge about the skills and competencies of various health professions by other disciplines. There is also a tendency for each profession to perceive its actions and behaviors as more positive than those of other professions, which may contribute to misunderstandings and friction in the workplace. By identifying the interprofessional perceptions that exist and the areas of inadequate knowledge of other interactive professions, strategies can be developed to improve problem areas. This may lead to more effective teamwork and may ultimately improve inpatient care.

Hypotheses

The authors tested the following hypotheses:

1. Registered Nurses' (RNs) perception of the physical therapy profession will differ from the views RNs perceive to be held by Physical Therapists (PTs) toward the physical therapy profession on some professional issues.
2. Registered Nurses' perception of their own profession will differ from the views RNs perceive to be held by PTs toward the nursing profession on some professional issues.
3. Registered Nurses' perception of the physical therapy profession will differ from the views RNs think PTs would predict nurses hold toward the physical therapy profession on some professional issues.
4. Registered Nurses' perception of their own profession will differ from the views RNs think PTs would predict nurses hold toward their own profession on some professional issues.
5. Registered Nurses with more experience on the job will more often advise physicians to refer patients to physical therapy for assessment.
6. Registered Nurses who perceive PTs as being cooperative with the nursing profession will have more knowledge of physical therapy practice.

CHAPTER 3

METHODOLOGY

Sample

The study participants included first shift RNs and RNs regularly rotating to first shift who were employed in staff nurse positions at inpatient facilities in West Michigan. RNs to be excluded from the study were: second and third shift RNs, "Same Day Stay RNs", and those who work exclusively on surgical teams, IV teams, in the post-anesthesia/recovery room, radiology, and endoscopy units. These RNs were excluded because they have little opportunity for collaboration with PTs regarding patient care.

The study participants were drawn from Western Michigan hospitals listed in the American Hospital Association Guide to the Health Care Field, 1994. Selected facilities were required to be accredited by either the Joint Commission on Accreditation of Healthcare Organizations or the American Osteopathic Association. Acute care hospitals with at least 100 beds and/or rehabilitation inpatient facilities with at least 50 beds were included in this study. Each facility was also required to have physical therapy services available.

Procedure

A letter (see Appendix A) was sent to the directors of all acute care and rehabilitation hospitals, meeting the inclusion criteria, within the following West Michigan cities: Battle Creek, Cadillac, Grand Rapids, Holland, Kalamazoo, Muskegon, Petoskey, St. Joseph, and Traverse City. The letter requested their participation in the research study. The facilities were asked to send a list of all

first shift and regularly rotating Registered Nurses (RNs) working in staff nurse positions to the authors of this study.

The employee lists were kept confidential and were destroyed when data collection was completed. Each name on the list was assigned a unique identification number. Since only 230 names were submitted by the institutions, the authors were unable to randomize the sample. Instead, all subjects received a letter (see Appendix B) , a questionnaire (see Appendix C), and a stamped return envelope at their facility. Subjects were asked to return the questionnaire within one week of its receipt. The authors arranged for a postcard to be delivered one week after the surveys were distributed to remind subjects to return the questionnaire if they had not already done so. The postcard (see Appendix D) included a follow-up question to be completed if RNs had chosen not to return the survey. A postcard was utilized for follow-up because the hospitals did not want RNs accepting telephone calls during working hours. Returned questionnaires were identified by the number on the envelope. The identification numbers on the envelopes were utilized to determine if surveys and postcards had been delivered to the RNs at the hospitals. When the questionnaire was received back, the name and number was blacked out on the employee lists and the envelope was discarded. When data collection was completed all employee lists were destroyed to protect the confidentiality of the data that was collected. The lists containing RNs names enabled the authors to carry out a follow-up procedure with postcards to encourage subjects to return the questionnaire and obtain reasons given by RNs for the non-return of survey materials.

Instrument

The instrument (see Appendix C) selected for data collection was the Interprofessional Perception Scale (IPS) developed by Ducanis and Golin (1979). The first portion of the IPS was designed to collect demographic data (questions 1-8) to describe the characteristics of the sample. The following demographic data was collected on each subject: age, gender, years of experience, and highest degree. In addition, data was collected for the units in which RNs had at least one years experience (question 6); the frequency in which RNs advise physicians to refer patients for physical therapy assessment (question 7); and the number of hours worked by RNs (question 8). Question number 7 was used for hypothesis number 5 to determine if RNs with more years of experience would more often advise physicians to refer patients for physical therapy assessment.

The second portion of the IPS, survey questions 9 through 23, was used to collect correlational data in the following categories: how would you answer; how would PTs answer; and how would PTs say that you answered for the profession of physical therapy. The third portion of the IPS, survey questions 24 through 38, were used to collect correlational data in the same three categories stated above in the second portion of the IPS for the nursing profession. All questions in the second and third portions of the survey were modified to be specific for the two professions with the permission of the publisher (see Appendix E).

The fourth section of the survey, questions numbered 39-53, were added to identify knowledge deficits RNs may have regarding physical therapy practice. These questions may not provide an accurate measure of RNs knowledge of physical therapy practice as reliability was not established for this portion of the

survey. The last section of the survey (questions 54, 55, and 56) was added to obtain information on knowledge deficits that physical therapists may have regarding the capabilities of nurses as perceived by RNs.

Design

The instrument utilized a repeated measures design in that three columns were used to collect data on the same interprofessional issue. Column I asked RNs how would you answer; column II asked RNs how would PTs answer; and column III asked RNs how would PTs say that you answered in column I. The responses in the various columns cannot be considered independent since the same individual answered the question for all three columns. Therefore, the data collected in each column was analyzed by a two-sample Z-test for correlated proportions between dependent variables. The study investigated the relationship between the data in column I (direct perspective) and column II (metaperspective) for the professions of physical therapy and nursing on fifteen interprofessional issues. The two-sample Z-test for correlated proportions was utilized to determine if significant differences existed between the two perspectives. The study also investigated the relationship between column I (direct perspective) and column III (meta-metaperspective) for the two professions. The data was analyzed in the manner described above. In addition, the instrument was exploratory in that questions were asked in order to ascertain if there were knowledge deficits between the professions.

Pilot Study

A pilot study was completed in August 1995 to determine if problems existed with the questionnaire. Eight practicing RNs with current or previous

experience in the inpatient setting completed the survey. They were asked to record the amount of time it took to complete the questionnaire and to give feedback about any ambiguities in the survey.

Results of the pilot study revealed that the average time needed to complete the survey was twenty minutes and that two RNs found some areas of the questionnaire confusing. One RN stated that she found the connection between the third column (see Appendix C, questions 9-38) and the first column statements and heading confusing. To correct this problem, we changed the statement headings to "Physical Therapists" and "Nurses" and used a bold type to focus attention. Another complaint made by an RN was that the questions were stated in both positive and negative terms which required her to spend more time reading each statement. The authors did not address this as a problem because we wanted the respondents to read each statement carefully. Some of the RNs also had problems with the forced answer questions used in the survey and tried to insert "sometimes" or "maybe" as responses. The authors addressed this by modifying the directions to state the answer you perceive to be correct most of the time. All modifications to the survey were made with the permission of the publisher (see Appendix E).

CHAPTER 4

RESULTS

Introduction

The data was analyzed using descriptive and parametric statistical methods. Data collected in columns I and II of the IPS was organized into a two by two contingency table (see Appendix G) for each survey (see Appendix C) question. A hypothesis test for comparing two proportions (Wild and Seber, 1993) was then utilized to determine agreement and disagreement between RNs and physical therapists as perceived by the RN. Data contained in columns I and III (see Appendix H) of the IPS was then analyzed in a similar manner to determine whether RNs think PTs were aware or unaware that agreements and disagreements existed. The authors sought to establish a relationship between the RNs years of experience and the frequency in which they advised physicians to refer patients to physical therapy for assessment. The authors also sought to establish a relationship between an RNs knowledge of physical therapy practice, as measured by questions 39-53 of the questionnaire, with the RNs perceived view that PTs were cooperative with the nursing profession (IPS question number 21). Data was analyzed with the SAS computer software package.

Sample Description

Four hospitals in west Michigan agreed to allow their RNs to participate in this study. The hospitals ranged in size from 177 to 430 beds. Two hundred and thirty surveys were distributed at the four hospitals and the authors received 100 surveys back for approximately a 45% return.

Respondents to the questionnaire consisted of 95% women and 4% men with 1% of the sample participants leaving the gender question blank. The mean age of survey respondents was 41.75 years. The highest degree obtained by our sample was a Masters degree which represented only 1% of respondents. The breakdown for the remaining 99% of the sample was as follows: 26% with a Bachelors degree; 33% with an Associates degree; and 40% with a diploma in nursing.

The study participants had an average of 15.38 years of experience in the nursing profession. The elevated years of experience is presumably due to the higher seniority make-up of most first shift nurses in hospitals. See Table 1 for a description of the age and years of experience of the nurses sampled.

Table 1

Age and RN Years of Experience

Variable	n	Mean	Std. Dev.	Q1	Median	Q3	Range
Age	99	41.75	8.25	36	41	48	[23-59]
Experience	99	15.38	9.62	7	15	22	[1-38]

Note. Q1 represents the 25th percentile and Q3 the 75th percentile.

Of the nurses who responded, 46% reported at least one year of work experience in either the orthopedic unit, the neurology unit, or the rehabilitation unit. These three units represent the departments most likely to have frequent contact with physical therapists. Table 2 provides a breakdown of the nurses' experience in specific hospital units.

Table 2

RNs with at Least One Year of Work Experience in Various Hospital Units

Category	Percent Worked n=100	Percent Not Worked n=100
Orthopedic	29	71
Neurology	16	84
Internal Medicine	45	55
Cardiac Care	25	75
Pediatrics	18	82
Neonatal Intensive Care	2	98
Maternity/Newborn	24	76
Intensive Care/Critical Care	22	78
Surgical	52	48
Rehabilitation	27	73

Note. Subjects were allowed to indicate experience in multiple units, therefore the columns will not sum to 100%.

Half of the nurses surveyed worked 31 to 40 hours per week. Of the remaining nurses, 29% worked less than 31 hours per week and 16% more than 40 hours per week. For a specific breakdown of the number of hours per week worked by RN respondents see Table 3.

The frequency in which RNs advise physicians to refer patients for physical therapy assessment varied. Fifty-two percent of the nurses advised physicians to refer patients for physical therapy assessment once per month or less. However, 46% of the nurses recommend patients for physical therapy

once a week or more. Table 4 provides a complete breakdown for the frequency in which RNs advise physicians to refer patients for physical therapy assessment.

Table 3

Hours Worked Per Week by RNs Surveyed

Hours/Week	Percent n=100
Less than 10	2
10 to 20	6
21 to 30	21
31 to 40	53
More than 40	16
Missing Values	2

Table 4

Frequency in which RNs Advise Physicians to Refer Patients for Physical Therapy Assessment by Percentage

Advisement Frequency	Percent n=100
Daily	1
2 to 6 times per week	15
Once per week	14
More than once per week	17
Once per month	27
Never	24
Missing Values	2

In general, the descriptive statistics of the sample reflects that first shift RNs have high seniority and years of experience on the job. This was demonstrated by the median age (41 years old) of the sample and the variety of hospital units in which the RNs had job experience.

Hypothesis #1: Direct Perspective vs. Metaperspective

Registered Nurses' perception of the physical therapy profession will differ from the views RNs perceive to be held by PTs toward the physical therapy profession on some professional issues. Figure 1 illustrates the results collected by survey questions numbers 9 through 23, columns I and II, regarding RNs' perceptions of the physical therapy profession. Column I of the questionnaire indicated what RNs thought was true regarding the stated issue (direct perspective) and column II indicated what RNs thought PTs would respond to the same issue (metaperspective) for the physical therapy profession (see Appendix C).

A majority of nurses (substantially larger than 50%) from the survey (direct perspective) responded true to the following issue statements (identified by key words) which began with the words Physical Therapists: competent (100%); capability (60%); welfare (94%); ethical (93%); trust (86%); trained (97%); and relations (91%). These were all positively worded issue statements (see

Appendix C). A majority of true responses indicated agreement with the issue statements (see Figure 1).

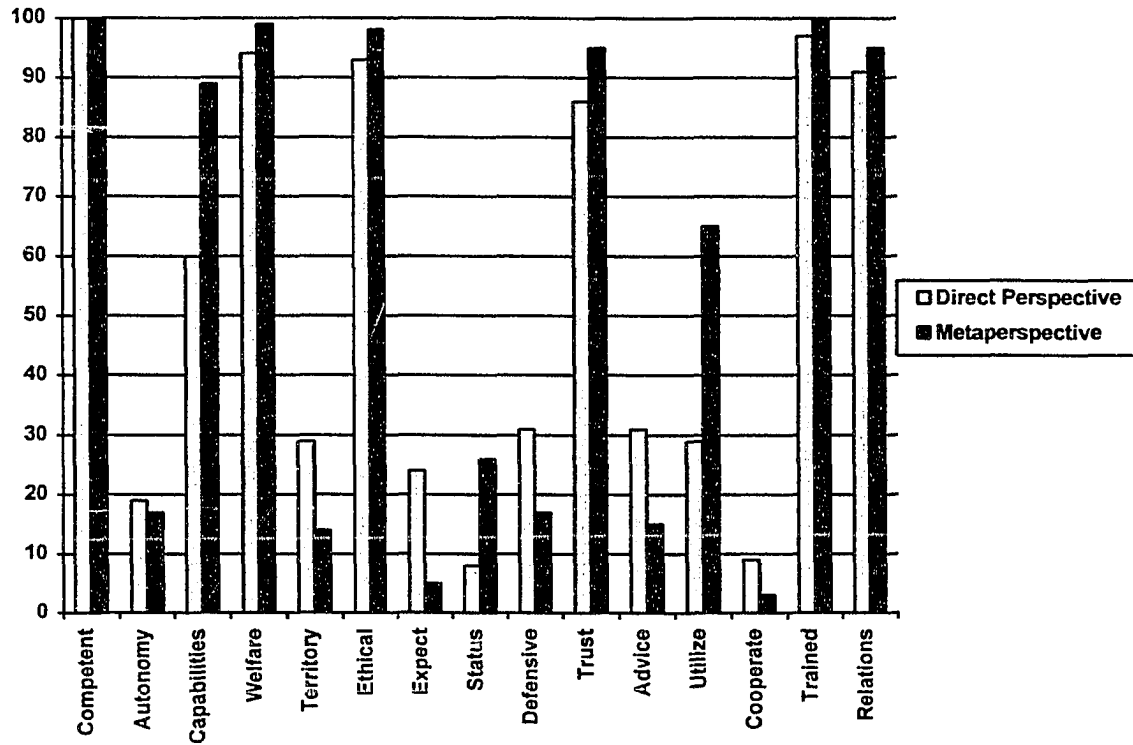


Figure 1. Physical Therapy Profession: How RNs Answered (Direct perspective) Compared to How RNs Predicted PTs Would Answer (Metaperspective)

Less than a majority (substantially less than 50%) of nurses surveyed responded true to the following issue statements (key words) that began with the words Physical Therapists: autonomy (19%); territory (29%); expect (24%); status (8%); defensive (31%); advice (31%); utilize (29%); and cooperate (9%).

These were all negatively worded issue statements, except for the area “utilize” which was a positively worded issue statement (see Appendix C). A less than majority response indicated disagreement with an issue statement. Disagreement with negatively worded statements was a positive indicator for interprofessional relationships. In contrast, disagreement with a positively worded issue statement was a negative indicator. Therefore, RNs disagreement with the issue statement, PTs fully utilize the capabilities of the nursing profession, indicated that RNs do not think PTs are fully utilizing nurses’ capabilities.

Figure 1 also illustrates the percentage of RNs’ true responses in column II which represents the RNs’ metaperspective (i.e. how RNs think PTs would answer the question). A majority of RNs indicated that PTs would answer true for the following issue statements about the PT profession: competent (100%); capability (89%); welfare (99%); ethical (98%); trust (95%); utilize (65%); trained (100%); and relations (95%). A majority of true responses indicated agreement with the issue statements. These were all positively worded issue statements.

Less than a majority of RNs indicated that PTs would answer true for the following issue statements about the PT profession: autonomy (17%); territory (14%); expect (5%); status (26%); defensive (17%); advice (15%); and cooperate (3%). These issue areas were all negatively worded statements, therefore, the RNs’ perception was that most PTs would disagree with these issue statements. The overall trend indicates that RNs think that PTs see themselves positively. An interesting difference in viewpoint exists between the RNs’ response (29%

true) and how RNs thought PTs would respond (65% true) on the following issue:
PTs fully utilize the capabilities of the nursing profession.

A two-sample Z-test for correlated proportions (Wild, Seber, 1993) was utilized to compare the proportion of RNs who responded true in column I (direct perspective) to the proportion of RNs who responded true in column II (meta-perspective) (see Appendix G). Each issue statement (15 total) was analyzed individually. Bonferroni's adjustment (significance level of the test divided by the number of comparisons) was utilized to take into account the multiple comparisons when detecting significant differences on these issues. This means that any p-value ≤ 0.0033 (derived from $.05/15$) indicated a significant difference between RNs' direct perspective and metaperspective at the 0.05 significance level. The results are summarized in Table 5.

There was a significant difference ($p \leq 0.0006$) in the degree of agreement between the direct perspective and the metaperspective for the issue area of capabilities. RNs thought PTs would agree more often than RNs would with the statement: PTs understand the capabilities of nurses (89% vs. 60%, respectively).

There were also significant differences in the degree of disagreement between the direct perspective and the metaperspective on several issue areas: territory ($p = 0.0018$), expect ($p \leq 0.0006$), defensive ($p = 0.0010$), advice ($p = 0.0018$), and status ($p = 0.0010$) (see Table 5). In general, the proportion of RNs who disagreed was less than the proportion of RNs who thought PTs would

Table 5

Hypothesis # 1:Physical Therapy Profession: How RNs Answered (Direct Perspective)Compared to How RNs Predicted PTs Would Answer (Metaperspective)

Questions 9-23	Direct Perspective	Metaperspective	Z-test	P-value
Competent	100%	100%	none	none
Little autonomy	19%	17%	0.53	0.5962
Capabilities	60%	89%	-5.01	< 0.0006*
Welfare	94%	99%	-1.89	0.0588
Territory	29%	14%	3.13	0.0018*
Ethical	93%	98%	-1.67	0.095
Expect too much	24%	5%	3.96	< 0.0006*
Higher status	8%	26%	-3.27	0.001*
Defensive	31%	17%	3.3	0.001*
Trust	86%	95%	-2.71	0.0068
Seldom ask advice	31%	15%	3.14	0.0018*
Utilize nurses	29%	65%	-5.55	< 0.0006*
Do not cooperate	9%	3%	2.12	0.034
Well trained	97%	100%	-1.73	0.0836
Good relations	91%	95%	-1.41	0.1586

Note. An * indicates that a significant difference exists at the 0.05 level ($p \leq 0.0033$ by Bonferroni's adjustment).

disagree with the following statements: PTs sometimes encroach on nurses' professional territory (71% vs. 86%, respectively); PTs expect too much of the nursing profession (76% vs. 95%, respectively); PTs are very defensive about their professional prerogatives (69% vs. 83%, respectively); and PTs seldom ask nurses' professional advice (69% vs. 85%, respectively). RNs would disagree more often than RNs thought PTs would for the issue statement: PTs have a higher status than nurses (92% vs. 74%, respectively).

The issue area, utilize, also showed a significant difference between the direct perspective and the metaperspective. In this case, the majority of RNs disagreed (71%), and a majority RNs thought PTs would oppose their view and agree (65%), with the following issue statement: PTs fully utilize the capabilities of nurses. In summary, hypothesis # 1 was supported by significant differences in 7 out of 15 professional issue areas.

Hypothesis 2: RNs: Direct Perspective vs. Metaperspective

Registered Nurses' perception of their own profession will differ from the views RNs perceive to be held by PTs toward the nursing profession on some professional issues. Figure 2 illustrates the results collected by survey questions numbers 24 through 38, columns I and II, regarding RNs' perceptions of the nursing profession. Column I of the

questionnaire indicated what RNs thought was true regarding the stated issue (direct perspective) and column II indicated what RNs thought PTs would state was true for the same issue (metaperspective) for the nursing profession (see Appendix C).

A majority of nurses (direct perspective) from our survey responded true to the following issue areas (key words) which began with Nurses: competent (100%); welfare (100%); ethical (99%); trust (93%); trained (98%); and relations (94%). A majority of true responses indicated agreement with the issue statement (see Figure 2). These were all positively worded issue statements.

Less than a majority of RNs (direct perspective) surveyed responded true to the following issue statements (key words) which began with the word Nurses: autonomy (26%); expect (14%); status (22%); advice (19%); utilize (29%); and cooperate (6%). These issue statements were all negatively worded except for "utilize" which was a positively worded statement (see Appendix C). A less than majority response indicated disagreement with the issue statements. Disagreement with the positively worded issue statement, Nurses fully utilize the capabilities of the physical therapy profession, indicated that RNs do not perceive themselves as fully utilizing the capabilities of physical therapists.

Nurses did not clearly agree or disagree (between 40% and 60%) for the following issue areas: capabilities (57%), territory (42%), and defensive (45%). The inability of the nurses to clearly agree or disagree indicated that the nursing profession lacked a clear consensus for these issues.

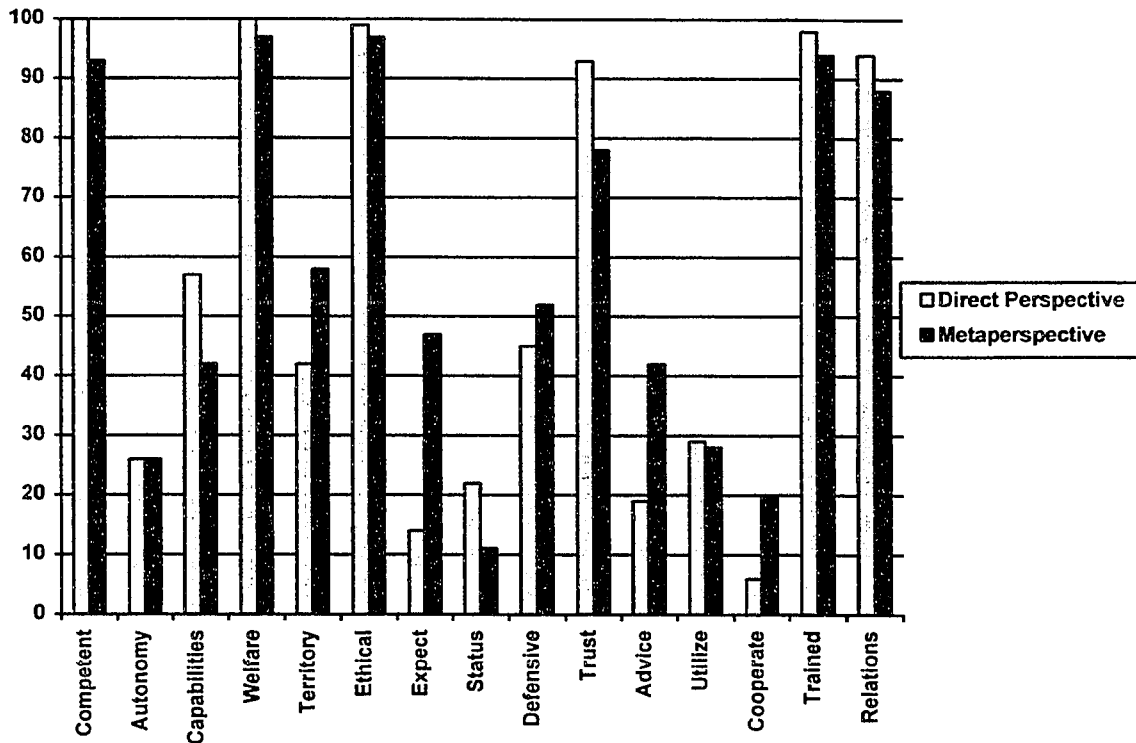


Figure 2. Nursing Profession: How RNs Answered (Direct Perspective) Compared to How RNs Predicted PTs Would Answer (Metaperspective)

Figure 2 also illustrates the percentage of RNs' true responses in column II of the survey which represents the RNs' metaperspective (how RNs think PTs would answer the question). A majority of RNs thought that PTs would answer true for the following issue statements which began with Nurses are: competent (93%); welfare (97%); ethical (97%); trust (78%); trained (94%); and relations

(88%). A majority of true answers indicated agreement with the issue statements. These were all positively worded issue statements.

Less than a majority of RNs thought that PTs would answer true (metaperspective) for the following issue statements: autonomy (26%); status (11%); utilize (27%); and cooperate (20%). A less than a majority response indicated disagreement with the issue statements. These were all negatively worded issue statements, except for the issue area "utilize." Disagreement with the issue area "utilize", a positively worded statement, indicated that RNs do not think that PTs perceive Nurses as fully utilizing the capabilities of physical therapists.

Nurses were split and failed to achieve a clear consensus (agreement or disagreement) for their perception of how PTs would respond (metaperspective) to the following issue statements beginning with the word Nurses: capabilities (42%); territory (58%); expect (47%); defensive (52%); and advice (42%).

A two-sample Z-test for correlated proportions (Wild, Seber, 1993) was utilized to compare the proportion of RNs who responded true in column I (direct perspective) to the proportion of RNs who responded true in column II (metaperspective) (see Appendix G). Each issue statement (15 total) was analyzed individually. Bonferroni's adjustment (significance level of the test divided by the number of comparisons) was utilized to take into account the multiple comparisons when detecting significant differences on these issues. This means that any p-value ≤ 0.0033 (derived from $0.05/15$) indicates a significant difference

between RNs' direct perspective and metaperspective at the 0.05 significance level. The results are summarized in Table 6.

There were significant differences (see Table 6) in the degree of agreement between the direct perspective and the metaperspective for the following issue areas: competent ($p = 0.0080$) and trust ($p = 0.0028$). In general, RNs agreed more often than RNs thought PTs would for the following issue statements: Nurses are competent (100% vs. 93%, respectively) and Nurses trust physical therapists' professional judgment (93% vs. 78%, respectively).

There was also a significant difference ($p = 0.0010$) in the degree of disagreement between the direct perspective and metaperspective for the issue area cooperate. RNs disagreed more often than RNs thought PTs would disagree with the issue statement: Nurses do not cooperate well with physical therapists (94% vs. 80%, respectively).

There were significant differences between RNs' direct perspective and metaperspective for the following issue areas: expect ($p \leq 0.0006$) and advice ($p \leq 0.0006$). A majority of RNs disagreed (direct perspective) and the RNs did not agree or disagree (metaperspective) with the following issue statements: Nurses expect too much from physical therapists (86% vs. 53%, respectively) and Nurses seldom ask physical therapists' professional advice (81% vs. 58%, respectively).

Table 6

Hypothesis # 2:Nursing Profession: How RNs Answered (Direct Perspective) Compared to How RNs Predicted PTs Would Answer (Metaperspective)

Questions 24-38	Direct Perspective	Metaperspective	Z-test	P-value
Competent	100%	93%	2.65	0.008*
Little autonomy	26%	26%	0	1
Capabilities	57%	42%	3.13	0.0018*
Welfare	100%	97%	1.73	0.0836
Territory	42%	58%	-3.77	<0.0006*
Ethical	99%	97%	1.41	0.1586
Expect too much	14%	47%	-5.65	<0.0006*
Higher status	22%	11%	2.67	0.0076
Defensive	45%	52%	-1.94	0.0524
Trust	93%	78%	2.98	0.0028*
Seldom ask advice	19%	42%	-4.43	<0.0006*
Utilize PTs	29%	28%	0.26	0.7948
Do not cooperate	6%	20%	-3.3	0.0010*
Well trained	98%	94%	1.63	0.1032
Good relations	94%	88%	2.45	0.0142

Note. An * indicates a significant difference at the 0.05 significance level ($p \leq 0.0033$ by Bonferroni's adjustment).

Significant differences exist between the direct perspective and the metaperspective, even though RNs did not agree or disagree with the following issue areas: capabilities ($p = 0.0018$) and territory ($p \leq 0.0006$). The proportion of RNs responding true was greater than the proportion of RNs who thought PTs would respond true for the following issue statement: Nurses understand the capabilities of the physical therapy profession (57% vs. 42%, respectively), and the proportion of RNs responding true was less than the proportion of RNs who thought PTs would respond true for the following issue statement: Nurses sometimes encroach on the physical therapists' professional territory (42% vs. 58%, respectively). In summary, hypothesis # 2 was supported by significant differences between direct perspective and metaperspective responses for 7 of 15 issue areas.

**Hypothesis #3: PT Profession: Direct Perspective vs.
Meta-metaperspective**

Registered Nurses' perception of the physical therapy profession will differ from the views RNs think PTs would predict nurses hold toward the profession of physical therapy. Figure 3 illustrates the results collected by survey questions numbers 9 through 24, columns I and III, regarding RNs' perceptions of the profession of physical therapy. Column I of the survey indicated what RNs thought was true (direct perspective) regarding the stated

issue and column III indicated the RNs' perception of what PTs would predict RNs would answer (meta-metaperspective) for the same issue (see Appendix C). For a summary of column I responses (direct perspective) refer to page 23 under the title Hypothesis # 1.

A majority of RNs think that PTs would predict that RNs would answer true (meta-metaperspective) for the following issue areas beginning with the words Physical Therapists: competent (91%); capabilities (60%); welfare (88%); ethical (92%); trust (86%); trained (94%); and relations (86%). A majority of true responses indicates agreement with the issue statements. These were all positively worded issue statements.

Less than a majority of RNs surveyed thought PTs would predict that RNs would respond true (meta-metaperspective) for the following issue areas: autonomy (28%); territory (38%); expect (36%); status (16%); defensive (32%); advice (32%); and cooperate (13%) (see Figure 3). A less than a majority response indicates disagreement with the issue statements. These were all negatively worded issue statements.

The RNs did not clearly agree or disagree that PTs would predict an RN would respond true for the following issue statement: Physical Therapists fully utilize the capabilities of the nursing profession (55%) (see Figure 3). This indicates that RNs had no clear consensus whether PTs would predict an RNs' response for this issue.

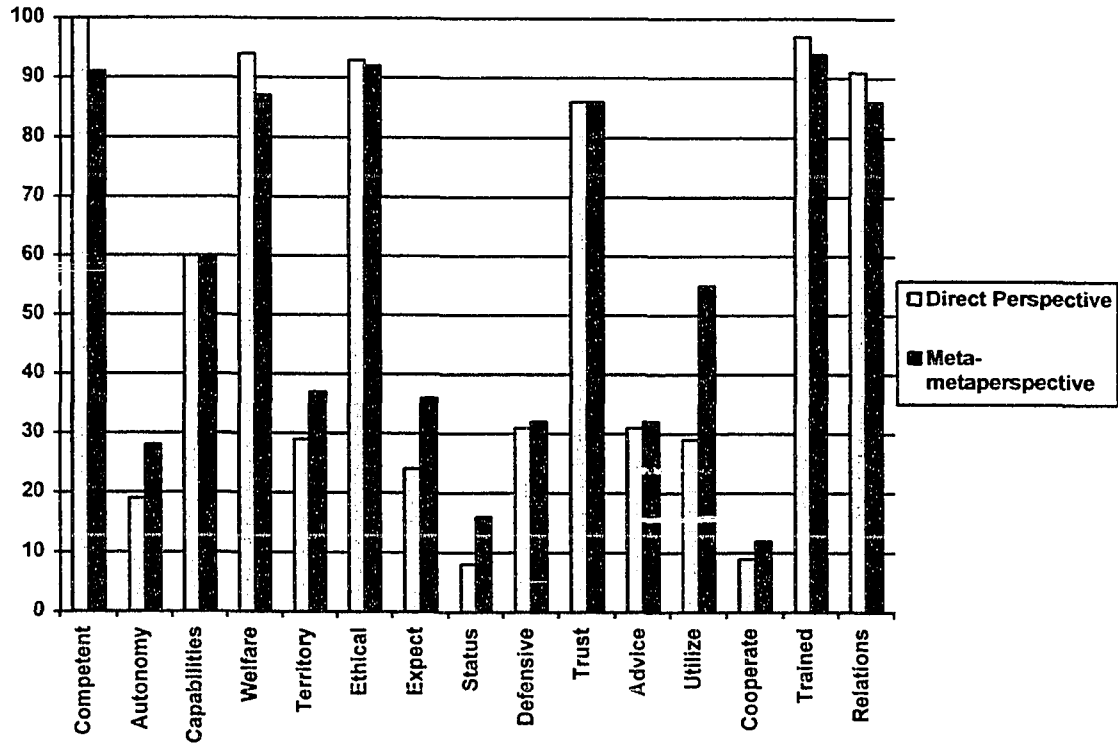


Figure 3. Physical Therapy Profession: How RNs Answered (Direct Perspective) Compared to How RNs Think PTs Would Predict RNs Would Answer (Meta-metaperspective)

A two-sample Z-test for correlated proportions (Wild, Seber, 1993) was utilized to compare the proportions of RNs who responded true in column I (direct perspective) and column III (meta-metaperspective) (see Appendix H). Each issue statement was analyzed individually. Bonferroni's adjustment (significance level of the test divided by the number of comparisons) was utilized to take into account the multiple comparisons when detecting significant differences on these issues. This means that any $p\text{-value} \leq 0.0033$ (derived from $0.05/15$) indicates a significant difference between RNs' direct perspective and meta-metaperspective at the 0.05 significance level. The results are summarized in Table 7.

There was a significant difference ($p = 0.0026$) in the degree of agreement between the RNs' direct perspective and meta-metaperspective responses for the issue statement: PTs are competent (100% vs. 91%, respectively). There was also a significant difference ($p \leq 0.0006$) between the RNs' direct perspective and meta-metaperspective for the issue statement: PTs fully utilize the capabilities of the nursing profession (29% vs. 55%, respectively). However, RNs' direct perspective responses indicate disagreement with the issue statement and the RNs' meta-metaperspective responses indicate that nurses did not agree or disagree with the issue statement. In summary, hypothesis # 3 was supported by significant differences between direct perspective and meta-metaperspective responses in 2 of 15 issue areas.

Table 7

Hypothesis # 3:Physical Therapy Profession: How RNs Answered (Direct Perspective)Compared to How RNs Think PTs Would Predict RNs Would Answer (Meta-
metaperspective)

Questions 9-23	Direct Perspective	Meta- metaperspective	Z-test	P-value
Competent	100%	91%	3	0.0026*
Little autonomy	19%	28%	-1.88	0.0614
Capabilities	60%	60%	0	1
Welfare	94%	88%	1.9	0.0588
Territory	29%	38%	-1.46	0.1442
Ethical	93%	92%	0.3	0.7642
Expect too much	24%	36%	-1.98	0.0478
Higher status	8%	16%	-2	0.0456
Defensive	31%	32%	-0.3	0.7642
Trust	86%	86%	0	1
Seldom ask advice	31%	32%	0	1
Utilize nurses	29%	55%	-4.23	<0.0006*
Do not cooperate	9%	13%	-1.13	0.2584
Well trained	97%	94%	1.13	0.2584
Good relations	91%	86%	1.51	0.131

Note. An * indicates a significant difference at the 0.05 level ($p \leq 0.0033$ by Bonferroni's adjustment).

Results Hypothesis # 4: Nursing Profession: Direct Perspective vs. Meta-metaperspective

Registered Nurses' perception of their own profession will differ from the views RNs think PTs would predict nurses hold toward the nursing profession on some professional issues. Figure 4 illustrates the results collected by survey questions numbers 24 through 38, column I and column III, regarding RNs' perceptions of the nursing profession. Column I of the survey indicated what RNs perceived was true (direct perspective) and column III indicated the RNs' perception of what PTs would predict RNs would answer (meta-metaperspective) for the same issue (see Appendix C). For a summary of column responses (direct perspective) refer to page 29 under the title Hypothesis # 2.

A majority of RNs responding to the survey thought that PTs would predict an RN would respond true (meta-metaperspective) for the following issue areas beginning with Nurses: competent (97%); welfare (99%); ethical (98%); trust (79%); trained (96%); and relations (90%) (see Figure 4). A majority of true responses indicates agreement with the issue statements. These were all positively worded issue statements.

Less than a majority of RNs surveyed thought PTs would predict an RN would respond true (meta-metaperspective) for the following issue areas; autonomy (25%); expect (27%); status (34%); advice (35%); and cooperate

(20%) (see Figure 4). A less than a majority response indicates disagreement with the issue statements. These were all negatively worded issue statements.

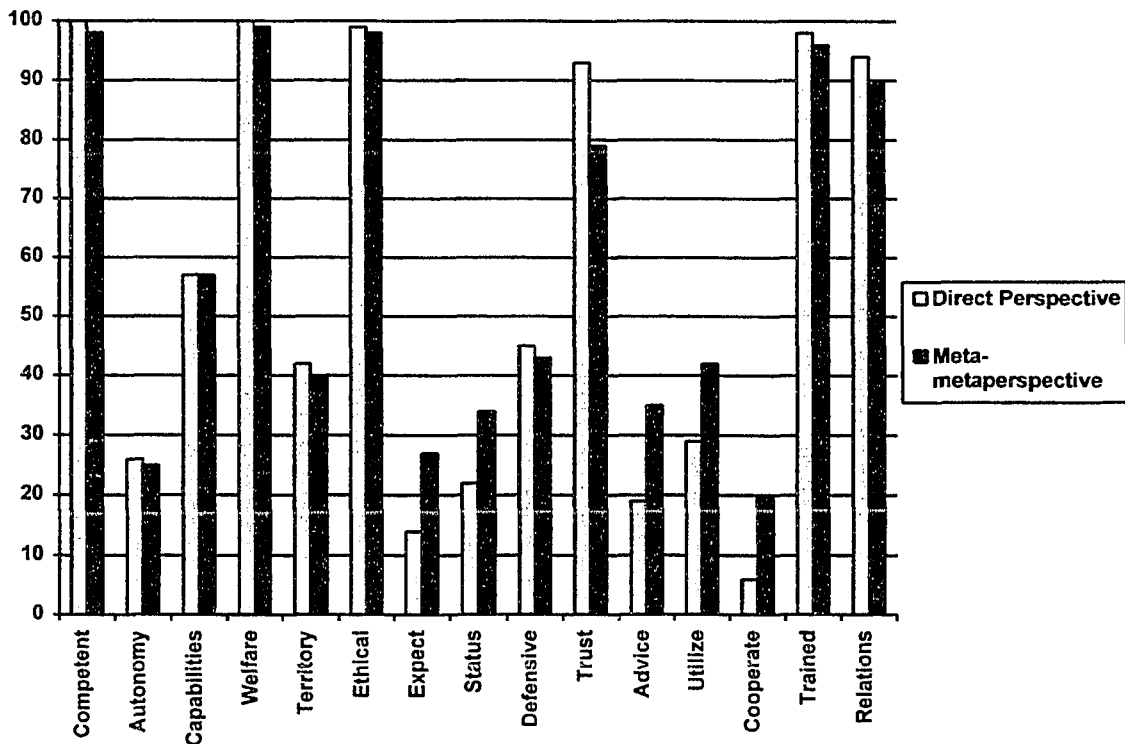


Figure 4. Nursing Profession: How RNs answered (direct perspective) compared to how RNs think PTs would predict RNs would answer (meta-metaperspective)

RNs did not clearly agree or disagree that PTs would predict an RN would respond true (meta-metaperspective) for following issue areas: capabilities (57%); territory (40%); defensive (43%); and utilize (42%) (see Figure 4). This

indicated that RNs had no clear consensus whether PTs would accurately predict a nurses' perception on these issues.

A two-sample Z-test for correlated proportions (Wild, Seber, 1993) was utilized to compare the proportions of RNs who responded true in column I (direct perspective) and column III (meta-metaperspective) (see Appendix H). Each issue statement was analyzed individually. Bonferroni's adjustment (significance level of the test divided by the number of comparisons) was utilized to take into account the multiple comparisons when detecting significant differences on these issues. This means that any $p\text{-value} \leq 0.0033$ (derived from $0.05/15$) indicates a significant difference between RNs' direct perspective and meta-metaperspective at the 0.05 significance level. The results are summarized in Table 8.

There were a significant differences in the degree of disagreement between the RNs' direct perspective and meta-metaperspective responses for the following issue areas: expect ($p=0.0028$); advice ($p \leq 0.0006$); and cooperate ($p \leq 0.0006$). In general, this indicated that RNs thought PTs would predict RNs would answer true in column I more often than RNs would for the following issue statements: Nurses expect too much of the physical therapy profession (14% vs. 27%, respectively); Nurses seldom ask physical therapists' professional advice (19% vs. 35%, respectively); and Nurses do not cooperate well with physical therapists (6% vs. 20%, respectively). In summary, hypothesis

4 was supported by significant differences between the direct perspective and meta-metaperspective responses in 3 of 15 issue areas.

Table 8

Hypothesis # 4:

Nursing Profession: How RNs Answered (Direct Perspective) Compared to How RNs Think PTs Would Predict RNs Would Answer (Meta-metaperspective)

Questions 24-38	Direct Perspective	Meta-metaperspective	Z-test	P-value
Competent	100%	98%	1.41	0.1586
Little autonomy	25%	25%	0	1
Capabilities	56%	57%	-0.19	0.8572
Welfare	100%	99%	1	0.3175
Territory	42%	40%	0.47	0.6384
Ethical	99%	98%	1	0.3174
Expect too much	14%	27%	-2.98	0.0028*
Higher status	22%	34%	-2.68	0.0074
Defensive	44%	43%	0.3	0.7642
Trust	93%	79%	3.36	0.0008
Seldom ask advice	19%	35%	-3.77	<0.0006*
Utilize PTs	29%	42%	-2.68	0.0074
Do not cooperate	6%	20%	-3.61	<0.0006*
Well trained	98%	96%	1.41	0.1586
Good relations	94%	90%	1.41	0.1586

Note. An * indicates a significant difference exists at the 0.05 level ($p \leq 0.0033$ by Bonferroni's adjustment).

Results: Hypothesis # 5

Registered Nurses with more experience on the job will more often advise physicians to refer patients to physical therapy for assessment.

RNs' years of experience was obtained from survey question number 3 as a continuous variable (see Appendix C). The frequency in which RNs advise physicians to refer to physical therapy was obtained by survey question number 7 as a categorical variable. This made it necessary to convert RN years of experience into categories to perform a statistical analysis. RN years was converted into the following categories: less than 10 years experience; 10 or more years experience but less than 20 years; 20 or more years of experience but less than 30 years; and 30 or more years of experience. The two variables, years of experience and frequency of advisement, were cross tabulated and are summarized in Table 9.

The Kendall's Tau statistic was utilized to examine hypothesis # 5. The Kendall's Tau statistic is a measure of association between two ordinal variables. The Kendall's Tau statistic ranges from -1 to 1, a negative association would be a -1, zero indicates no association, and 1 indicates a perfect positive association between the two variables. The Kendall's Tau statistic for Table 9 is -0.093 (test statistic = 1.21, p-value = 0.2262) which is close to zero (-0.093 is not significantly different from zero by the reported p-value). This indicates that there was no association between the RNs' years of experience and the

frequency in which an RN advises physicians to refer patients for physical therapy assessment.

Table 9

Hypothesis # 5:

RN Years of Experience vs. the Frequency in which RNs Advise Physicians to Refer for Physical Therapy Assessment

Years of RN experience	Frequency of Advisement					
	Daily	2-6 time/wk	Once/wk	More than once/mo	Once/mo	Never
years < 10	0	3	5	5	6	9
10 ≤ years ≤ 20	1	7	4	5	11	10
20 ≤ years ≤ 30	0	3	4	4	7	5
years > 30	0	2	1	3	3	0

Note. The table is to be read across a row and down a column until you intersect. The point of intersection tells you the number of RNs surveyed who fulfill the row and column requirements.

RNs' Knowledge of Physical Therapy Practice

Registered nurses' knowledge of physical therapy practice was measured by tabulating the number of correct responses to questions numbers 39 through 53 of the survey. A summary of the results of RNs' responses for specific knowledge questions is presented in Table 10.

Table 10

RNs' Knowledge of PT Practice

Survey questions numbered 39 through 53	% Correct	% Incorrect
39. Therapeutic exercise to increase a patient's strength, endurance, coordination, joint range of motion, and flexibility.	99%	1%
40. Pain Management.	73%	27%
41. Forced manipulation of a frozen joint to increase motion.	57%	43%
42. Bed positioning to prevent contractures, manage spasticity, protect skin integrity.	74%	26%
43. Gait training.	100%	0%
44. Muscle re-education and motor control training.	97%	3%
45. Transfer training and bed mobility.	98%	2%
46. Wound debridement.	50%	50%
47. Patient education and training for incontinence control.	31%	69%
48. Joint mobilization and manual therapies.	99%	1%
49. Order assistive devices and educate patients in their use.	98%	2%
50. Orthopedic and neurological assessment.	90%	10%
51. Patient education for joint protection, prevention of injury, and safe exercise.	98%	2%
52. Discharge recommendations including home exercise programs and referral for rehabilitation and home care.	98%	2%
53. Injection of myofascial trigger points.	66%	34%

In general, nurses scored high on test questions with a median test score of 12 correct responses out of 15 questions. However, RNs' scores on questions numbered 46 and 47 were not consistent with the scores for the other questions. The inconsistent response for question 46 on wound debridement may have

arisen because hospital policy may dictate who performs debridement at their facility. The inconsistent test score for question number 47 may have occurred because many facilities lack therapists with the necessary skills and the biofeedback equipment needed to retrain motor control in patients with incontinence. Ten percent of RNs scored low on question number 50. This indicates that 10% of RNs do not know that PTs perform orthopedic and neurological patient assessment which is an integral part of physical therapy practice.

Results: Hypothesis # 6

Registered Nurses who perceive PTs as being cooperative with the nursing profession will have more knowledge of physical therapy practice.

A two-sample t-test with equal variances was used to see if there was a significant difference between the mean knowledge test score of RNs who view PTs as cooperative with the nursing profession as compared to the mean knowledge test score of those RNs who view PTs as uncooperative with the nursing profession. A measurement of RNs' knowledge of physical therapy practice was obtained by summing the number of correct responses to questions numbered 39 through 53 of the survey (see Appendix C). For a summary of RN knowledge scores see Table 10. The number of RNs who think PTs are cooperative or non-cooperative was obtained from question 21 of the survey in

column I. Table 11 provides descriptive statistics for the test scores between the cooperative group and the non-cooperative group.

Table 11

Hypothesis # 6:

RN Knowledge of Physical Therapy Practice Compared to RNs Perception of PTs as Cooperative and Non-Cooperative

Group	n	Mean	Std. Dev.	Q1	Median	Q3	Range
Cooperative	91	12.33	1.37	12	12	13	[7-15]
Noncooperative	9	11.78	1.64	11	12	13	[9-14]

Note. Q1 represents the 25th percentile and Q3 the 75th percentile.

There was no significant difference between the mean knowledge test scores of RNs who perceive PTs as cooperative with nurses and the RNs who perceive PTs as noncooperative with nurses (test statistic = 1.13, p-value = 0.1295). The results may be due to the fact that the majority of RNs surveyed viewed PTs as cooperative (91% vs. 9%) and that both groups scored equally well on the knowledge portion of the survey.

RNs' Perception of Physical Therapists' Knowledge of Nursing Practice

Question number 54 of the survey (see Appendix C) asked RNs if they thought physical therapists understand the capabilities of nurses. Overall, RNs thought that PTs understand the capabilities of nurses as 67% responded yes to question #54 and only 33% responded no. RNs who responded no were asked to list up to three areas in which they thought PTs lacked knowledge of nursing practice.

One general area mentioned ten times by RNs was transfers. Specifically, four RNs indicated that PTs underestimate RNs training and ability to assist with patient transfers. Four more RNs reported that PTs are always getting patients up into chairs and never getting them back into bed. The RNs stated that they do not have the time or staff to transfer patients back to bed. Finally, two RNs reported that PTs overestimate their ability to transfer patients. One nurse stated, "Sometimes we don't have the staff or know-how to transfer a particular patient."

Another area mentioned by seven RNs was that PTs are not aware that nurses are able to perform some physical therapy techniques, such as, range of motion and instructing patients in exercises. Five nurses indicated that they think PTs are unaware that RNs are able to assess a patient's need for physical therapy intervention and the patient's ability to safely perform independent transfers and ambulation.

A third area commented on by five nurses was PTs' lack of knowledge of the nurses' role as "case manager" in the coordination of patient care. Another three nurses commented that PTs lack knowledge of nursing's role in discharge planning. Seven RNs remarked that PTs don't understand a nurses' role in

holistic patient care and two others stated that PTs need a better appreciation of total patient care.

Medications was another area that RNs believe PTs lack knowledge of nursing expertise. One nurse indicated that PTs are unaware that RNs will give patients pain medication if nursing is given "advance notice" prior to physical therapy sessions. Another RN stated that PTs do not understand the interaction between medication and exercise. A third RN did not think PTs recognize nursing's role in the area of medications.

There were several nurses that commented on a lack of time and short-staffing. They reported that PTs are unaware of the time required to perform nursing procedures. One nurse commented, "I believe our respective professions are often too busy, causing us to not do the very best jobs we've been trained to do." Four RNs reported that they are asked to perform or help with physical therapy duties when therapists are short staffed. One nurse stated, "conflicts have developed related to their being short of staff, asking us to do their assigned activities, and making us feel dumped on at times. It is then that criticisms of one another develop, at least in my experience."

CHAPTER 5

CONCLUSIONS

Discussion of Results and Implications

The purpose of this study was to 1) identify the interprofessional perceptions held by RNs toward the profession of physical therapy in the inpatient setting, 2) identify the perceptions held by nurses toward their own profession and the perceptions nurses think physical therapists have toward the nursing profession, and 3) identify specific knowledge deficits that are perceived by nurses to exist between these professions. The study may identify areas of potential conflict between the nursing and physical therapy professions. The information gathered in this study could be used to improve understanding and communication between these two professions. The study may also help to determine further research areas to increase collaboration by identifying strategies that lead to greater cooperation, and thereby, improve inpatient care.

Overall, the nurses in the study appeared to have positive perceptions toward both the nursing and physical therapy professions. The RNs' responses also indicated that nurses think physical therapists have a positive view of both disciplines. This was consistent with Ducanis and Golin's findings in their 1979 study in which allied health respondents, some of whom were PTs, generally

reported positive views toward their own professions, the nursing profession, and physicians. These results were unusual in that generally, "voluntary response samples over represent people with strong opinions, most often negative opinions" (Moore, 1995, p. 178).

However, this study revealed that on most issues, nurses viewed themselves slightly more positively than they viewed physical therapists. This observation supports other studies on interprofessional relationships in which members of a profession view their own profession more positively than the other profession. Preferential perceptions of one's own group may increase professional pride and commitment, but may have a negative impact on working relationships with other groups (Streed, Stoecker, 1991).

The study identified significant differences in RNs perceptions for 10 of the 15 issues addressed by the survey. One issue that differed significantly was PTs competency, 100% of the nurses said that therapists were competent. The nurses also indicated that 93% of PTs would say RNs are competent. Overall, this indicates that RNs perceive both professions as competent. This bodes well for teamwork since collaboration cannot exist without a belief in each others' professional competency as a basis for trust.

Another requirement for effective teamwork is trust of each others professional judgment. RNs said they trust PTs professional judgment more than PTs say RNs trust PTs professional judgment. RNs perception that PTs think nurses have less trust in PTs professional judgment may be attributed to

RNs perception that PTs do not understand their role as case managers. This could lead to misunderstandings when disagreements arise over patient care. Such disagreements could be interpreted as a lack of trust in a professionals' judgment.

The survey results indicate that some nurses perceive status differences between the professions which could negatively impact working relationships. Twenty-two percent of the RNs said that nurses have a higher status than physical therapists. Only 8% of RNs thought that PTs have higher status. Nurses also predicted that 26% of PTs would say they have more status. Problems may arise when one team members' recommendations are accepted over another's, due to perceived status differences. Status differentials may also lower morale and staff collaboration (Pederson and Gaston, 1995). Differences in status can also create role conflicts if health care workers feel powerless to exercise their professional judgment in the best interest of the patient (Curtis, 1994).

In this study, RNs perceived both professions as equally autonomous. Seventy-four percent of nurses surveyed saw themselves as autonomous and 82% viewed physical therapists as autonomous. Autonomy is an essential component of the team process and creative problem-solving. Innovative teams require empowerment and increased levels of responsibility (Burns, 1994). Nurses' perceptions of their own autonomy may be influenced by whether or not they work for an institution using a professional practice model. Professional

practice models promote a collaborative nurse-physician relationship (Wesorick, 1990). These practice models also enlarge nurses' autonomy via nursing diagnoses and by promoting the advisory aspect of nursing. Therapists may also enjoy more autonomy as they assume a more consultative role with physicians and as more states allow direct access to physical therapy services.

Although the survey results indicate nurse-therapist relations are perceived positively by nurses, there is room for improvement in the areas of understanding each others capabilities and utilizing each others' skills. Over half of the RNs responses indicated that they do not fully utilize the capabilities of physical therapists. This corresponds to the finding that most RNs do not think that PTs fully utilize the capabilities of nurses. However, nurses predicted that only 35% of PTs would think they underutilized the capabilities of nurses. This point could be resolved if RNs and PTs met and discussed areas in which their respective skills are not being utilized.

The finding that nurses perceived underutilization by both professions may be related to not knowing enough about each others' skills. Some of the nurses indicated that they think the professions lack an understanding of each others' capabilities. A deficit in knowledge of physical therapists' capabilities was acknowledged by almost half of the nurses. Similarly, nearly half of the RNs stated that therapists are deficient in understanding nurses' capabilities. However, only 11% of the nurses thought physical therapists would admit to lacking knowledge of nursing capabilities. RNs also think that PTs would predict

that nurses would say: PTs do not understand the capabilities of nurses 60% of the time. This indicates that RNs perceive differences between the two professions on the issue of understanding each others' capabilities. These findings were consistent with Ducanis and Golin's study in which a high percentage of allied health respondents stated that nurses and physicians do not fully understand or utilize the skills of allied health professionals (1979).

Additional studies exist in the literature that identify a lack of knowledge about physical therapists' skills by other health professionals. For example, Dunkel (1979) and Stanton (1989) surveyed physicians regarding their knowledge of physical therapy practice. Both of the studies revealed that a large percentage of physicians reported that they were not well informed on the capabilities of physical therapists.

A lack of knowledge about each others skills could have serious implications for teamwork. Teams pool talents, ideas, and resources, for the benefit of the patient. When team members are not cognizant of the special skills of the other disciplines, the patient loses the advantage of multiple professionals collaborating to solve problematic patient issues. This may be detrimental to the patient who needs a more concerted and holistic plan of care (Galarneau, 1993). Moreover, when team members are unaware of each others' specialties and operate in a vacuum, they are unable to access those skills when they need assistance or feedback when performing complicated aspects of patient care. Further, patients who need referral to another discipline may be overlooked if

members of the various professions lack a basic knowledge of each others' skills.

The nurses reported differences in perception on the issue of professional advisement. Approximately 66% of the RNs reported PTs ask nurses for their professional advice. Eighty-one percent of RNs reported that they ask PTs for their professional advice. Nevertheless, only 57% of the nurses reported that PTs would say RNs ask for therapists' advice. This indicates that RNs perceive a lack of communication and inadequate sharing of expertise between the two professions. This represents a barrier to effective interdisciplinary teamwork, since one of the prime goals of collaboration is sharing each others' expertise to meet patient needs.

The study revealed a potential source of friction on the issue of interprofessional expectations. RNs perception was that both professions expect too much from each other, although RNs thought that PTs expect more from the nursing profession than nurses expect of the physical therapy profession. Moreover, RNs predicted that PTs would say that RNs expect too much of PTs.

The opinion of RNs who said "PTs expect too much of nurses" may partially explain some of the comments nurses added to the survey. Some nurses implied that PTs expect RNs to perform tasks that may exceed their capabilities. A few nurses responded they were "dumped on" when asked to help with therapists' duties when both professions are short-staffed. Other RNs stated that they don't think therapists are aware of the time constraints RNs are

under when performing nursing procedures. Some of the nurses took issue with having to put patients back to bed after PTs get them up. Reasons given by the nurses for friction over patient transfer issues were either lack of time or lack of “know-how” for transferring difficult patients. This problem could be addressed by forming interdisciplinary lift teams which function to train or assist health care workers in difficult patient transfers.

Another area of potential interprofessional conflict expressed by the nurses was the issue of professional territories. Almost half of the RNs reported they sometimes encroach on physical therapists’ professional territory. Trespassing into nurses’ professional territory was ascribed to PTs by almost a third of the nurses surveyed. A few RNs listed certain skills as overlapping with those of physical therapists. Examples given were range of motion, therapeutic exercise, and patient assessment for safe ambulation. Overlapping skills may be viewed as an erosion of a professionals’ power. “When overlapping professional skills are not perceived as a threat, energy is available for innovation in both service and treatment methods (Darling, 1984, p. 1684). A comment from one of the nurses supported this view when she stated, “There really shouldn’t be territories when you are in a team.”

RNs said nurses were more defensive about their professional prerogatives than PTs. The perception that nurses are defensive about their professional prerogatives was shared by approximately half of the nurses surveyed. One third of the RNs ascribed defensiveness to PTs. Defensiveness

over professional prerogatives between professions was also a significant issue according to the allied health workers who participated in Ducanis and Golin's study (1979).

Some of the RNs defensiveness over professional prerogatives may be related to nurses' comments that they are the ones most responsible for the care of the patient. Several nurses stated that part of their role is to function as case manager and that they are in the best position to ensure holistic care of the patient. One nurse stated, "We are with the patient 24 hours a day and are responsible for everything and anything that touches the patient."

Implications for the Study

The authors of this study believe that use of the IPS has provided insight into the interprofessional relationship that exists between registered nurses (RNs) and PTs as perceived by RNs. Physical therapists need to be aware of sources of friction between the two professions so that strategies may be developed to improve cooperation and teamwork in the inpatient setting. Furthermore, the authors of this study believe that the questionnaire clearly demonstrated that RNs think that both PTs and RNs do not fully understand or utilize each others capabilities. These findings may provide support for inservices which educate healthcare professionals about the roles and capabilities of closely interacting disciplines. It would also support the need for

more interdisciplinary education between nursing and physical therapy students as they prepare for their careers. The study also indicates that nurses perceive differences between their views and therapists' views of the issues. Team meetings to discuss differing viewpoints, address problems, and share ideas may assist team members in coming to a common ground on problematic issues.

Implications for Healthcare Education

"If interdisciplinary teams are to function at an optimal level, professionals need educational experiences that will assist them in learning to function effectively as a team member" (Beatty P.R., 1987, pg. 22). Snyder (1981) identified five essential curriculum areas if students are to be able to work collaboratively with other disciplines. These areas are group process skills, communication skills, knowledge about the role of other health disciplines, knowledge concerning the contributions of ones' own discipline and knowledge of the team concept. Snyder went on to state "promoting cooperation should comprise the greatest preparation of teaching strategies utilized in the education of health care workers" (Snyder M., 1981, pg. 116). Interdisciplinary class work and inservices may provide knowledge of the capabilities and roles of other professions.

Limitations of the Study

There were several limitations with this research method. First, the reliability of the IPS was not established using the professions of physical therapy and nursing, therefore, the instrument may not be reliable for these professions. Secondly, although content validity of the IPS was established by the direct nature of the questions asked (Ducanis, Golin, 1979), arguments may still exist that the IPS does not adequately measure interprofessional perceptions. The IPS was also modified to personalize the questions for the nursing and physical therapy professions. This may have affected the reliability and validity of the instrument. In addition, questions numbered 39-57 were added to the survey to measure RNs knowledge of physical therapy practice without establishing their reliability.

Further limitations resulted from the sampling methods utilized in the study. First, the sample may not be representative of the general population since it was selected from a limited geographic area. Therefore, generalization of research results cannot be made to other geographic areas or populations. A second limitation was that the sample was voluntary which may have introduced an element of bias to the sample. Originally, the authors had planned to draw a stratified proportional random sample from the RN lists to limit the effects of bias. Unfortunately, the authors were unable to obtain a large enough population to randomly select a sample.

Another limitation of the study was that data collection was limited to the perceptions held by RNs regarding the profession of physical therapy, the perception RNs have toward their own profession, and what they believe PTs think about the nursing profession. More in depth information about the inter-professional relationship between RNs and PTs could be obtained by studying both sides of the dyadic relationship.

From some of the comments received from RNs on the survey forms, the authors believe that another limitation of the study may have resulted from the RNs dislike of forced answer questions. The RNs indicated that they would have felt more comfortable responding to the questions if a Likert scale had been provided for the answers.

Limitations identified through survey follow-up include: no interest in the topic (4); survey was confusing (2); survey was too long (6); have little contact with PTs (15); and other (3). These limitations would have affected the number of surveys completed and returned. A larger return rate may have revealed different significance levels or shifted the areas of agreement, disagreement, and no consensus.

Suggestions for Further Study

Replication of this study could serve to further validate the Interprofessional Perception Scale designed by Ducanis and Golin (1979). A more detailed investigation could be undertaken by surveying perceptions held by both therapists and nurses. Because the sample was taken from only four hospitals

in West Michigan, it would be interesting to see if expanding the geographic area and random sampling would produce similar results. It might also be enlightening to explore differences in interprofessional perceptions held by RNs and PTs in health care settings other than the inpatient setting.

Some of the survey questions which indicated potential sources of friction between the professions could be expanded and investigated in more depth. The areas of expecting too much of the other professions and under utilization of the other discipline could be illuminating topics for further research. It might also be of interest to which characteristics, as a group, may be associated with more positive or negative attitudes toward each others profession.

Some comments by the nurses could be explored more deeply. The belief by nurses that they don't have enough time for teamwork is one aspect that could be researched. The area of PTs knowledge of nursing practice in which RNs indicated that PTs do not understand holistic patient care could be explored for specific deficits or greater clarification.

Conclusions

The authors of this study believe that the use of the IPS provided insight into the interprofessional relationship that exists between registered nurses and physical therapists as perceived by RNs. Physical therapists and RNs need to be aware of sources of stress between the two professions so that strategies may be developed to improve cooperation and teamwork in the inpatient setting. The

study revealed that nurses perceive a lack of knowledge on the part of PTs and RNs about each others' capabilities and that both professions fail to fully utilize each others' capabilities. True teamwork will require greater knowledge of each others' profession and a willingness to share each others' expertise. The study also indicated a need for more communication between the professions. More communication could give both professions the opportunity to share ideas, address problems, and discuss differing viewpoints. In the future, a growing number of health professionals may discover that teams and cooperation are the best ways to achieve patient goals.

If team work and collaboration are to succeed, bridges of understanding will have to be built between the two professions. Educators could assist this process by providing educational experiences or inservices which teach professionals how to work in teams. Health care institutions can aid the team process by allowing workers enough time to have teams. If teamwork is not actively promoted by those institutions that espouse it, teamwork will become a well kept "trade secret"--practiced by only a few.

As health care changes, interprofessional relationships will change. Ultimately, good working relationships are the responsibility of every professional. The authors hope that this study may provide insight into the working relationship between therapists and nurses in the inpatient setting. Further, it is the authors belief that this research study may introduce students to the concept of interdisciplinary cooperation.

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APPENDIX A
Letter to Hospitals

Date

Dear

We are physical therapy students at Grand Valley State University working on our master's thesis. We would greatly appreciate the opportunity to get the opinions of nurses working at your facility through a research study.

Our purpose is to investigate, by questionnaire, the perceptions held by nursing toward the profession of physical therapy in the inpatient setting. It is our hope that identification of areas of potential conflict, as well as collaboration between nurses and physical therapists will be used to improve teamwork and cooperation between our two professions. Enclosed is a copy of our research proposal and survey which is presently under review by Grand Valley State University's Human Subjects Research Committee. The thesis committee has given their approval for this study.

If you choose to participate in our research study, please send us a list with the names of all first shift RNs, and RNs who regularly rotate to first shift, who are employed in staff nurse positions. We do not need the addresses of the nurses because we will send the surveys in care of the hospital. Since we want RNs who have contact with physical therapists and are involved in direct patient care, we wish to exclude the following RNs: second and third shift RNs, same day stay RNs, and those who work exclusively on surgical teams, IV teams, post-anesthesia/recovery room RNs, radiology and endoscopy units. A possible benefit of participation in this study may include interest in the study by JCAHO.

Confidentiality of the lists will be protected. All lists will be destroyed when data collection is complete. The lists are required for follow-up purposes and for the random selection of a sample population. The names of facilities and nurses will not be identified in the study. If you would like to receive a copy of the results of this study please contact JoAnne Childs at the address listed below.

If you choose to participate in our study, please respond by sending the lists by October 5. Thank you for your time and consideration. Please feel free to call JoAnne Childs, SPT at (616) 669-8807 with any questions you may have or write to her at the following address: 6716 Dale, Hudsonville, MI 49426.

Sincerely,

Jane Toot, PhD. PT, Director of Physical Therapy, Grand Valley State University

JoAnne Childs, SPT

Sharon VanMullekom, SPT

APPENDIX B
Letters to RNs

Date

Dear

We are graduate physical therapy students at Grand Valley State University. We would greatly appreciate your spending approximately 20 minutes reading and completing the enclosed survey which is part of our Master's thesis.

The purpose of our investigation is to gain an understanding of the views held by Registered Nurses regarding the profession of physical therapy. We believe that an understanding of the views held by nurses toward the profession of physical therapy may lead to improved collaboration and teamwork between these two professions.

We acquired your name from the hospital at which you work after submitting copies of our proposal and survey for approval by the appropriate authorities. Your participation in this study is voluntary. All information collected will be confidential. The hospital may receive a copy of our study results upon request. No facility or individual will be identifiable in the results from our research. All lists of nurses' names will be destroyed when data collection has been completed. The authors of this study are the only people who will have access to the lists. Your name and the facility name will not appear on the survey. By returning the survey, you are giving your consent to the investigators to use the information provided for our research.

Please complete and return the survey in the self-addressed, stamped envelope by December 1, 1995.

If you have any questions, please contact JoAnne Childs at the address below or call (616) 669-8807. Thank you for your time and consideration.

Sincerely,

Sharon VanMullekom, S.P.T.

JoAnne Childs, S.P.T.
6716 Dale, Hudsonville, MI 49426

Date

Dear

We are graduate physical therapy students at Grand Valley State University. We would greatly appreciate your spending approximately 20 minutes reading and completing the enclosed survey which is part of our Master's thesis.

The purpose of our investigation is to gain an understanding of the views held by Registered Nurses regarding the profession of physical therapy. We believe that an understanding of the views held by nurses toward the profession of physical therapy may lead to improved collaboration and teamwork between these two professions.

We acquired your name from Holland Community Hospital after our research proposal and survey was reviewed and approved by the Human Subjects Committee. Participation in this study is voluntary. All information collected will be confidential. The hospital may receive a copy of our research results upon request. No facility or individual will be identifiable in the results from our research. All lists of nurses' names will be destroyed when data collection has been completed. The authors of this study are the only people who will have access to the lists. Your name and the facility name will not appear on the survey. By returning the survey, you are giving your consent to the investigators to use the information provided for our research.

Please complete and return the survey in the self-addressed, stamped envelope by December 1, 1995.

If you have any questions, please contact JoAnne Childs at the address below or call (616) 669-8807. Thank you for your time and consideration.

Sincerely,

Sharon VanMullekom, S.P.T.

JoAnne Childs, S.P.T.
6716 Dale, Hudsonville, MI 49426

APPENDIX C

Survey

INTERPROFESSIONAL PERCEPTION SURVEY

Background Data

1. Your age as of your last birthday:_____.
2. Gender: M () F ()
3. Years of experience as an RN: Yrs._____,
 If less than 1 year : Mos. _____, Wks._____.
4. Highest Degree Obtained : () Greater than a Masters
 () Masters Degree
 () Bachelors Degree
 () Associate Degree
 () Diploma in Nursing
5. Certificate in a Specialty: () Yes () No
 If yes, in which specialty: _____
6. Please indicate the unit or units in which you in which you have worked for at least one year in your nursing career.
 - () Orthopedic
 - () Neurology
 - () Internal Medicine
 - () Cardiac Care Unit
 - () Pediatrics
 - () Neonatal Intensive Care
 - () Maternity/Newborn
 - () Intensive Care/Critical Care Unit
 - () Surgical Unit
 - () Rehabilitation Unit
 - () Other, Please explain below.

7. How often have you advised physicians to refer patients for physical therapy assessment?
 - () Daily
 - () 2 to 6 times per week
 - () Once per week
 - () More than once per month, but less than once per week
 - () Once per month
 - () Never
8. How many hours per week do you work as a nurse in the inpatient setting?
 - () Less than 10
 - () 10 to 20
 - () 21 to 30
 - () 31 to 40
 - () More than 40

Perceptions

This is a study of interprofessional perceptions. It is intended to get at some of the ways various professionals view each other and how they think others view them.

As you look at the following questions, you will see that in Column I you should indicate whether you think the statement is true or false; in Column II you should indicate how you think a physical therapist would answer the question; and in Column III, how you think a physical therapist would predict you would answer in Column I.

In answering the following items, do not spend too much time on any one statement. Your first impression is what we want based on what you perceive as correct the majority of the time. Each page should take approximately 5 minutes. Please answer all three parts of each statement as you proceed. Read each of the following statements as if the first words are Physical Therapists Place an X to indicate your answers.

PHYSICAL THERAPISTS:	How would you answer?		How would PT's Answer?		How would PT's say that you answered in column 1?	
	True	False	True	False	True	False
9. Are competent	()	()	()	()	()	()
10. Have very little autonomy	()	()	()	()	()	()
11. Understand the capabilities of nurses	()	()	()	()	()	()
12. Are highly concerned with the welfare of the patient	()	()	()	()	()	()
13. Sometimes encroach on nurses' professional territory	()	()	()	()	()	()
14. Are highly ethical	()	()	()	()	()	()
15. Expect too much of the nursing profession	()	()	()	()	()	()
16. Have a higher status than nurses	()	()	()	()	()	()
17. Are very defensive about their professional prerogatives	()	()	()	()	()	()
18. Trust nurses' professional judgement	()	()	()	()	()	()
19. Seldom ask nurses' professional advice	()	()	()	()	()	()
20. Fully utilize the capabilities of the nursing profession	()	()	()	()	()	()

Perceptions

PHYSICAL THERAPISTS:	How would you answer?	How would PT's answer?	How would PT's say that you answered in column 1?
	True False	True False	True False
21. Do not cooperate well with nurses	() ()	() ()	() ()
22. Are well trained	() ()	() ()	() ()
23. Have good relations with nurses	() ()	() ()	() ()

Please respond to the following items in relation to **Your Own Profession**. Read each of the following statements as if the first word is Nurses

NURSES:	How would you answer?	How would PT's Answer?	How would PT's say that you answered in column 1?
	True False	True False	True False
24. Are competent	() ()	() ()	() ()
25. Have very little autonomy	() ()	() ()	() ()
26. Understand the capabilities of the profession of physical therapy	() ()	() ()	() ()
27. Are highly concerned with the welfare of the patient	() ()	() ()	() ()
28. Sometimes encroach on physical therapists' professional territory	() ()	() ()	() ()
29. Are highly ethical	() ()	() ()	() ()
30. Expect too much of the physical therapy profession	() ()	() ()	() ()
31. Have a higher status than physical therapists	() ()	() ()	() ()

Perceptions

NURSES:	How would you answer?	How would PT's Answer?	How would PT's say that you answered in column 1?
	True False	True False	True False
32. Are very defensive about their professional prerogatives	() ()	() ()	() ()
33. Trust physical therapists' professional judgement	() ()	() ()	() ()
34. Seldom ask physical therapists' professional advice	() ()	() ()	() ()
35. Fully utilize the capabilities of the physical therapy profession	() ()	() ()	() ()
36. Do not cooperate well with physical therapists	() ()	() ()	() ()
37. Are well trained	() ()	() ()	() ()
38. Have good relations with physical therapists	() ()	() ()	() ()

Knowledge of Physical Therapy Practice

Nurses exposure to physical therapy practice varies. The following treatment areas may or may not fall within physical therapy's realm of practice. Please select yes if you believe physical therapists perform the treatment and no if you do not believe physical therapists perform the treatment.

39. Therapeutic exercise to increase a patient's strength, endurance, coordination, joint range of motion, and flexibility.

() yes () no

40. Pain Management.

() yes () no

41. Forced manipulation of a frozen joint to increase motion.

() yes () no

42. Bed positioning to prevent contractures, manage spasticity, protect skin integrity.

() yes () no

Knowledge of Physical Therapy Practice

43. Gait training.

yes no

44. Muscle re-education and motor control training.

yes no

45. Transfer training and bed mobility.

yes no

46. Wound debridement.

yes no

47. Patient education and training for incontinence control.

yes no

48. Joint mobilization and manual therapies.

yes no

49. Order assistive devices and educate patients in their use.

yes no

50. Orthopedic and neurological patient assessment.

yes no

51. Patient education for joint protection, prevention of injury, and safe exercise.

yes no

52. Discharge recommendations including home exercise programs and referral for rehabilitation and home care.

yes no

53. Injection of myofascial trigger points.

yes no

Knowledge of Nursing Practice

54: Physical Therapists exposure to nursing practice varies. Please respond yes if you believe physical therapists understand the capabilities of nurses and no if you believe physical therapists do not understand the capabilities of nurses.

() yes () no

If you responded no to the previous question, please list up to three areas of nursing practice in which you believe physical therapists do not understand the capabilities of nurses.

55. _____

56. _____

57. _____

Do not sign this form.

All data will be confidential.

Thank you for your participation in our research study. Your hospital may request a copy of the final report of this study so you will be able to learn our results.

***Acknowledgements: The authors of this study would like to express their appreciation to Pro-Ed Publishing Company for their permission to reproduce the Interprofessional Perception Scale for our study. The scale appeared in the book, The Interdisciplinary Health Care Team: A Handbook, by A. J. Ducanis and A. K. Golin (1979). It was originally published by the Aspen Systems Corporation.*

APPENDIX D

Follow-up Postcard and Letter

Date:

Dear

This letter is a reminder and a request for you to please complete and return the "Interprofessional Perception Survey" in the envelope provided by Dec. 1, 1995. If you have already done so, we would like to thank you.

If you have misplaced the survey and desire to complete it , please contact JoAnne Childs, S.P.T. at the address below, or call her at (616) 669-8807, for a replacement copy.

If you have chosen not to participate in our study, please complete and return the enclosed, postage paid, post-card. We would be interested in learning of any unforeseen problems with the survey. Your reasons for not completing the survey are an important part of our research project. Please return the post-card if you cannot complete the survey.

Thank You,

Sharon VanMullekom, S.P.T.

JoAnne Childs, S.P.T.
6716 Dale
Hudsonville, MI 49426
(616) 669-8807

If you have chosen not to complete the "Interprofessional Perception Survey," please indicate your reasons below by placing an "X" in the space provided. Thank you for your time and consideration.

- () Not interested in the subject.
- () Survey was confusing. Please explain: _____

- () No time to fill it out.
- () Survey is too long.
- () Have no professional contact with Physical Therapists.
- () Other. Please Explain: _____

APPENDIX E

Copywrite Permission for IPS



October 28, 1995

Dear Mr. Steve Mathews:

This is a request for written permission to reproduce the "Interprofessional Perception Scale" which appears in the book, The Interdisciplinary Health Care Team, by Alex J. Ducanis and Anne K. Golin, copywrite 1979, p. 38-40. We originally contacted you on June 20, 1995 and again on Aug. 9, 1995. We received permission to use the scale with some modifications listed in those letters. When we started to assemble our survey we discovered several other modifications we needed to make to satisfy our thesis committee. Included with this letter is a final draft of the survey with all the modifications we wish to make. Please look it over and let us know if the modifications are acceptable to you. It is our intention to distribute approximately 300-400 surveys.

Please FAX your response by Oct 31, 1995. The FAX number is 1-616-538-1212. If you have any questions, you can contact JoAnne Childs at (616) 669-8807.

Thank you for your time and consideration. We deeply appreciate your patience with our requests for modifications of this scale for use in our research project.

Sincerely,

[Redacted signature]

JoAnne Childs, Student PT

[Redacted signature]

Sharon VanMullekom, Student PT

Permissa fuerit indubitate. Respondeo in 10 diebus.

[Signature]
for PPO-AP
10/30/95

APPENDIX F

Human Subjects Review Approval



September 14, 1995

Sharon VanMullekom & JoAnne Childs
6716 Dale
Hudsonville, MI 49426

Dear Sharon & JoAnne:

The Human Research Review Committee of Grand Valley State University is charged to examine proposals with respect to protection of human subjects. The Committee has considered your proposal, "*Nurse's Perceptions of the Profession of Physical Therapy in the Inpatient Setting*", and is satisfied that you have complied with the intent of the regulations published in the Federal Register 46 (16): 8386-8392, January 26, 1981.

Sincerely,

A solid black rectangular box redacting the signature of Paul Huizenga.

Paul Huizenga, Chair
Human Research Review Committee

APPENDIX G

Contingency Tables Column I vs Column II Data

Table 12

Frequency Data from Two by Two Contingency Tables for Survey Questions 9-23, Columns I and II, for the Physical Therapy Profession

Issue Areas	Sample size	True/True	False/False	True/False	False/True
Competent	97	97	0	0	0
Little Autonomy	94	10	70	8	6
Capabilities	93	55	9	1	28
Welfare	96	89	0	1	6
Territory	96	9	64	19	4
Ethical	96	87	0	2	7
Expect too much	99	3	73	21	2
Higher status	97	3	67	5	22
Defensive	99	15	66	16	2
Trust	98	83	4	1	10
Seldom ask advice	99	10	63	21	5
Utilize	98	25	31	3	39
Do not cooperate	99	2	89	7	1
Well trained	99	96	0	0	3
Good relations	98	87	3	2	6

Note. See Appendix C for survey questions.

Table 13

Frequency Data from Two by Two Contingency Table for Survey Questions 24 to 38, Columns I and II, for the Nursing Profession

Issue Areas	Sample size	True/True	False/False	True/False	False/True
Competent	97	90	0	7	0
Little Autonomy	96	15	61	10	10
Capabilities	97	38	39	17	3
Welfare	97	94	0	3	0
Territory	98	40	40	1	17
Ethical	98	95	1	2	0
Expect too much	98	14	52	0	32
Higher status	98	8	73	14	3
Defensive	98	41	44	3	10
Trust	97	72	3	18	4
Seldom ask advice	97	16	54	2	25
Utilize	97	20	62	8	7
Do not cooperate	98	4	76	2	16
Well trained	96	89	1	5	1
Good relations	98	86	6	6	0

Note: See Appendix C for survey questions.

APPENDIX H

Contingency Tables for Column I vs Column III Data

Table 14

Frequency Data from Two by Two Contingency Tables for Survey Questions 9 to 23, Columns I and III, for the Physical Profession

Issue Areas	Sample size	True/True	False/False	True/False	False/True
Competent	97	88	0	9	0
Little Autonomy	94	10	61	7	16
Capabilities	93	42	23	14	14
Welfare	96	82	4	8	2
Territory	96	17	49	11	19
Ethical	96	83	2	6	5
Expect too much	98	14	53	10	21
Higher status	96	3	77	4	12
Defensive	98	25	62	5	6
Trust	97	79	10	4	4
Seldom ask advice	98	20	56	11	11
Utilize	96	23	38	5	30
Do not cooperate	96	7	82	2	5
Well trained	98	90	1	5	2
Good relations	97	80	6	8	3

Note. See Appendix C for survey questions.

Table 15

Frequency Data from Two by Two Contingency Tables for Survey Questions 24 to 38, Columns I and III, for the Nursing Profession

Issue Areas	Sample size	True/True	False/False	True/False	False/True
Competent	96	94	0	2	0
Little Autonomy	95	15	62	9	9
Capabilities	94	39	26	14	15
Welfare	96	95	0	1	0
Territory	97	31	48	10	8
Ethical	97	95	1	1	0
Expect too much	96	10	67	3	16
Higher status	97	17	60	4	16
Defensive	97	37	49	6	5
Trust	96	75	6	14	1
Seldom ask advice	96	17	61	1	17
Utilize	96	24	52	4	16
Do not cooperate	97	6	78	0	13
Well trained	96	92	2	2	0
Good relations	96	84	4	6	2

Note. See Appendix C for survey questions.