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Nurse/Physician Perceptions of the Nurse Practitioner Role

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NURSE/PHYSICIAN PERCEPTIONS OF THE NURSE PRACTITIONER ROLE

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ABSTRACT

NURSE/PHYSICIAN PERCEPTIONS

OF THE NURSE PRACTITIONER ROLE

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As the role of the nurse practitioner (NP) continues to evolve, ambiguity in the scope of practice remains. This study described perceptions of the nurse practitioner role. This descriptive three group comparative study asked random samples of registered nurses (n=51) and physicians (n=46), and a convenience sample of 34 NPs to indicate their agreement with the appropriateness of 30 behaviors for the NP role. The modification of Hupcey's (1994) instrument had an alpha reliability of .97. A Kruskal-Wallis test revealed significant differences (p=<.001) among the three occupations for every behavior. The largest difference was found relative to defining the role/scope of nurse practitioner practice ($X^2 = 59.21$, df=2, p=.00). Knowing an NP was found to be a variable with some influence on the responses whereas interest in becoming or hiring an NP did not in most cases. Most physicians (53.3%) and 32% of RNs indicated that nurse practitioners should work under direct supervision only. Seventy three percent of nurse practitioners felt that a collaborative relationship was the best option.

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CHAPTER 1
INTRODUCTION

The role of the nurse practitioner was first introduced in the United States' health care system in 1965 (Hawkins & Thibodeau,1993). A shortage of physicians soon prompted further development of the role. Today, the use of nurse practitioners as mid-level providers continues to grow and has become a positive force in providing health care in many settings.

Despite the increasing prevalence of nurse practitioners, Edmunds (1991) writes that the nurse practitioner is still unknown to many as a member of the health care team. Ambiguity in definition by public health code and professional organizations allows nurse practitioners to practice in a diversity of settings where their role is defined by the setting. This diversity perpetuates the confusion in the perceptions of the role.

There has been a lack of uniformity in the education of nurse practitioners that also leads to confusion about the role. Until very recently, the additional training required for the nurse practitioner certification could be in the form of certificate or master's degree programs ranging from nine to 24 months of study (Safriet, 1992). Certification requirements vary widely among specialties.

The role of the nurse practitioner remains misunderstood by both health care professionals and the general public. Although there is uncertainty among current health care professionals regarding the

appropriate role of the nurse practitioner, those with an understanding of the significant contribution nurse practitioners can make demonstrate a desire to hire nurse practitioners (Louis & Sabo, 1994) . Many studies have shown that the nurse practitioner can be an effective force in providing safe, effective, quality care (OTA, 1986). Nurse practitioners' competencies include the diagnosis and management of common acute illnesses, disease prevention, and management of stable, chronic illnesses (Safriet, 1992). The use of nurse practitioners is cost-effective and can significantly increase the availability and accessibility to health care services (McGrath, 1990).

As a result of this cost-effectiveness, nurse practitioners have become more appealing to corporate medicine as health care has become restructured under cost-conscious corporations (McKinlay & Arches, 1985). Nurse practitioners can provide many of the same services at a lower cost than physicians. For this reason, nurse practitioners are sometimes dubbed 'physician extenders'.

New nurse practitioner programs are being developed which will result in more nurse practitioners in the work force. Utilization of these practitioners will depend on the perceptions of their role. The success of implementing the nurse practitioner role in a community is influenced by the attitudes of other health care professionals in that community (Zammuto, Turner, Miller, Shannon, & Christian, 1979). If other health care professionals don't properly understand the role, they will be less likely to utilize or hire nurse practitioners and they won't be able to effectively describe this role to patients.

Addressing discrepancies in the conceptualization of the nurse practitioner role between nurse professionals and other health care professionals may influence the successful implementation and utilization of

the nurse practitioner in a community. The purpose of this study is to assess and describe the perceptions of the nurse practitioner role by nurses and physicians in an urban, mid-western area. Any differences found between the groups will also be described.

A study by Burkett, Parken-Harris, Kuhn, and Escovitz (1978) will be replicated with modifications. The aforementioned study asked nurses and physicians in southeast Pennsylvania their opinions on the issue of autonomy for nurse practitioners and on the issue of specific tasks appropriate to the nurse practitioner role.

CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Conceptual Framework

Imogene M. King's Interacting Systems Framework (King, 1981) provides a framework for this study of perceptions of the nurse practitioner role. King's definitions of person, perception, interaction, role, and nursing support the importance of evaluating perceptions when implementing a role within a system.

Person/human being is defined in the context of a personal system. This personal system is a complex, open, and living system. Humans are rational and feeling and react on the basis of their perceptions, expectations, and needs. Through perception a person learns about himself, others, and the environment.

The concept of perception is a thread that runs throughout King's theory. It is defined as the process of organizing, interpreting, and transforming information from sense data and memory (Evans, 1991). This is done through human transactions with the environment. Perception gives meaning to one's experience, represents one's image of reality, and influences one's behavior.

Perceptions are related to one's past experiences, concept of self, biological inheritance, educational background, and socioeconomic group (King, 1981). This makes them uniquely personal. Perceptions also influence what stimuli are allowed in from the environment. Thus, perception and

learning have a reciprocal relationship. Previous knowledge influences perception of new information, while perception in turn can enhance the cognitive learning of the new information.

Interactions are the acts of two or more persons that occur within any of three dynamic open systems: personal, social, and interpersonal. Interactions can reveal how one person thinks and feels about another person, how each perceives the other and what one's expectations are of the other. Interactions are also influenced by these perceptions, goals, needs, and values. This is an important concept when looking at implementation of the nurse practitioner role.

Role is a concept defined by King as the set of behaviors expected when occupying a position in a social system. It is a relationship with one or more individuals interacting in specific situations for a purpose. This process of interaction between two or more individuals is goal directed with transaction a critical dependent variable in the interaction that leads to goal attainment (Fawcett, 1989). Transactions are dependent on agreement of the goal. If role expectation and role performance are congruent, transactions will occur.

Nursing is conducted within a social system. Nursing practice focuses on the health needs and wants of the social system. The nursing process differs relative to the social organization, or health care system, in which the nursing process takes place. The goal of nursing process interaction is transaction leading to goal attainment in relation to health promotion, maintenance, and recovery from illness (Chinn & Kramer, 1991).

Within the context of King's framework, it is clear how important it is to understand perceptions of the nurse practitioner role. Because a person's perceptions influence his or her behavior and role is the expected set of behaviors when occupying a position, it is important to measure

agreement/disagreement between physicians, nurses, and nurse practitioners in their perceptions of the role of the nurse practitioner. Identifying any discrepancies can lead to clarification of the role, thus more effective goal attainment.

Review of Literature

The American Nurses Association (ANA) defines the nurse practitioner as a registered nurse who has met advanced educational and clinical practice requirements (1993). The ANA states that 60% - 80% of primary and preventive care traditionally done by doctors can be done by a nurse for less money (ANA, 1993). This includes a wide range of primary health services.

Safriet (1992), after reviewing state to state requirements for practice as a nurse practitioner, agreed with the definition of the advanced practice nurse as an RN whose education and clinical training extends beyond the basic requirements of licensure. This education prepares the nurse to perform a wide range of functions including some that have traditionally been performed only by physicians. Competencies include the diagnosis and management of common acute illnesses, disease prevention, and management of stable, chronic illness. After an extensive review of the literature, she declared that advanced practice nurses would have the greatest immediate impact on access while preserving quality and reducing costs of health care.

Safriet also pointed out a disparity in the educational preparation of nurse practitioners. Basic education as a registered nurse includes the 2-year associate degree, the 3-year diploma, and the 4-year baccalaureate degree. The requirements for certification as a nurse practitioner have not previously required an advanced degree. Specifically, certification programs have varied

from nine to 24 month programs. Despite the current trend to emphasize graduate-level education, the historical lack of consistency in the preparation of nurse practitioners has contributed to the confusion in the definition of the nurse practitioner role.

The American Association of Colleges of Nursing (AACN) published a position statement regarding certification and regulation of advanced practice nurses (AACN, 1994). The title advanced practice nurse is an umbrella term used to encompass nurse practitioners, nurse-midwives, nurse anesthetists, and clinical nurse specialists. In response to the diversity by which current advanced practice nurses have been prepared, both in education and in certification, the AACN put forth a plan designed to provide consistency among states and specialties. They proposed that all advanced practice nurses hold a graduate degree in nursing in addition to certification by a national organization.

The United States Congressional Office of Technology Assessment (OTA) published a report in 1986 addressing reimbursement and cost and effectiveness of nurse practitioners. The method of this study was extensive literature review. The contributions, quality of care, effect on access, productivity, costs, and employment of the nurse practitioner, physician's assistant, and certified nurse midwife are described. This report supports that, within their area of expertise, nurse practitioners provide care whose quality is equivalent to that of care provided by physicians (OTA, 1986). An additional finding was that a personal contact is a major factor influencing physicians' opinions of nurse practitioners is personal contact.

Brown and Grimes (1993) published a similar meta-analysis of 54 studies comparing the care provided by advanced practice nurse to that of the physician standard. Their findings supported those of the OTA. The sample

consisted of 38 nurse practitioner and 15 certified nurse midwife studies. They found that nurses scored higher on quality of care measures and patient satisfaction than physicians. They also achieved higher scores on resolution of pathological conditions and on functional health status of their patients. In addition, nurses spent more time per patient, 24.9 minutes compared to 16.5 minutes for physicians. The cost per visit was also different. The nurses were paid $16.36 on average per visit compared to $20.11 for physicians.

Louis and Sabo (1994) investigated the need for and desire to hire nurse practitioners in a rural western state. Questionnaires were sent to all physicians licensed in the state (N=1800), all state certified nurse practitioners (N=120), and the top nurse administrators of all licensed facilities of the state. The usable return rate was 21.6% (N=433). Overall, the need for nurse practitioners was seen by 74% of the respondents. However, only 50% answered yes in regard to the desire to hire them. Over 20%, including some nurse practitioners, responded that they needed more information about nurse practitioners before committing to hire. Of all respondents, 76% had experience with nurse practitioners. Only seventy-five percent of these saw a need for nurse practitioners. Of those not exposed to nurse practitioners, 69% saw the need for nurse practitioners. The need for nurse practitioners was supported by each of the three groups of respondents, physicians, nurse practitioners, and nurse administrators.

Shanks-Meile, Shipley, Collins, and Tracker (1989) investigated the debate over the viability of nurse practitioner employment in nursing and medicine. They examined the 1,022 job advertisements published in The Nurse Practitioner: The American Journal of Primary Health Care from 1975 through 1986. Quantitative content analysis with regression analysis of the resulting data led to the conclusion that there was an expansion of the nurse

practitioner market in the 1980's. An unanticipated increase in demand in the private practice settings created a greater demand than supply. This trend continues nationally as the number of currently certified nurse practitioners and clinical nurse specialists has grown to 23,000 in 1988 (Hawkins & Thibodeau, 1993).

Hawkins and Thibodeau (1994) surveyed a stratified national random sample of nurse practitioners (N=482) and conducted a descriptive correlational study to address, among other issues, the role orientation of nurse practitioners and their confidence in their roles. The respondents were found to have the highest level of confidence in their hands-on skills. Ability to describe the role and functions of a nurse practitioner was rated among the least confident skills. Role orientation was found to lie along the continuum from medical to nursing with a trend toward the nursing role orientation. This study also found a correlation between skills and knowledge confidence scores and role orientation toward nursing (r = -.30, df=480, p<.005).

Davidson and Lauver (1984) described role complementarity and similarity between nurse practitioners and physicians. Nine vignettes were created with a questionnaire. Fifteen nurse practitioners and 15 physicians in joint practice were asked to evaluate each vignette, using an 8 point scale, according to their perception of the appropriateness of their role and their partners role in managing the clients described. Role disagreement was defined by subtracting the mean scores on the two different scales for one profession from the mean scores on the opposite scales for the other profession. Role disagreement was significant for only 2 of the 9 vignettes. For 8 of the 9 vignettes, there was a consensus among respondents about roles for nurse practitioners and physicians. Role complementarity scores were significant, $p < .05$, for 5 of the vignettes. This meant that nurse practitioners

and physicians select separate and distinct subsets of patients to manage and agreed on those subsets.

A descriptive study by Hupcey (1993) addressed which settings and which factors within the settings help or hinder nurse practitioner practice. A questionnaire was sent to 200 randomly selected nurse practitioners certified by the Commonwealth of Pennsylvania. Eighty respondents met all criteria. This study looked at the answers to two questions: what nurse practitioner employment setting(s) has most helped and most hindered your performance of the nurse practitioner role? and what factors within the nurse practitioner work setting have helped and hindered your role performance?

Results showed that other health care providers have a strong influence on the role performance of nurse practitioners. Acceptance and support by the physicians was the most significant factor contributing to the performance of 39% of respondents. Support from co-workers was cited by 25%. Primary care appeared to be the setting that was most conducive to nurse practitioner practice.

Limitations of this study included small sample size. The use of mailed questionnaires led to a response rate of only 46% and didn't allow for explanations of the answers. One implication of this study is that primary care settings appear to be the most conducive to the nurse practitioner role. Another implication is that building support systems by working with other nurses and administrators can be an important factor in utilization of the nurse practitioner. Educating physicians about the roles that nurse practitioners can play in primary care is also important in increasing utilization of the nurse practitioner.

Zammuto, Turner, Miller, Shannon, and Christian (1979) also found that physician influence was a significant factor in the utilization of nurse

practitioners. In settings of solo and group practice, the physician was in control of allocation of resources and delivery of care. In this study of 143 graduates of a nurse practitioner program, role formalization and implementation was compromised. Nurse practitioners felt that this compromise in role represented a barrier of lack of acceptance or mistrust. A significantly greater percentage of nurses left physicians' practices than other types of settings claiming inability to implement the role as the cause of their departure.

Johnson and Freeborn (1986) examined the attitudes of health maintenance organization (HMO) physicians toward the use of nurse practitioners and physician's assistants. The sample was taken from HMOs in which nurse practitioners and physician's assistants had been working for seven years. Results found that physicians in each specialty were more likely to favor the use of nurse practitioners than physician's assistants.

Burkett, Parken-Harris, Kuhn, and Escovitz (1978) surveyed registered nurses and primary care physicians in southeastern Pennsylvania. There were 679 nurse and 597 physician respondents. They indicated their opinions on the issue of autonomy for nurse practitioners and on the issue of specific tasks appropriate to the nurse practitioner's role. Significant differences were found between the two groups regarding autonomy ($x^2 = 67.35$, df = 2, p=<.001). More nurses than physicians felt that nurse practitioners should be able to practice independently. Differences were also found between the groups' responses to the different task performance responses in 26 of the tasks (significant beyond .05 level, two-tailed test). Differences within the groups were also found related to expressed desire to hire or become a nurse practitioner and previous exposure to a nurse practitioner.

This study was limited in its use of a select list of tasks to reflect the true nurse practitioner role. The scope and essence of nursing cannot be simplified to a list of psychomotor tasks. This study was also done in 1978, therefore doesn't reflect many of the role changes that have taken place since. The research question was phrased differently for the two groups, possibly affecting the results. The limited geographical area also limits this study.

In a similar study, Levine, Orr, Sheatsley, Lohr, & Brodie (1978) conducted a descriptive-comparative study of 58 nurse practitioners, 46 physicians, and 50 patients. Five instruments were developed and administered to nurses, physicians, and patients: a questionnaire sent to 14 non-practicing nurse practitioners, a nurse practitioner activities log, a nurse practitioner interview questionnaire consisting of a list of 50 tasks, a physician questionnaire also consisting of the list of 50 tasks, and a patient questionnaire assessing patient experience and satisfaction with the nurse practitioner. This study found that patients are generally satisfied with their care from nurse practitioners and that there is a wide range of clinical and non-clinical duties performed by nurse practitioners. There was some inconsistency, however, between physicians and nurse practitioners regarding actual duties performed. This study was also limited in the date of the study, the small sample size, and limited geographical area in addition to the length and number of the questionnaires used.

One of the few recent studies that have addressed the nurse practitioner role is the study by Hupcey (1994). She compared actual and ideal role behaviors of master's and non-master's prepared nurse practitioners. Using a questionnaire of technical behaviors and master's level nursing behaviors, she asked 200 nurse practitioners to rate, on a scale from 1 to 5, how important each behavior was in their actual practice and how important

they felt the behavior should be in their ideal practice. She found no significant difference between the master's prepared and the non-master's prepared nurse practitioners in their actual role behaviors.

Summary

As the literature indicates, the role of the nurse practitioner continues to evolve as it finds the overlap between nurse and physician practice. The literature also shows that definitions of role and scope of practice remain ambiguous. Nurses, physicians, the public, and even nurse practitioners themselves, remain uncertain of the scope of practice. Few recent studies have attempted to describe the role. Attempts to standardize preparation and maintenance of nurse practitioners are currently being made which may impact perceptions of the role by nurses, physicians, and patients. While some confusion exists regarding educational preparation and scope of the role, nurse practitioners have been found to improve access to and quality of health, decrease costs and result inclient satisfaction.

Physicians' perceptions seem to hold the greatest influential control in nurse practitioner role performance. Therefore, the conceptualized area of interaction/transaction between nurse practitioners and physicians is one vital element in the further development of the nurse practitioner role. Discrepancies in the conceptualization of the nurse practitioner role between nurse professionals and other health care professionals must be identified. Use of this data could enhance efforts towards improving congruence of role expectations and performance. To this end, the theoretical hypothesis in this study is that there will be disagreement between nurses, nurse practitioners, and physicians in their perceptions of the role of the nurse practitioner, influenced by previous knowledge and future goals.

CHAPTER 3

METHODOLOGY

Design

This study was of nonexperimental design, modeled after the study by Burkett, Parken-Harris, Kuhn, and Escovitz (1978). It was a descriptive three group comparative study which measured perceptions of the nurse practitioner role by asking nurses, nurse practitioners, and physicians, via a mailed questionnaire, the degree to which each of a list of behaviors was appropriate for a nurse practitioner. Factors that may also influence the perceptions of the role include educational level, exposure to nurse practitioners, and desire to become or to hire a nurse practitioner. These factors were assessed on the questionnaire, evaluated, and their possible influence described.

Threats to internal validity were minimized by using the same questionnaire and cover letter for all groups. Internal validity may, however, have been affected by self-selection as those most interested in this subject would be more apt to return the questionnaires.

Sample

The method of simple random sampling was used. Questionnaires were mailed to 85 randomly selected names on a list of registered nurses in Kent County (obtained from the Michigan Department of Commerce). One hundred questionnaires were sent to randomly selected physicians from the Kent County Medical Society membership. Convenience sampling was used

for the nurse practitioner group because a similar list was not available through the Department of Commerce. Questionnaires were taken to a meeting of the Advanced Practice Nursing Journal Club and left for voluntary participation. Forty-nine questionnaires were taken at this meeting and an additional 15 questionnaires were mailed to all of the nurse practitioner members of the Advanced Practice Council of the Michigan Nurses Association who lived in the 616 area code. These sample sizes were chosen with a goal of 30 respondents in each group. Criteria for inclusion in the sample included active licensure and membership in one of the designated groups.

Instruments

Although the study question and design was modeled after the Burkett, Parken-Harris, Kuhn, and Escovitz study (1978), the instrument that was used was a modification of a questionnaire used in the study by Hupcey (1994). This tool was chosen because it includes the behaviors of nurse practitioners consistent with preparation at the master's level in nursing. Hupcey's original tool was developed in 1986 and includes 30 behaviors, 12 that represent technical behaviors and 18 that represent master's behaviors. These behaviors were chosen from a list of 65 by a panel of 10 master's prepared nurse practitioners, establishing content validity. Further content validity testing was done by expert review as the final tool was developed. The split-half method was used to establish reliability for the original tool. The Spearman-Brown formula was used resulting in a reliability coefficient of 0.96.

This tool was modified slightly to reflect changes in the scope of the practitioner role since the tool's development. There were some items found consistently on earlier tools that were felt to be appropriate in the current

practice climate and were added to the final tool. These included the studies by Burkett, Parken-Harris, Kuhn, and Escovitz's (1978), Levine, Orr, Sheatsley, Lohr, and Brodie (1978) and Hayden, Davies, and Clore (1982).

The format of the stem question was also modified to reflect the purpose of questions in the Burkett, Parken-Harris, Kuhn, and Escovitz study. The respondents were asked to rate on a forced choice scale from 1 to 4 (1 being strongly disagree and 4 strongly agree) whether they felt each behavior was appropriate for a nurse practitioner. Reliability was tested with test-retest by 5 subjects. A Mann-Whitney U test was performed and no significant difference in the answers from time one to time two was found (p ranged from .32 to 1.0). Internal consistency was measured using Chronbach's alpha with an alpha of .97.

Procedure

After permission was received from Hupcey to use and modify the original tool (see Appendix A), approval to proceed with this study was obtained from the Grand Valley State University Human Subjects Review Committee. This study was approved as an exempted study (see Appendix B).

A cover letter (see Appendix C) was mailed with the questionnaires to explain the study and encourage participation. The questionnaires (see Appendix D) were mailed to the randomly selected subjects, as previously described. A pre-stamped envelope addressed to the researcher was included for convenience to increase the rate of participation.

There were no risks identified for the human subjects involved in this study. The method of the study was survey which involved no direct contact. The number of questionnaires sent and the lack of identifying information on the demographic portion of the questionnaire assured anonymity of the respondents.

CHAPTER 4

DATA ANALYSIS

Differences in perceptions of the nurse practitioner role were compared across three occupational groups: physicians, registered nurses in general, and nurse practitioners. Additionally, perceptions of non-practitioners were contrasted according to whether or not they had previous experience with a nurse practitioner and on the basis of their interest/non-interest in hiring or becoming a nurse practitioner.

Subjects

The qualified respondents included 51 registered nurses, 34 nurse practitioners, and 46 physicians for response rates of 60, 53, and 46% respectively. The mode for both physicians and registered nurses was the 41-50 age category while the physicians were more normally distributed across the 31-60 groupings. The nurses were slightly skewed toward the higher age groups with 52% of the sample aged 41-60. Eighty-five percent of the nurse practitioners were evenly distributed across the 31-40 and 41-50 age categories (see Table 1).

Understandably, physicians were the highest educated of the three groups with 100% at the post-graduate or doctorate level. The nurse practitioners were the second highest in education with 5.9% at the doctorate level and 85.3% at the graduate or post-graduate levels of education. The majority of the registered nurses had at least a baccalaureate degree (60.8%). However, the highest level of education for a significant number of nurses

was at the level of the associate degree or diploma (39.2%).

Table 1

Ages of Respondents

	Percent by Occupation		
	RN	NP	MD/DO
Age	n=51	n=34	n=46
20-30	22.0	5.9	2.2
31-40	20.0	44.1	28.3
41-50	36.0	41.2	39.1
51-60	16.0	8.8	21.7
> 60	6.0	0	0

Table 2

Educational Level of Respondents

	Percent by Occupation		
	RN	NP	MD/DO
Education	n=51	n=34	n=46
AD	19.6	0	0
Diploma	19.6	2.9	0
BS	43.1	5.9	0
Graduate	11.8	64.7	0
Post-Graduate	3.9	20.6	10.9
Doctorate	2.0	5.9	89.1

The specialties in which the respondents practiced varied. The largest portion of physicians practiced a medical sub-specialty (32.6%), while family practice and surgical sub-specialties had the second largest membership (17.4%). Forty-one percent of the nurse practitioners were in family practice, 23.5% in obstetrics/gynecology, 14.7% in pediatrics, and 11.8% in adult practice. Of the registered nurse respondents, 38.8% were in adult practice and 32.7% in obstetrics/gynecology (see table 3).

Table 3
Area of Specialty of Respondents

	Percent by Occupation		
	RN	NP	MD/DO
Specialty	n=51	n=34	n=46
OB/GYN	32.7	23.5	13.0
Family Practice	8.2	41.2	17.4
Geriatrics	6.1	8.8	-
Pediatrics	6.1	14.7	8.7
Adult	38.8	11.8	-
Psychiatry	8.2	0	4.3
Medical Specialty	-	-	32.6
General Surgery	-	-	6.5
Surgical Specialty	-	-	17.4

The majority of the physicians worked primarily in private office settings (97.8%) as did the majority of nurse practitioners (57.6%). The largest percentage of the registered nurses worked in acute care settings (49%) (see Table 4).

Table 4

Primary Practice Setting of Respondents

	Percent by Occupation		
	RN	NP	MD/DO
Setting	n=51	n=34	n=46
Acute Care	49.0	3.0	15.2
Home Care	16.3	3.0	-
Clinic	10.2	27.3	0
Private Office	8.2	57.6	84.8
Education	10.2	6.1	0
Extended Care	6.1	3.0	0

Data Analysis

The sample was divided into three independent groups according to occupation. A Kruskal-Wallis test was used to determine if there was a significant difference in the perceptions of the appropriateness of each behavior related to the occupation of the subject. As shown in Appendix E, significant differences were found for every behavior. The nurse practitioners consistently rated the behaviors highest (strongly agreeing that they were part of the nurse practitioner role) while the physicians rated them lowest (less agreement that they were nurse practitioner behaviors). The registered nurses' responses fell in between the two other groups.

To better understand where the three groups fell in regard to their responses to each behavior, a contigency table of agreement by occupation was determined for the 15 behaviors with the highest differences according to the Kruskal-Wallis tests. As Table 5 shows, the nurse practitioners showed 100% agreement with 10 of these behaviors. In most cases, the registered nurses

were grouped closest to the nurse practitioners. The behaviors in which the physicians and nurse practitioners disagreed the most were 'manage complex health problems' and 'prescribe narcotics'. Only 15.2% of the physicians felt that these might be behaviors appropriate for a nurse practitioner. These two were also the behaviors on which the registered nurses and nurse practitioners disagreed the most.

Table 5
Comparison of Percent Agreement

	Percent Agreement by Occupation*		
	NP	RN	MD/DO
Behavior	n=34	n=51	n=46
Order diagnostic tests	100.0	88.2	65.2
Analyze data	100.0	94.1	65.2
Develop and implement plan	100.0	98.0	64.4
Evaluate effectiveness of plan	100.0	100.0	82.6
Modify plan of care	100.0	98.0	63.1
Define role/scope of NP practice	100.0	92.0	71.1
Act as resource person for peers	100.0	100.0	95.6
Participate in medical student education	100.0	66.7	63.0
Refine practice through research	100.0	94.1	80.4
Question research studies	100.0	98.0	76.0
Prescribe +/or regulate medications	97.0	80.4	50.0
Independently refer to specialists	96.0	54.9	19.5
Develop protocols	91.2	96.0	77.8
Prescribe narcotics	82.3	40.0	15.2
Manage complex health problems	76.5	46.0	15.2

* All Kruskal-Wallis significant at $p < .001$.

The nurse sample was further divided into two groups according to experience with a nurse practitioner. A new variable 'know NP' was formed from the respondents who answered 'yes' to either question regarding knowledge of a nurse practitioner or worked with a nurse practitioner. The physician sample was not used as there was only one physician who answered 'no' to both of these questions. Mann Whitney U tests were then used to identify significant differences on this variable for each behavior. While the respondents with knowledge of a nurse practitioner scored higher than those without, the differences were found to be significant in only the nine behaviors presented in Table 6. These behaviors are comprised of those that are more traditionally thought of as physician behaviors.

Table 6

Correlation of Registered Nurses' Knowledge of a Nurse Practitioner With Perception of Behaviors

	Mean Rank *		
	Yes	No	2-tailed P
Behavior	n=38	n=12	
Prescribe +/or regulate medications	28.71	15.33	.00
Family/relationship counseling	28.58	15.75	.00
Perform complete physical exam	28.00	17.58	.01
Modify plan of care	28.76	15.17	.00
Evaluate effectiveness of plan of care	27.92	17.83	.01
Develop quality of care audit tools	28.07	17.38	.01
Conduct complete health assessment	27.68	18.58	.00
Define the role/scope of NP practice	28.45	14.38	.00
Standards of practice evaluation	28.63	15.58	.00

*Mann Whitney U test

The physicians were divided into two groups according to expressed interest in hiring a nurse practitioner. Of the physician respondents, 55.6% answered 'yes' to this question. On analysis, using a Mann Whitney U test, there were only two behaviors that were significantly affected by this variable: 'analyze the data collected to determine the client's health status' and 'take call' (p=.04 and .02, respectively).

The nurses were divided into two groups according to interest in becoming a nurse practitioner. For this variable, there were only three behaviors that were found to be significantly different. These included: 'perform a complete physical exam' (p=.00), 'order diagnostic tests' (p=.02), and 'prescribe and/or regulate medications according to protocol' (p=.04). There were two more behaviors that approached significant values: 'conduct a complete health assessment' (p=.06) and 'modify the plan of care' (p=.07).

Feelings regarding independence of the nurse practitioner were measured by having the respondents indicate whether the nurse practitioner should practice under direct supervision of a physician, in a collaborative relationship, or independently (see Table 7). The majority of physicians (53.3%) indicated that nurse practitioners should work under direct supervision only. Of the nurse practitioners, 72.7% felt that a collaborative relationship was the best option, yet 6.1% felt that direct supervision was needed. Fifty percent of the registered nurses agreed with the nurse practitioners in choosing the collaborative agreement option, but 32% chose direct supervision, agreeing with the physicians. There was a significant difference (p<.01) among the groups regarding this question (see Table 8).

Table 7

Independence of the Nurse Practitioner Role

Levels of Independence	Percent by Occupation RN	NP	MD/DO
Under direct supervision only	32.0	6.1	53.3
Under a collaborative agreement with a physician for referral	50.0	72.7	46.7
Independent of a physician	18.0	21.2	0.0

Table 8

Perceptions of Nurse Practitioner Independence

Mean Rank Occupation			Kruskal-Wallis			
RN	NP	MD/DO	Chi-Square	df	Significance	
	83.23	47.63	22.53	2	.00	67.32

After the previous tests were run, a contingency table of the variable 'interest in hiring a nurse practitioner' was computed with the variables of 'have worked with a nurse practitioner' (Table 9), and 'independence of the nurse practitioner role' (Table 10). All but one physician knew a nurse practitioner, so this variable was not examined further. Of the physicians

who had worked with a nurse practitioner (n=35), 63% expressed an interest in hiring a nurse practitioner. While most of the physicians interested in hiring felt that nurse practitioners should work in a collaborative relationship with a physician (58.3%), a strong 43.5% felt that they should work under direct supervision only. No physicians felt that nurse practitioners should work independently.

Table 9

Impact of Physicians' Interest in Hiring a Nurse Practitioner

		Interested in Hiring N=45		
		Yes	No	
Have worked with a nurse practitioner	Yes (n=35)	22 63%	13 37%	100%
	No (n=10)	3 30%	7 70%	100%

Table 10

Impact of Physicians' Interest in Hiring on Perception of Independence

Nurse Practitioners should Practice:		Interested in Hiring? (N=45) Yes	No
Under direct supervision only	n=24	11 44%	13 65%
In collaborative relationship	n Column Pct	14 56%	7 35%
		100%	100%

CHAPTER 5
DISCUSSION AND IMPLICATIONS

Discussion

The response rate to this questionnaire was high. Response rates of 60, 53, and 46% for the registered nurses, nurse practitioners, and physicians, respectively, indicates the high interest in this subject at the present time in the geographic area studied. In fact, 97.8% of physician respondents knew a nurse practitioner and 78.3% had worked with a nurse practitioner. Of the registered nurses, 74% knew a nurse practitioner and 39.2% had worked with one.

This interest is also reflected in that 55.6% of the physician respondents indicated that they were interested in hiring a nurse practitioner. Furthermore, 31.4% of the registered nurse respondents indicated that they were interested in becoming a nurse practitioner. Interestingly, the expressed interest of these two groups did not appear to affect their rating of the behaviors.

This study supports the findings of Safriet (1992) regarding educational preparation of the nurse practitioner. While the majority (94.2%) of nurse practitioners had achieved masters degrees, post-graduate or doctoral education, 5.9% were educated at the bachelor's level and 2.9% at the diploma level.

As predicted, a significant difference was found in the perceptions of the nurse practitioner role between registered nurses, nurse practitioners, and

physicians. However, the consistency with which the groups disagreed was remarkable. Not only did nurse practitioners view their scope of practice as entailing every behavior questioned, but the strength of their responses showed the strength of their feelings. Physicians consistently disagreed with the behaviors. Registered nurses were found to agree more often with the nurse practitioners than with the physicians.

A surprising finding was the response to the behavior of 'define the role/scope of nurse practitioner practice'. This behavior had the lowest mean rank of all the physician responses, while the nurse practitioner's response to this behavior was their third highest in mean rank. This discrepancy suggests a struggle for control. Coupled with the responses to the question regarding autonomy, an important conceptual disagreement among physicians and nurse practitioners is obvious. Such a conflict, according to King, could prevent successful interactions, limiting the nurse practitioner's role, effectiveness, and goal attainment.

This current conflict is further evidenced by actions of the American Medical Association (AMA). The AMA has recently decided to throw out the term 'collaboration' and replace it with 'integration'. This is to be defined as a "focus on mutually agreed-upon guidelines that reflect each profession's qualifications" (Page, 1994). The AMA further insists that the health care team must have a leader, that the leader must be a physician, and that the responsibility for practice falls on that physician (Running, 1995).

King believes that nurses are partners with physicians and other health care professionals in promoting health, preventing disease, and managing patient care (King, 1981). 'Partner' denotes mutual goal setting, agreement regarding role or behaviors, and a sharing of responsibility. With a significant percentage of physicians believing that nurse practitioners have a

There were few significant differences found when looking at the variables of 'interest in hiring' or 'interest in becoming' a nurse practitioner. However, as found with Louis and Sabo (1994) and the OTA report (1986), there were significant differences found if the respondent knew or had worked with a nurse practitioner. This is consistent with King's belief that perceptions are related to one's past experiences.

When the variable 'interest in hiring' was compared with the variables 'know a nurse practitioner', 'worked with a nurse practitioner', and 'independence', several questions arose. Although 88% of the physicians interested in hiring a nurse practitioner had worked with one, 43.5% felt that they should practice under direct supervision only. The apparent discrepancy raises some questions. Did these physicians simply want an extender to perform delegated tasks to lighten their load? What settings and under what circumstances had they previously worked with a nurse practitioner?

Of the physicians who did not have an interest in hiring a nurse practitioner, 66.7% agreed that they should practice under direct supervision. One might query whether the lack of interest in hiring a nurse practitioner was due to a lack of need for help or because they did not see the possibilities of an advanced role? In both these cases, a knowledge deficit in relation to the nurse practitioner role is evident. This knowledge deficit, coupled with the desire for control in the health care arena, makes the implementation of the nurse practitioner role very difficult.

Hupcey (1993) found that primary care settings were the most conducive to nurse practitioner practice. Although this study did not give 'primary care' as an option for specialty, 41.2% of the nurse practitioner respondents declared family practice their specialty and 84.9% of the nurse practitioners worked in a clinic or private office. This implies that primary

practitioners worked in a clinic or private office. This implies that primary care is the setting in which most practitioners practice, hence, is the most conducive to their practice.

The results of this study are very similar to the study by Burkett, Parken-Harris, Kuhn, and Escovitz (1978) that was used as a basis for this replication. There remain significant differences in the perceptions of the nurse practitioner role between nurses, nurse practitioners, and physicians. In the 17 years since the original study there has been no significant progress on agreement on role parameters or independence.

The use of nurse practitioners is expanding, however, perceptions remain mixed regarding the scope of practice. One physician returned a blank questionnaire with a note attached saying "I feel if nurses want to practice medicine they should go to medical school." Attitudes such as these prevail despite studies such as this one and the increasing use of nurse practitioners.

Implications

This study has many implications for nurse practitioners and physicians. The high interest level found by this study and the disagreement regarding the nurse practitioner role show a need for further study and education. It also shows a promising future for nurse practitioners.

Clarification of role is of paramount importance for new practitioners. Nurse practitioners should write their own job descriptions when negotiating a position or developing a collaborative agreement. It's also vital that they be prepared to articulate their perception of the scope of the nurse practitioner role. These perceptions must be clarified for goal attainment through transactions to take place. They must be able to insist on collaboration, rather than integration, in their relationships with other health care professionals.

The disagreement that this study found prevalent may impede new

practitioners in joining the health care system. Nurse practitioners need to become more visible to both the public and other health care professionals. Continuing to educate and expose the public and other health care professionals to nurse practitioners will influence perceptions which, in turn, may increase interest in learning more about the role and affect acceptance of the role of the nurse practitioner. As perceptions affect learning, learning affects perceptions. Clarification of roles and expectations is paramount when starting new positions

Support groups for nurse practitioners in which they can share ideas and solutions to the challenges of practicing in the current health care arena are necessary. Nurse practitioners should make becoming involved in community and professional education a priority to increase exposure to the role. Support of legislative efforts on behalf of advanced practice nursing would benefit not only the nurse practitioner but would enhance public awareness of the role and increase access to care as the health care delivery system is reformed.

Limitations

Although random samples were used for two groups, this study was limited by the small numbers in each subgroup. Perceptions of groups ranging in size from 34-51 may not be large enough generalize to the entire target population. Also, this study was conducted in a limited geographical area. The results may not be applicable in other areas of the United States where regulation and utilization of nurse practitioners may differ.

Self-selection may also be a factor in this study. The fact that 31.4% of the registered nurses who chose to participate indicated an interest in becoming a nurse practitioner and 55.6% of the responding physicians indicated an interest in hiring a nurse practitioner may indicate a slightly

skewed samples.

Perhaps the most significant limitation is in the type of tool used. A written list of behaviors does not give a total picture of the nurse practitioner role. The true scope and essence of nursing cannot be simplified into such a list. Asking respondents to classify behaviors in this way, with a forced choice tool, limits true expression of their perceptions about nurse practitioners.

Recommendations

The continued discrepancies in the perceptions of the nurse practitioner role indicates that further study needs to be done in this area. There are few recent studies addressing the expanding utilization and role of the nurse practitioner. Studies conducted across the country, with larger numbers, would give strength to the findings of this study. Comparisons of the roles of nurse practitioners in different practice settings and specialties would be an interesting addition.

A more descriptive or qualitative study of the motivations of physicians when hiring nurse practitioners would give better insight to their perceptions. Public perceptions of the nurse practitioner role also need to be studied as well as patient satisfaction with care provided by the nurse practitioner.

As the competition between physician's assistants and nurse practitioners increases, a study, designed like this one, comparing perceptions of the roles of these two groups might provide interesting insight. It may also show ways to complement and collaborate with each other to provide comprehensive health care.

APPENDICES

APPENDIX A

Permission for Use of Instrument

APPENDIX A

Permission for Use of Instrument for Master's Thesis

Deborah Bambini,R.N.C., B.S.N. has my permission to:

	Yes	No
1. Use the questionnaire used in the study entitled *Graduate education for Nurse Practitioners: Are advanced degrees needed for practice? (1994)* by J. Hupcey, EdD, CRNP	✓	
2. Publish a copy of the tool in the appendix of her Master's Thesis	✓	

Signed: [redacted]

APPENDIX B

Human Subjects Review

GRAND VALLEY STATE UNIVERSITY

1 CAMPUS DRIVE • ALLENDALE MICHIGAN 49401-9403 • 616/895-6611

APPENDIX B

April 24, 1995

Deborah Bambini
5490 Brattleboro Dr. SE
Kentwood, MI 49508

Dear Deborah:

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

Sincerely,

[redacted]

Paul Huizenga, Chair
Human Research Review Committee

APPENDIX C

Cover Letter

APPENDIX C

Deborah R. Bambini, R.N.C., B.S.N.
5490 Brattleboro Dr. S.E.
Kentwood, MI 49508
(616) 455-8156

Dear _____ ,

As we enter the era of health care reform, there are many differences of opinion regarding the components of the nurse practitioner's role. As a graduate student at Grand Valley State University, I have become interested in investigating these differences. I am now conducting a study, as a part of the requirements of a master's degree in nursing, exploring the perceptions of the role of the nurse practitioner. This study asks nurses, nurse practitioners, and physicians their feelings about the appropriateness of a variety of tasks or behaviors for a nurse practitioner.

Your name was selected at random. Do not put your name on the questionnaire so that all responses will be anonymous. Your input is very important to this study as I attempt to describe the current perceptions of the nurse practitioner's role. I would be very grateful if you would take the 10-15 minutes required to complete the tool and return it to me in the enclosed self-addressed, stamped envelope.

I would like this returned by June 10th. Thank you for your time.

Sincerely,

Deborah R. Bambini, R.N.C., B.S.N.

APPENDIX D

Questionnaire

APPENDIX D

Please indicate your agreement or disagreement about the appropriateness of each behavior for a Nurse Practitioner by circling the selected response.

This behavior is appropriate for a Nurse Practitioner:

Behavior	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Conduct a complete health assessment interview.	1	2	3	4
2. Perform a complete physical examination.	1	2	3	4
3. Order diagnostic tests.	1	2	3	4
4. Perform diagnostic tests.	1	2	3	4
5. Analyze the data collected to determine the client's health status.	1	2	3	4
6. Formulate a problem list based on the data.	1	2	3	4
7. Develop and implement a plan of care.	1	2	3	4
8. Prescribe +/or regulate medications according to protocol.	1	2	3	4
9. Evaluate the effectiveness of the plan of care.	1	2	3	4
10. Modify the plan of care as indicated.	1	2	3	4
11. Prescribe narcotic medications.	1	2	3	4
12. Manage complex health care problems.	1	2	3	4
13. Make rounds and write orders on inpatients.	1	2	3	4
14. Take call.	1	2	3	4
15. Collaborate with community agencies to provide care	1	2	3	4
16. Independently refer to specialists.	1	2	3	4
17. Appear before civic and voluntary health groups.	1	2	3	4
18. Participate in community education.	1	2	3	4
19. Evaluate psychosocial factors which influence a client's health status.	1	2	3	4
20. Family/relationship counselling.	1	2	3	4

This behavior is appropriate for a Nurse Practitioner:

Behavior	Strongly Disagree	Disagree	Agree	Strongly Agree
21. Define the role/scope of nurse practitioner practice.	1	2	3	4
22. Teach +/or counsel families to assume responsibility for health maintenance.	1	2	3	4
23. Act as resource person for peers + other staff.	1	2	3	4
24. Participate in the instruction of nursing students.	1	2	3	4
25. Participate in the instruction of medical students.	1	2	3	4
26. Refine nursing practice through own clinical research.	1	2	3	4
27. Question the conclusions of research studies in view of own practice.	1	2	3	4
28. Develop strategies to maximize the role of the nurse practitioner.	1	2	3	4
29. Develop protocols for clinical practice.	1	2	3	4
30. Articulate + investigate own research questions utilizing the appropriate research tools.	1	2	3	4
31. Implement strategies to produce better health care.	1	2	3	4
32. Propose modifications of existing health care services based on population needs.	1	2	3	4
33. Create interdisciplinary groups to provide care to clients.	1	2	3	4
34. Evaluate issues and trends influencing health care delivery.	1	2	3	4
35. Supervise other nursing personnel.	1	2	3	4
36. Develop quality of care audit tools to evaluate self + peers.	1	2	3	4
36. Explore knowledge relevant to nursing; incorporate it into a working philosophy.	1	2	3	4
37. Design an organizational mechanism for evaluation of standards of practice.	1	2	3	4

Note. From "Graduate education for nurse practitioners: Are advanced degrees needed for practice?" by J. Hupcey, 1994, Journal of Professional Nursing, 10, 350-356. Adapted with permission.

Please respond to all questions so that this sample can be described:

38. What is your age? 1. 20-30___ 2. 31-40___ 3. 41-50 ___ 4. 51-60___ 5. > 60___

39. What is your occupation? 1. RN____ 2. Nurse Practitioner____ 3. Physician____
    4. CNS___ 5. CNM___

40. What is your highest level of education achieved?
    1. A.D.___ 2. Diploma ___ 3. B.S.___ 4. Graduate___ 5. Post-graduate___
    6. Doctorate___

41. **Nurses:** What is your area of specialty?
    1. OB/GYN___ 2. Family practice___ 3. Geriatrics___ 4. Pediatrics___
    5. Adult ___ 6. Psych/Mental Health ___

42. **Physicians:** What is your area of specialty?
    1. OB/GYN ___ 2. Family practice ___ 3. medical subspecialty ___
    4. Pediatrics___ 5. General surgery ___ 6. surgical subspecialty ___
    7. Pshychiatry ___

43. **Nurses:** What is your primary practice setting?
    1. Acute care___ 2. Home care___ 3. Clinic___ 4. Private office___
    5. Education___ 6. Extended care___

44. **Physicians:** What is your primary practice setting?
    1. Hospital___ 2. Clinic___ 3. Private office___ 4. HMO___ 5. Education___

45. Do you know any nurse practitioners? 1. Yes___ 2. No___

46. Have you ever worked with a nurse practitioner? 1. Yes ___ 2. No___

47. If you are a nurse, are you interested in becoming a nurse practitioner?
    1. Yes___ 2. No___

48. If you are a physician, are you considering hiring a nurse practitioner?
    1. Yes___ 2. No___

49. Do you feel nurse practitioners should practice: (Choose one)
    1. Under direct supervision of a physician only ___ (Physician on-site)
    2. Under a collaborative agreement with a physician for referral ___
       (Physician off-site)
    3. Independent of a physician ___

APPENDIX E

Correlation of Occupation to Perception of Nurse Practitioner Behaviors

APPENDIX E

Correlation of Occupation to Perception of Nurse Practitioner Behaviors

	Mean Rank			Kruskal-Wallis*		
Behavior	RN	NP	MD/DO	X^2	df	p
Conduct health assessment	71.2	80.0	50.0	27.25	2	.00
Perform complete physical exam	64.7	91.5	48.6	33.74	2	.00
Order diagnostic tests	60.8	100.0	46.6	47.69	2	.00
Perform diagnostic tests	58.2	83.7	60.1	12.65	2	.00
Analyze data	67.1	97.1	41.9	49.22	2	.00
Fromulate problem list	67.0	89.7	46.0	35.62	2	.00
Develop and implement plan	69.3	93.2	40.2	48.04	2	.00
Prescribe +/or regulate medications	65.4	99.2	42.1	49.97	2	.00
Evaluate effectiveness of plan	70.8	90.7	42.4	43.99	2	.00
Modify plan of care	71.6	94.8	38.5	55.29	2	.00
Prescribe narcotics	65.9	95.5	42.9	41.04	2	.00
Manage complex health problems	70.6	87.8	43.5	31.75	2	.00
Make rounds on inpatients	67.4	89.3	47.3	26.70	2	.00
Take call	66.2	84.1	50.0	18.92	2	.00
Collaborate with community agencies	67.6	83.2	49.8	20.91	2	.00
Independently refer to specialists	66.6	101.1	39.5	56.69	2	.00
Appear before civic/voluntary groups	68.4	85.4	49.0	25.43	2	.00
Participate in community education	68.5	82.7	50.9	21.76	2	.00
Evaluate psychosocial factors	68.2	85.1	49.5	26.56	2	.00
Family/relationship counselling	60.5	81.7	60.5	9.94	2	.00
Define role/scope of NP practice	68.6	96.4	37.4	59.21	2	.00
Teach health maintenance	70.7	82.2	48.8	25.65	2	.00
Act as resource person for peers	72.8	86.1	43.6	40.40	2	.00
Participate in nursing education	68.0	80.5	53.0	15.49	2	.00

Correlation of Occupation to Perception of Nurse Practitioner Behaviors

	Mean Rank			Kruskal-Wallis*		
Behavior	RN	NP	MD/DO	X^2	df	p
Participate in med. student education	63.0	94.1	48.54	32.43	2	.00
Refine practice through research	69.1	88.5	46.0	31.07	2	.00
Question research studies	69.0	89.5	45.3	33.36	2	.00
Maximize role of Nurse Practitioner	69.3	90.1	44.6	36.98	2	.00
Develop protocols	71.6	85.0	43.8	30.74	2	.00
Perform own research	69.2	83.2	48.7	21.49	2	.00
Implement new strategies	71.4	85.1	44.9	31.27	2	.00
Propose modifications of services	69.0	89.2	43.5	37.78	2	.00
Create interdisciplinary groups	70.6	85.3	43.7	31.35	2	.00
Evaluate issues and trends	71.3	86.0	43.5	34.33	2	.00
Supervise other nursing personnel	63.9	82.0	56.5	10.80	2	.00
Develop quality of care audit tools	66.7	87.1	49.7	24.18	2	.00
Explore/incorporate nsg knowledge	69.0	88.7	45.9	32.76	2	.00
Standards of practice evaluation	72.3	83.0	45.4	26.87	2	.00
Mean	67.9	88.4	46.6			
	n=51	n=34	n=46			

* corrected for ties

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