PERCEIVED IMPORTANCE OF THE CHARACTERISTICS AND FUNCTIONS OF THE ADVANCED NURSE PRACTITIONER

DISSERTATION

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Ellen Sue M. Barnes, B.S.N., M.Ed.
Denton, Texas
December, 1987

The purpose of this study was two-fold: to identify role functions and characteristics perceived as important to Advanced Nurse Practitioners (ANPs) in Texas, and to identify differences in perceived importance of role functions and characteristics of ANPs according to gender, educational preparation, practice setting, and whether the practitioner entered practice before or after the current rules and regulations for ANP practice were adopted. Two questionnaires and a demographic data form were mailed to 300 ANPs in primary health care in Texas, with 152 responding. Data from the questionnaire, "Characteristics of the Advanced Nurse Practitioner," were analyzed using independent group t-tests. The findings indicated that the characteristics "person-oriented," "perceptive," and "skilled in problem-solving" were the most valued by the practitioners, while "aggressive" was the least valued. Independent group t-tests were used to analyze data from the instrument, "Advanced Nurse Practitioner Functions." The results of this analysis were not significant. The Chi square test was used to further examine data from this questionnaire to determine if the responses differed from chance. With the exception of four items, all of the responses differed significantly from chance. The responses "extremely important" or "important" were selected significantly more frequently than any of the other options. "Not appropriate," was selected significantly more
often than could be expected by chance for two functions: suturing minor lacerations and performing incision and drainage of wounds. Fourteen functions were examined further using frequency, percentage of responses, and the Chi square test to determine if there were differences in responses between groups. There were significant differences in responses between ANPs in nurse-managed settings and those in physician-managed settings on four functions: ordering diagnostic tests, prescribing medications in consultation with a physician, suturing minor lacerations, and performing incision and drainage of wounds. Practice setting and educational preparation were the variables which had the greatest impact on perceived importance of the characteristics and functions to ANP practice.
# TABLE OF CONTENTS

## LIST OF TABLES

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>v</td>
</tr>
</tbody>
</table>

## Chapter

### I. INTRODUCTION

1. Statement of the Problem
2. Purpose of the Study
3. Hypotheses
4. Background and Significance of the Study
5. Definition of Terms
6. Limitations of the Study

### II. REVIEW OF RELATED LITERATURE

1. The Nurse Practitioner Role
2. Advanced Nurse Practitioners in Primary Health Care
3. Summary

### III. METHODOLOGY AND PROCEDURES

1. Instrumentation
2. Collection of Data
3. Testing of Data
TABLE OF CONTENTS (CONTINUED)

IV. DATA ANALYSIS. ................................................. 33
   Characteristics of Subjects
   Results of Data Analysis

V. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS. .................... 53
   Summary of the Study
   Findings of the Study
   Conclusions of the Study
   Implications of the Study
   Recommendations for Future Research

APPENDICES .......................................................... 65

BIBLIOGRAPHY ....................................................... 79
### LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Selected Demographic Characteristics of Sample.</td>
<td>33</td>
</tr>
<tr>
<td>II. Primary Health Care Functions Regularly Performed By ANPs.</td>
<td>34</td>
</tr>
<tr>
<td>III. Mean Ranking of Characteristics of ANP by Gender.</td>
<td>35</td>
</tr>
<tr>
<td>IV. Mean Ranking of Characteristics of ANP by Educational Preparation.</td>
<td>36</td>
</tr>
<tr>
<td>V. Mean Ranking of Characteristics of ANP by Practice Setting.</td>
<td>37</td>
</tr>
<tr>
<td>VI. Mean Ranking of Characteristics of ANP by Year of Entry into Practice.</td>
<td>38</td>
</tr>
<tr>
<td>VII. Mean Ranking of Characteristics of ANP by Functioning as ANP.</td>
<td>39</td>
</tr>
<tr>
<td>VIII. Mean Ranking of Characteristics of ANP by all Groups.</td>
<td>40</td>
</tr>
<tr>
<td>IX. ANP Functions by Male and Female ANPs.</td>
<td>42</td>
</tr>
<tr>
<td>X. ANP Functions by Educational Preparation.</td>
<td>43</td>
</tr>
<tr>
<td>XI. ANP Functions by Practice Setting.</td>
<td>44</td>
</tr>
<tr>
<td>XII. ANP Functions by Entry into Practice.</td>
<td>44</td>
</tr>
<tr>
<td>XIII. Chi Square Values for ANP Functions for all Respondents.</td>
<td>48</td>
</tr>
<tr>
<td>XIV. Chi Square Values for Selected Functions by Practice Setting.</td>
<td>50</td>
</tr>
<tr>
<td>XV. Percent of Responses to Selected Functions by Practice Setting.</td>
<td>51</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

In the context of the turbulence of the 1960's, it is not surprising that a major upheaval in the health care system was in the offing. People were demanding an increased role in decision-making, as well as expressing great concern for accessibility, availability, and affordability of health services (Pearson, 1985). Additionally, there were concerns that there might be a shortage of physicians, the primary health care providers of the time.

It was in this setting that Loretta Ford, a nurse-educator, and Henry Silver, a physician-educator, conceived the idea of an expanded role for nurses (Pearson, 1985). The University of Colorado was the site at which the first nurse practitioner program was initiated in 1965. The aim of the program was, according to Ford, to "test an expanded scope of practice for nurses in well-child care, and, if successful, to introduce changes necessary to prepare nurses for this role into collegiate nursing education programs" (Pearson, 1985, p. 17).

From this beginning just twenty-one years ago, the nurse practitioner movement has gained momentum and has grown until there are now more than 22,000 primary health care nurse practitioners in this country (Manber, 1985). These nurse practitioners are prepared in several different specialty areas such as family nursing, gerontology nursing, and women's health care nursing, as well as child health nursing.

Many evaluation studies have been done which demonstrate the safety and effectiveness of nurse practitioner practice (Molde and Diers, 1985). Light (1983) cites eleven articles comparing primary care services provided by
nurse practitioners and other mid-level practitioners, with those provided by physicians. No significant difference was found in the services in any of these studies. Molde and Diers (1985, p. 362) state that "research in nurse practitioner practice holds the greatest promise for advancing nurse practitioner work." It is their belief and that of other researchers (Sullivan, 1982; Fagin, 1982; and Gortner, 1984) that studies should increasingly document those aspects of nurse practitioner practice that are different from physician care. Many studies demonstrate that nurse practitioners not only provide care equivalent to that of physicians, but there is also an elusive, not yet documented aspect of nurse practitioner practice that leads to improved health care for clients (Molde and Diers, 1985). Through nurse practitioner research and practice, primary health care nursing is increasingly being defined as an essential part of the health care system (Keating and Nevin, 1985). Nurses and physicians have overlapping role functions as well as those unique to each profession. Scholarly inquiry and research are avenues for defining and refining primary health care roles and achieving the goal of nursing— the health of the client.

Statement of the Problem

The problem of this study was the perceived importance of the characteristics and functions of advanced nurse practitioners in primary health care in the State of Texas.

Purpose of the Study

The purpose of the study was two-fold: 1) to identify role functions and characteristics perceived as important to advanced nurse practitioners in the
State of Texas, and 2) to identify differences in perceived importance of role functions and characteristics of practitioners according to gender, educational preparation, practice setting, and whether the practitioner entered practice before or after the current rules and regulations for advanced nurse practitioners were adopted in 1980.

Hypotheses

To carry out the purposes of this study, the following hypotheses were tested.

1. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by male and female advanced nurse practitioners.

2. There will be no significant difference in perceived importance of advanced nurse practitioner functions by male and female advanced nurse practitioners in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection/implementation functions, and evaluative functions.

3. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by advanced nurse practitioners whose educational preparation was in a master's degree program and those whose educational preparation was in a certificate or non-master's program.

4. There will be no significant difference in perceived importance of advanced nurse practitioner functions by advanced nurse practitioners whose educational preparation was in a master's degree program and those whose educational preparation was in a certificate or non-master's program in each of the following categories: data gathering functions, assessment/analysis
functions, diagnostic functions, strategy selection/implementation functions, and evaluative functions.

5. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by advanced nurse practitioners who practice in a physician-managed setting and those who practice in a nurse-managed setting.

6. There will be no significant difference in perceived importance of advanced nurse practitioner functions by advanced nurse practitioners who practice in a physician-managed setting and those who practice in a nurse-managed setting in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection/implementation functions, and evaluative functions.

7. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by advanced nurse practitioners who entered practice in 1980 or later and those who entered practice prior to 1980.

8. There will be no significant difference in perceived importance of advanced nurse practitioner functions by advanced nurse practitioners who entered practice in 1980 or later and those who entered practice prior to 1980 in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection/implementation functions, and evaluative functions.

Background and Significance of the Study

The Board of Nurse Examiners for the State of Texas defines the role and scope of nursing practice within the state. The term "advanced nurse
practitioner," as defined by the Board, includes not only primary health care practitioners, but also clinical nurse specialists in acute care and other practitioners such as nurse-anesthetists. This study is concerned with advanced nurse practitioners in primary health care in the state. These practitioners work in a variety of settings with differing environmental and other kinds of restraints. According to Bliss (1976), the particular health care delivery system or institution hiring the nurse practitioner shapes and molds the practitioner's style of practice, often limiting the autonomy of the practitioner in some instances. This dilutes the nurse practitioner's accountability and accessibility to clients.

Robbins (1972) states that analytic tools to describe and enumerate health manpower must be perfected to determine what tasks are being done, by whom and how. Goldsmith, Jensen, Wood and Zimmerman (1970) studied hospital nursing occupations, using a task questionnaire. Golden (1976) developed a Task Inventory of Primary Health Care Practice to determine the content of the delivery of health care. These tasks were grouped according to the problem-solving process that health care providers follow in determining health care needs and meeting health care goals.

Szasz and Hollender (1980) have outlined models of power and authority in helping relationships. Two of these seem to have special relevance for this study. According to Molde and Diers (1985), the dominant model of medical practice is the "guidance-cooperation" model described by Szasz and Hollender. According to the model, physicians have the responsibility for providing informed, altruistic "guidance" and patients have the responsibility for unquestioning "cooperation." The "mutual participation" model, on the other
hand, involves shared power and authority. Caregivers using this model elicit feedback from clients concerning their perception of their health care needs and preferences. Utilization of this model by nurse practitioners may account for that "something special" that nurses bring to primary health care. Good, Good and Nassi (1983) used the mutual participation model in a primary health care setting to determine why adult clients sought health care when they did and what they expected of their health care. Molde and Diers (1986) used the model by adding a single question to their usual health assessment to discover why patients come for care when they do.

Masson (1985) examined the difference between medical and nursing practice in her collaborative practice with a physician. She discusses medicine as characterized by such descriptors as problem-solving, logical and autonomous. She portrays nursing as characterized by such descriptors as nurturing, intuitive and interdependent. Masson further points out that as products of Western society, we demand the cures we believe that technology can provide, and at the same time, we recognize that medical care is incomplete, that something is missing. She believes that nursing provides the missing ingredient; however, she also believes that such characteristics as nurturing are undervalued by society and by nurses.

Carnevali and Patrick (1986) consider the focus of nurses providing health care to be concerned with aiding clients to maintain a balance between the activities and demands of daily living and their functional capacities for engaging in that daily living. They further believe that when nurses function in lieu of physicians—as nurse practitioners frequently do—they must be accountable for their actions in that capacity.
Clearly, data from research confirm that nurse practitioners offer an effective health care alternative that health consumers both want and need. Just as clearly, there is a dearth of data that identifies what it is that practitioners do that is effective in improving health care. The role of the nurse practitioner in primary health care is still in the developmental process. It is critical at this point in time, in which health care costs are escalating and medical care is becoming increasingly technological, that nurse practitioners demonstrate that they provide care which is not only cost effective and efficient, but is also concerned for the whole person and his needs. This study is timely and needed. It has significance not only for nurse practitioners and nurse educators, but also for society as a whole—the consumers of health care.

Definition of Terms

The following terms are defined for this study.

1. Advanced nurse practitioner (Rules and regulations for advanced nurse practitioners, 1980)

   a registered professional nurse currently licensed in Texas, who is prepared for advanced nursing practice by virtue of knowledge and skills obtained through a post-basic or advanced educational program of study acceptable to the Board. The advanced nurse practitioner is prepared to practice in an expanded role to provide health care to individuals, families, and/or groups in a variety of settings. The advanced nurse practitioner functions in a collegial relationship with physicians and other health professionals making independent decisions about nursing needs, interdependent decisions with physicians regarding health regimens, and assumes
dependent responsibilities in carrying out delegated medical acts.
(pp. 1151-1152)

2. Primary health care
   The client's first contact with the health care system in a given
   episode of illness and the responsibility for continuity of care, including
   promotion of health and prevention of illness as well as management of illness.

3. Physician-managed setting
   A private physician's office or a clinic in which the nurse practitioner is
directly responsible to a physician on site.

4. Nurse-managed setting
   A clinic or health/wellness center in which a nurse is manager or in
   which the nurse functions autonomously, without direct physician supervision.

Limitations of the Study
This study is delimited to the practice of advanced nurse practitioners in
primary health care in the State of Texas. There are variations in the definition
and legal parameters of advanced nurse practitioner practice from state to state;
thus, findings of this study cannot be generalized to advanced nurse
practitioners practicing in other states. The findings of this study also cannot be
generalized to advanced nurse practitioners in settings other than primary
health care settings.
CHAPTER BIBLIOGRAPHY


CHAPTER II

REVIEW OF RELATED LITERATURE

A review of the literature relevant to the study is presented in this chapter.

The Nurse Practitioner Role

History and Development

At the time the initial advanced nurse practitioner (ANP) program was developed at the University of Colorado in 1965, the professional nursing leaders were clamoring for change. Nurses were encouraged to orient their practices toward direct patient care; to function in a collegial and collaborative fashion with physicians; to be more autonomous and accountable in their practices; and to further their knowledge and skills through advanced study and research (Pearson, 1985). This was quite contrary to the way nursing was being practiced at the time. Nurses, generally, were kept busy passing medications, managing patient care units, and doing paper work with little time left for direct care. Moreover, relationships between nurses and physicians were characterized by a mix of interdisciplinary struggle and mutual support. This ambivalence persists in many contemporary primary care settings (Lynaugh, 1986). The demands of professional nursing leaders, coupled with the increased involvement of consumers in health care issues and the general concern for a possible physician shortage, set the stage for the initiation of the nurse practitioner (NP) movement.
In an innovative and cooperative effort, Loretta Ford and Henry Silver proposed and developed the first ANP program (Pearson, 1985). There were also other interdisciplinary teams who made the effort to integrate medical and nursing practice, inspired by the common goal of improving health care delivery (Lynaugh, 1986). The National Joint Practice Commission was formed in 1972 under the sponsorship and funding of the American Medical Association (AMA) and the American Nurses' Association (ANA). This group identified 250 nurse/physician joint practices before it disbanded in 1981 because of withdrawal of financial support by the AMA (Hawkins & Thibodeau, 1983). Mauksch (1978) stated that the nurse/physician team was vital to client care. According to her, the focus of NP care is wellness, assessment and intervention, caring, comforting, teaching, counseling, and coordination of care, whereas the focus of physician care is the diagnosis, treatment and curing of illness. However, there is clear competition between NPs and physicians in instances where they cannot organize to share clients (Lynaugh, 1986). Lynaugh reminds nurses that "the blurred line between medical practice and nursing practice is always shifting--always being renegotiated (p. 143)." She further cautions that to understand the phenomenon of the nurse practitioner, it may be necessary to remind oneself that all professionals exist at the bidding of the society which supports them. NPs came into being because someone was needed to provide care for children, for the chronically ill, for the aged, and for the sick poor.

By the early seventies, the NP movement had gained momentum. The idea of expanding the scope of nursing practice was spreading rapidly (Pearson, 1985). In 1971, a Commission of the Secretary of Health, Education, and Welfare presented its findings from a study on extended roles for nurses. They concluded that nurses could assume responsibilities for primary care functions
alone and/or in collaboration with physicians. Many professional organizations from nursing and medicine developed scope of practice statements and guidelines for NP education (Hawkins & Thibodeau, 1983). In 1974, the ANA Congress of Nursing Practice published a definition of the NP role which also addressed the scope of NP practice. It was about this time that the ANA suggested that the states update their definitions of nursing practice to include NPs (Hawkins & Thibodeau, 1983). However, it was not until February, 1980, that the Board of Nurse Examiners for the State of Texas formulated a set of rules and regulations for nurse practitioners. The Texas Medical Association (TMA), in April 1980, challenged the validity of the new rules and regulations (Hawkins & Thibodeau, 1983). The challenge was successfully met by nurses in the state and the rules still stand as proposed. Thirty-seven states now recognize NPs and have passed laws that provide for advanced nursing practice (Kelly, 1986).

Educational Preparation for the Role

A major factor in the rapid proliferation of educational programs for preparation of NPs has been the support of the federal government. The funding of NP programs has survived many of the cuts that have affected other health care areas (Pearson, 1985). The Nurse Training Act of 1964 (PL 88-581), Title II of the 1968 Health Manpower Act (PL 92-158), and the Nurse Training Act of 1975 (PL 94-63) provided monies for advanced nurse training and for the establishment of practitioner programs (Hawkins & Thibodeau, 1983).

In the early years, preparation of NPs took place in certificate programs. These programs, most of which were under the auspices of continuing education departments of formal educational institutions, included approximately four to
five months of intensive didactic instruction and supervised clinical practice followed by an internship or preceptorship of varying lengths. These certificate programs were about one year in length and appealed to nurses who could not afford or were not prepared to enter graduate programs (Argondizzo & Miller, 1986). Military programs were developed as certificate programs to prepare baccalaureate nurses as ANPs to meet the health care needs of military personnel (A. Smith, Personal telephone communication, June, 1987).

In the seventies, a major shift began to take place in NP education—from certificate programs to master's degree programs (Sultz, Henry, Kinyon, Buck, & Bullough, 1983). In 1971, there were eighty-three certificate programs and twenty-one master's degree programs. By 1979, there were 124 certificate programs and seventy-four master's programs, and by 1980, fifty-eight percent of all NP programs were master's degree programs (Hawkins & Thibodeau, 1983). By this time, there were 20,000 nurses who had completed advanced education as NPs in master's degree programs or in certificate programs. Mezey (1986) points out that certificate programs will continue to have a place in NP education for some time. Certificate programs have provided advanced education to nurses who would have been ineligible to enter master's programs. It is these nurses who work with the underserved elderly and rural populations. She advises that it is not realistic to expect nurses living in rural areas or those working in nursing homes to obtain a master's degree in order to function as an NP. However, Mezey believes that graduate education is the preferrable educational route for nurses who are eligible, available, and can afford it. According to Mezey, "credentials other than academic are deficient in terms of transportability, longevity, and recognition among professional colleagues (p. 102)."
In a study addressing types of employment settings, characteristics of clinical practice and professional activities of Pediatric Nurse Practitioners with and without master's degrees, Cruikshank and Lakin (1986) found that master's level graduates were less likely to be employed in primary health care settings. They found that fifty-one percent of the master's graduates were employed in faculty positions while the non-master's graduates were more likely to be employed in primary health care delivery and live in rural areas. Academic and professional nursing organizations have made policy decisions affecting the level of NP education, indicating that for optimal alignment between educational preparation and projected role expectations for ANPs, the master's level of education is mandatory (American Academy of Nursing, 1977; American Nurses Association, 1980; National League for Nursing, 1978; and Association of Faculties of Pediatric Nurse Associates /Practitioner Programs, 1982). These groups reason that NPs with master's degrees have greater job flexibility, are better prepared to incorporate new knowledge into practice, and are prepared to be leaders, educators, and researchers (Ford, 1979).

**Socialization into the NP Role**

Education is not sufficient in itself to prepare a nurse to function as an ANP. Taking on an occupational role, such as "physician" or "advanced nurse practitioner," is accomplished through the process of socialization during which new values and behaviors relative to the occupation are internalized (Kramer, 1974). This is consistent with Hardy and Conway (1978, p. 17), who state that role theory represents a "collection of concepts and a variety of hypothetical formulations that predict how actors will perform in a given role, or under what circumstances certain types of behavior can be expected." One of the concepts
particularly important to this study is that of role performance or role behavior, the behavior or action relevant to a specific role (Hardy and Conway, 1978).

A major portion of the professional socialization of physicians occurs after the completion of medical school in the context of internship and residency programs (Olmsted & Paget, 1969). This is not generally so for nurses who are socialized into the nursing role through their basic nursing education and subsequent work experience. However, ANPs do have a brief preceptorship at the conclusion of the practitioner preparation, usually no more than four months in length. This does provide ANPs with an opportunity for further socialization into the new role while still under the guidance of faculty.

Because ANPs possess a broad range of skills and functions, including some delegated medical functions, conflict frequently arises around the issue of whether nurse practitioner functions are nursing actions or medical actions (Keating and Nevin, 1985). Kramer and Schmalenberg (1977, p. ix) suggest that further conflict arises when the "aspirant professional perceives that many professional ideals and values are not operational and go unrewarded in the work setting." In primary health care settings, many of the ideals valued in traditional nursing settings may not be valued or rewarded. These conflicts can be resolved in a number of ways, one of which is to become as competent and effective in the new situation as in the old (Kramer & Schmalenberg, 1977). For ANPs in primary health care, performing delegated medical functions and working in a collaborative relationship with physicians is the new situation to which they must adapt if they are to survive. Many practitioners have demonstrated their worth and potential in primary health care settings. More than 1000 articles, books, and research reports have shown that ANPs are competent, concerned professionals who can function both independently and
collaboratively as they provide quality health care to clients (Pearson, 1985). In an information synthesis to examine nurse practitioner effectiveness (Crosby, Ventura, & Feldman, 1987), 248 studies were reviewed by a panel of experts. The experts classified the studies into four categories of effectiveness: utilization of NPs, delivery of care, short-term outcomes, and long-term outcomes. The results of the synthesis suggested that NPs have been working within role expectations and have been performing a comprehensive range of activities including both expanded nursing practice activities and physician substitute functions. In fifty-eight percent of the studies reviewed, NPs were found to have a positive influence on client-related short-term outcomes such as health knowledge, compliance, and return for follow-up. Too few of the studies were concerned with long-term outcomes for the reviewers to draw any conclusions in this area. ANPs have, without a doubt, adapted some assessment and intervention techniques, previously used only by physicians, to their nursing base in order to serve clients with quality care—care which might have been omitted in the medical model of care (Keating & Nevin, 1985). However, the nurse practitioner movement has also served to challenge nursing to reaffirm some very traditional aspects of nursing as well as to assume new arenas of responsibility and accountability (Keating & Nevin, 1985).

Advanced Nurse Practitioners in Primary Health Care

Primary Health Care

Definitions of primary care are frequently confusing and cumbersome in the attempt to reflect its complex nature (Stanford, 1987). According to Shamansky (1981, p.49) primary care "is viewed as a potential cure for the secondary effects of maldistribution of medical resources, as a remedy for
fragmented and/or duplicative care, and as a humanizing influence in an
impersonal, technological world." Primary care is defined by the World Health
Organization (1976) as

a multisectoral concept directed toward improving well-being and
consisting of simple and effective measures, in terms of cost, technique
and organization, which are easily accessible to the people requiring relief
from pain and suffering and which improves the living conditions of
individuals, families and communities. (p.1)

Mauksch (1981) defines primary health care as ambulatory, community
based care which is characterized by first and continuous access, and is
comprehensive, coordinated, continuous and accountable. According to her, the
content of primary health care includes health maintenance activities, self-care
education, health screening, management of common and simple illnesses,
monitoring of chronic illness and helping clients to achieve a dignified death.
Adjectives which have been used to describe primary health care, many of
which appear in the definitions above include: accessible, accountable,
available, comprehensive, coordinated, continuous, convenient, compassionate,
competent, and cost-effective (Shamansky, 1981). Primary health care as it is
used in this study is devised from many definitions and includes the basic
elements of all: primary health care is the client's first contact with the health
care system in a given episode of illness and includes the responsibility for
continuity of care, promotion of health, and prevention of illness as well as
management of illness. Diers and Molde (1983, p. 742) view the ANP role in
primary care as an "exciting adventure." They see primary care as more
consistent with the traditional definition of nursing than that of medicine.
ANP Practice

According to Keating and Nevin (1985), providing quality primary health care demands advanced preparation to deal with the complexity and scope of problems presented in the client's first contact with the health care system in any given episode of illness. Additional demands are made in providing continuing care to promote, maintain and restore health. The primary health care nurse encounters some clients who have ill-defined needs and others who are struggling to negotiate within the complex health care system. To provide this type of care requires interpersonal relationship skills; an ability to analyze large amounts of information generated through interview, observation, examination, and consultation; and knowledge of family and community power and cultural interactions (Keating and Nevin, 1985).

In 1980, sixty-one percent of ANPs were employed in ambulatory health care settings such as community based clinics and health centers, private practice, prepaid group practices (such as HMOs), and hospital clinics. The remaining thirty-nine percent worked in hospitals, schools, colleges, schools of nursing, industrial settings and extended care facilities (Hawkins and Thibodeau, 1983). Though the percentage may have changed, that is basically where primary health care ANPs continue to practice (Lynaugh, 1986).

According to Lynaugh (1986), the major influences that effect the practice environments of ANPs in primary health care are time and money, physician relationships, and recognized need for practitioner services. Prior to the NP movement, nurses rarely dealt directly with these issues because they were employed in relatively large bureaucratic organizations. Primary care practice involves serial one-on-one relationships; direct trade of units of time for money; and broad, open-ended accountability to consumers. There are practitioners
who, because they are unable to practice autonomously in physician-controlled
work settings, open their own health care practices. According to one such
practitioner (Pearson, 1986),

consumers are the only group that can legitimately decide where, how,
and from whom they purchase their health care services. Most
physicians believe that except for groups that "don't count" (i.e., the poor,
elderly, and developmentally disabled), only M.D.s can legitimately treat
people. (p.58)

Not all physicians view the nurse practitioner as a threat. Donald Light
(1983), a physician, says of NPs,

nurse practitioners provide a more personal kind of care that many
patients like and that measurably improves compliance while reducing
symptomatic complaints, return visits, and hospitalization. They spend
about fifty percent longer than physicians on each encounter, but over
the course of the illness--especially chronic illness--the time they spend
may be less. (p. 1318)

A study by Watkins and Wagner (1982) demonstrated that clients
managed jointly by ANPs and MDs obtained better outcomes than did clients
managed by either the ANPs or MDs alone. They stated that nurses and
physicians in practice together influence each other's thinking when they
discuss client management issues and attend the same educational forums.

Another study comparing the equivalence of the care given by ANPs and MDs
(Ramsey, McKenzie, & Fish, 1982), demonstrated that after fifteen months,
hypertensive clients cared for by ANPs had lost more weight and had better
control of their blood pressure than those care for by MDs. Sullivan (1982)
suggests that since the outcome of care given by ANPs is at least as good as that
given by physicians, complete responsibility for delivering care could be given to ANPs functioning in remote or rural areas.

There are two primary barriers to nurse practitioner practice and autonomy. These are direct reimbursement for practitioner services and prescription-writing privileges, both of which are volatile issues being debated in state legislatures throughout the country (Manber, 1985). To date there are eighteen states with legislation mandating third-party or insurance reimbursement for nurses (Kelly, 1986). Additionally, Congress provides for the direct reimbursement for nurses through CHAMPUS and Medicaid (Kelly, 1986). Nurse practitioners currently have the legal right to prescribe selected drugs in twenty states (LaPlante and O'Bannon, 1987). In a study done to identify the impact of NPs without prescriptive authority on the selection of prescription and over-the-counter drugs, LaPlante and O'Bannon (1987) found that only two percent of recommended drugs were changed after consultation with a physician, demonstrating that NPs without prescriptive privileges have a significant impact on drugs prescribed to clients. While both of these issues are important to the future of the ANP, third party payment for services seems to be the most critical (Pearson, 1986; Lynam, 1986). According to Shamansky (1981),

Fifteen years of experience have confirmed nursing's special contribution to primary care, but early politics laid the ground work for obstacles which have been (and will continue to be) difficult to surmount. NPs face a crisis in terms of establishing their scope and purpose in this era of limited resources, an oversupply of physicians, and a national sentiment of conservatism. (p. 5)
According to a special report issued by the Congressional Office of Technology, NPs, in their area of competence, provide health care whose quality is equivalent to that of care provided by physicians (Newscaps, 1987). The report further says that NPs are more adept than physicians in providing services that depend on communication skills. In spite of this, the report was pessimistic about the likelihood of independent practice for large numbers of practitioners because of problems related to malpractice coverage, and the costs of starting up a practice. The report does recommend liberalizing third party coverage and direct payment for practitioners in selected settings.

Summary

The literature reveals that although the rise of the ANP has been rapid, it has also been surrounded with conflict and contradictions. A particular concern has been the scope of advanced nursing practice and its infringement upon traditional medical practice. Even though the federal government has actively supported educational programs for the preparation of ANPs, there has been a lack of support for the enactment of laws and policies at the state and federal level to enable ANPs to practice with any degree of freedom. The two major barriers to autonomous ANP practice are the lack of direct reimbursement for practitioner services by insurance carriers, and the lack of prescription-writing privileges, both of which many practitioners feel they need. It has been well demonstrated in research that ANPs in primary health care practice have been effective in altering client outcomes, however, it is not clear in the literature how ANP practice differs from physician practice in primary health care settings.
CHAPTER BIBLIOGRAPHY


Chapter III

METHODOLOGY AND PROCEDURES

This chapter includes a discussion of the instrumentation as well as procedures for collecting and treating data. Ethical factors are also included in this chapter.

Instrumentation

The questionnaires for this study were developed after a review of the literature concerning the role of advanced nurse practitioners in primary health care settings. "Characteristics of Advanced Nurse Practitioners," (Appendix A) lists fourteen characteristics identified in the literature as important to nurse practitioners and other primary health care providers. Among these characteristics are those traditionally valued in medicine as well as those traditionally valued in nursing. Characteristics traditionally valued in nursing which are listed on the questionnaire are: compassionate, perceptive, nurturing, intuitive, empathetic, person-oriented, and skilled in mediation. Those characteristics traditionally valued in medicine which are included on the questionnaire are: decisive, technically-oriented, logical, analytical, aggressive, goal-oriented, and skilled in problem-solving (Ferguson, 1980; Remen, Blau, and Hively, 1980; Engel, 1980; and Masson, 1985).

The fourteen characteristics were listed in random order with a blank in front of each characteristic. Instructions at the top of the questionnaire asked the subjects to rank order these characteristics from one to fourteen, with one being most important and fourteen being least important to the subject's
practice. A ranking in which at least six of the ten characteristics perceived to be most important were those traditionally valued in medicine was defined as a predominately medical model practice. A ranking in which six or more of the ten characteristics ranked as most important were those traditionally valued by nursing was defined as a predominately nursing model practice.

The second questionnaire, "Advanced Nurse Practitioner Functions in Primary Health Care," (Appendix B) groups primary health care provider functions in categories adapted from those used by Golden (1976) in developing a task inventory for primary health care practice. Golden categorized primary care tasks into the steps of the problem-solving process, with which both nurses and physicians are familiar. These categories are as follows:

1. Data gathering tasks: gathering information to provide a data base,
2. Assessment/Evaluation tasks: examining the data base to determine functional status,
3. Conclusion drawing tasks (Diagnosis): determining the nature of any abnormality or dysfunction,
4. Strategy selection tasks: selecting appropriate treatment and management interventions, and
5. Implementation of strategies tasks: performing specific actions such as prescribing, counseling, or demonstrating.

These categories were modified to provide more clarity. "Strategy selection tasks" and "Implementation of strategies tasks" were combined into one category. "Assessment/Evaluation tasks" was changed to "Assessment/analysis functions" and an evaluation category was added. The new wording is more consistent with the nursing process format with which nurses are familiar (Carnevali and Patrick, 1986). The word, "functions" was
used instead of "tasks" because the functions listed under each of these categories are broader than the discrete tasks used by Golden (1976).

The categories, as they appear on the questionnaire, are:

A. Data gathering functions,
B. Assessment/analysis functions,
C. Diagnostic functions,
D. Strategy selection/implementation functions, and
E. Evaluative functions

Within these categories are listed health provider functions, some of which are traditional nursing functions and some of which are traditional medical functions (Carnevali and Patrick, 1986). All of the functions are within the legal parameters of advanced nurse practitioner practice in the State of Texas as described in the "Rules and Regulations for Advanced Nurse Practitioners" (1980) adopted by the Board of Nurse Examiners for the State of Texas in March, 1980.

Subjects were asked to respond to each function in each category in terms of the importance of that function to their practice. The response scale included values one through four, with one being "extremely important"; two, "somewhat important"; three, "not very important"; and four, "not at all important." A place was also provided by each item which could be checked "not appropriate."

The two questionnaires, "Characteristics of Advanced Nurse Practitioners," and "Advanced Nurse Practitioner Functions in Primary Health Care," were submitted to a panel of experts to establish content validity. Minor changes in the wording of some of the functions were made at the suggestion of the panel to increase clarity.
Collection of Data

The population for this study was advanced nurse practitioners in primary health care who are registered to practice in Texas. A list of advanced nurse practitioners in primary health care was compiled from information supplied by the Board of Nurse Examiners for the State of Texas. There were 560 practitioners on the list of whom 67 were males. In order to obtain a sufficient number of male subjects for the study, questionnaires were mailed to all male practitioners. A random sample of the female practitioners was added to obtain a total of 300 subjects. The two questionnaires (Appendices A&B), a demographic data form (Appendix C), and a cover letter (Appendix D) were mailed with a self-addressed stamped envelop to the 300 subjects. The cover letter assured subjects that data would be treated with confidentiality in order to protect their right to anonymity. Return of questionnaires was considered as consent to use data for research purposes. One hundred thirty-two responses were received from female subjects and fifteen responses were received from male subjects. In a further attempt to obtain a sufficient number of male subjects, follow-up post cards were mailed to male non-respondents three weeks following the initial mailing of questionnaires. An additional five responses were received as a result of this mailing.

Testing of Data

The statistical procedures by which data were analyzed included the use of frequency distribution and percentages for examining demographic data and for recording responses on the questionnaires. The t-test was used to determine if there was a significant difference in the mean ranking of
characteristics of advanced nurse practitioners between groups for hypotheses one, three, five, and seven. Additionally, data were examined to determine if there was a difference in ranking between respondents currently functioning as a nurse practitioner in primary health care and those who were not. The t-test was also used to determine if there was a significant difference in the mean response between groups for each of the five categories of advanced nurse practitioner functions. This tested hypotheses two, four, six, and eight.

The Chi square test was used to further examine the data from the questionnaire, "Advanced Nurse Practitioner Functions in Primary Health Care," to determine if the responses on individual items within each of the categories differed from chance. On the basis of these findings, several of these items were further studied using frequencies, percentages and the Chi square test to determine if there were differences in the response of subjects according to educational preparation, practice setting, whether or not the practitioner had entered practice before the current rules and regulations for nurse practitioners were adopted, and whether or not the respondent was currently functioning as a practitioner in primary health care.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

DATA ANALYSIS

This chapter includes a description of the subjects and results of the data analysis.

Characteristics of Subjects

Of the 300 questionnaires mailed, there were 152 respondents representing a fifty-one percent return. Table I displays the number of subjects according to gender, practice setting, educational preparation, whether or not the respondent entered practice prior to 1980, and whether or not the respondent was practicing as an ANP in primary health care.

The respondents practicing as ANPs in primary health care settings

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>Female</td>
<td>132</td>
<td>87</td>
</tr>
<tr>
<td>Certif. prep.</td>
<td>99</td>
<td>65</td>
</tr>
<tr>
<td>Master's prep.</td>
<td>53</td>
<td>35</td>
</tr>
<tr>
<td>Physician mgd.</td>
<td>74</td>
<td>57</td>
</tr>
<tr>
<td>Nurse mgd.</td>
<td>56</td>
<td>43</td>
</tr>
<tr>
<td>Prior to 1980</td>
<td>73</td>
<td>48</td>
</tr>
<tr>
<td>1980 or later</td>
<td>78</td>
<td>52</td>
</tr>
<tr>
<td>Functioning ANP</td>
<td>122</td>
<td>80</td>
</tr>
<tr>
<td>Non-functioning ANP</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>
indicated on the demographic data form the functions they performed on a regular basis. These data are presented in Table II. Ninety percent or more of ANPs currently practicing in primary health care are performing all of the following functions: providing health education to clients, eliciting health histories, doing physical examinations, interpreting data collected in health assessments, working collegiably with other health professionals, and evaluating and modifying health care. Eighty-nine percent of ANPs are recommending non-prescriptive measures for the relief of symptoms, seventy-three percent are performing simple laboratory tests, and sixty-six percent are prescribing medications and/or performing other delegated medical acts.

**TABLE II**

PRIMARY HEALTH CARE FUNCTIONS PERFORMED BY ADVANCED NURSE PRACTITIONERS (N=122)

<table>
<thead>
<tr>
<th>Function</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health education</td>
<td>121</td>
<td>99</td>
</tr>
<tr>
<td>Physical exam.</td>
<td>119</td>
<td>98</td>
</tr>
<tr>
<td>Interpret info.</td>
<td>118</td>
<td>97</td>
</tr>
<tr>
<td>Collaborate</td>
<td>115</td>
<td>94</td>
</tr>
<tr>
<td>Evaluate care</td>
<td>111</td>
<td>91</td>
</tr>
<tr>
<td>Health history</td>
<td>110</td>
<td>90</td>
</tr>
<tr>
<td>Recom. non-Rx</td>
<td>109</td>
<td>89</td>
</tr>
<tr>
<td>Do lab. tests</td>
<td>89</td>
<td>73</td>
</tr>
<tr>
<td>Prescribe meds.</td>
<td>80</td>
<td>66</td>
</tr>
</tbody>
</table>
Results of Data Analysis

Characteristics of Advanced Nurse Practitioners

Characteristics of the advanced nurse practitioner were studied in relation to selected demographic variables. The mean ranking for each characteristic was compared using independent group t-tests. This tested hypotheses one, three, five, and seven. The hypothesis will be stated followed by discussion and the appropriate table.

**Hypothesis 1.**-- There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by male and female advanced nurse practitioners.

**TABLE III**

RANKING OF CHARACTERISTICS OF THE ADVANCED NURSE PRACTITIONER BY MALE AND FEMALE

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Male (N=20)</th>
<th>Female (N=132)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
<td>M</td>
</tr>
<tr>
<td>Decisive</td>
<td>6.3</td>
<td>4.00</td>
<td>5.8</td>
</tr>
<tr>
<td>Compassionate</td>
<td>5.7</td>
<td>3.92</td>
<td>7.0</td>
</tr>
<tr>
<td>Technically-oriented</td>
<td>8.0</td>
<td>3.64</td>
<td>9.3</td>
</tr>
<tr>
<td>Perceptive</td>
<td>4.8</td>
<td>3.33</td>
<td>4.3</td>
</tr>
<tr>
<td>Logical</td>
<td>6.2</td>
<td>3.36</td>
<td>6.0</td>
</tr>
<tr>
<td>Nurturing</td>
<td>8.5</td>
<td>4.26</td>
<td>8.6</td>
</tr>
<tr>
<td>Analytical</td>
<td>8.4</td>
<td>4.18</td>
<td>7.0</td>
</tr>
<tr>
<td>Intuitive</td>
<td>7.8</td>
<td>4.34</td>
<td>6.8</td>
</tr>
<tr>
<td>Problem-solver</td>
<td>4.9</td>
<td>3.64</td>
<td>3.6</td>
</tr>
<tr>
<td>Empathetic</td>
<td>6.1</td>
<td>3.86</td>
<td>6.7</td>
</tr>
<tr>
<td>Person-oriented</td>
<td>4.5</td>
<td>3.09</td>
<td>3.2</td>
</tr>
<tr>
<td>Aggressive</td>
<td>10.3</td>
<td>5.16</td>
<td>11.2</td>
</tr>
<tr>
<td>Mediator</td>
<td>10.0</td>
<td>3.73</td>
<td>9.7</td>
</tr>
<tr>
<td>Goal-oriented</td>
<td>9.1</td>
<td>4.02</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Note: The lower the mean, the greater the perceived importance of the characteristic.
The results of the analysis of data comparing the ranking, standard deviations, and t-test scores of these characteristics by male and female ANPs is presented in Table III. Males and females did not differ significantly on any of the fourteen characteristics.

Hypothesis 3.-- There will be no significant difference in the ranking of the characteristics of ANPs by ANPs whose educational preparation was in a Master's degree program and those whose preparation was in a certificate or non-Master's program.

Table IV presents the mean ranking, standard deviation, and results of independent t-tests of the characteristics for subjects with Master's and

| TABLE IV |
|-----------------|-----------------|-----------------|-----------------|
| Characteristic  | Master's (N=53) | Certificate (N=99) |
|                 | M    | S.D. | M    | S.D. | T    |
| Decisive        | 6.3  | 3.47 | 5.7  | 3.60 | -1.13|
| Compassionate   | 6.7  | 3.32 | 6.8  | 3.63 | 0.15 |
| Technically-oriented | 10.2 | 3.43 | 8.6  | 4.49 | -2.32**|
| Perceptive      | 4.7  | 3.05 | 4.2  | 3.10 | -1.00|
| Logical         | 6.6  | 3.22 | 5.7  | 3.36 | -1.59|
| Nurturing       | 8.3  | 3.48 | 8.7  | 3.94 | 0.60 |
| Analytical      | 8.1  | 3.64 | 6.6  | 4.05 | -2.16*|
| Intuitive       | 6.9  | 3.85 | 6.9  | 4.12 | 0.01 |
| Problem-solver  | 4.2  | 3.40 | 3.6  | 3.16 | -1.02|
| Empathetic      | 6.6  | 3.42 | 6.7  | 4.03 | 0.15 |
| Person-oriented | 3.1  | 2.79 | 3.5  | 2.81 | 0.95 |
| Aggressive      | 12.4 | 2.78 | 10.4 | 4.74 | -2.87***|
| Mediator        | 10.0 | 3.24 | 9.6  | 4.25 | -0.65|
| Goal-oriented   | 8.6  | 3.82 | 8.2  | 4.27 | -0.48|

*p<.03 **p<.02 ***p<.004
Certificate educational preparation for the role. Certificate prepared ANPs ranked the characteristics "technically-oriented," "analytical," and "aggressive" significantly higher than Master's prepared ANPs. This indicates that analytical ability, technical orientation, and aggressiveness are perceived as more important to certificate prepared practitioners than to Master's prepared practitioners. These groups did not differ significantly with respect to any of the other characteristics.

Hypothesis 5.—There will be no significant difference in ranking of characteristics of ANPs by ANPs who practice in a physician-managed setting and those who practice in a nurse-managed setting.

**TABLE V**

**MEAN RANKING OF CHARACTERISTICS OF THE ADVANCED NURSE PRACTITIONER BY PRACTICE SETTING**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Physician-managed (N=74)</th>
<th>Nurse-managed (N=56)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
<td>M</td>
</tr>
<tr>
<td>Decisive</td>
<td>6.4</td>
<td>3.35</td>
<td>5.4</td>
</tr>
<tr>
<td>Compassionate</td>
<td>7.2</td>
<td>3.25</td>
<td>6.1</td>
</tr>
<tr>
<td>Technically-oriented</td>
<td>9.6</td>
<td>3.88</td>
<td>8.2</td>
</tr>
<tr>
<td>Perceptive</td>
<td>4.4</td>
<td>3.14</td>
<td>4.2</td>
</tr>
<tr>
<td>Logical</td>
<td>6.4</td>
<td>3.29</td>
<td>5.7</td>
</tr>
<tr>
<td>Nurturing</td>
<td>8.8</td>
<td>3.45</td>
<td>8.3</td>
</tr>
<tr>
<td>Analytical</td>
<td>7.9</td>
<td>4.04</td>
<td>6.7</td>
</tr>
<tr>
<td>Intuitive</td>
<td>6.9</td>
<td>3.95</td>
<td>7.1</td>
</tr>
<tr>
<td>Problem-solver</td>
<td>3.9</td>
<td>3.19</td>
<td>3.9</td>
</tr>
<tr>
<td>Empathetic</td>
<td>6.7</td>
<td>3.59</td>
<td>6.1</td>
</tr>
<tr>
<td>Person-oriented</td>
<td>3.3</td>
<td>2.52</td>
<td>3.6</td>
</tr>
<tr>
<td>Aggressive</td>
<td>11.3</td>
<td>3.90</td>
<td>11.1</td>
</tr>
<tr>
<td>Mediator</td>
<td>10.0</td>
<td>3.48</td>
<td>9.3</td>
</tr>
<tr>
<td>Goal-oriented</td>
<td>8.7</td>
<td>3.56</td>
<td>7.7</td>
</tr>
</tbody>
</table>

*p< .02
Table V presents the mean ranking of the characteristics of these two groups. ANPs in nurse-managed settings ranked "technically-oriented" significantly higher than their counterparts in physician-managed settings. This indicates that these ANPs perceived technical skills to be more important to their practice than did ANPs in physician-managed settings. These groups did not differ significantly with respect to any of the other characteristics.

**Hypothesis 7.**—There will be no significant difference in ranking of characteristics of ANPs by ANPs who entered practice in 1980 or later and those who entered practice prior to 1980.

Table VI presents the mean ranking, standard deviation, and results of

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|}
\hline
Characteristic & Prior to '80 (N=73) & & '80 or Later (N=78) & \\
 & M & S.D. & M & S.D. & \\
\hline
Decisive & 5.0 & 3.24 & 6.7 & 3.70 & 2.96** \\
Compassionate & 7.1 & 3.57 & 6.6 & 3.43 & 0.84 \\
Technically-oriented & 9.2 & 4.36 & 9.0 & 4.12 & 0.30 \\
Perceptive & 4.1 & 2.84 & 4.7 & 3.29 & -1.29 \\
Logical & 5.9 & 3.11 & 6.1 & 3.49 & -0.34 \\
Nurturing & 9.1 & 3.80 & 8.1 & 3.73 & 1.75 \\
Analytical & 6.9 & 3.97 & 7.3 & 3.97 & 0.62 \\
Intuitive & 6.9 & 3.85 & 6.9 & 4.21 & 0.07 \\
Problem-solver & 4.0 & 3.25 & 3.6 & 3.27 & 0.62 \\
Empathetic & 6.5 & 3.89 & 6.7 & 3.77 & -0.23 \\
Person-oriented & 3.0 & 2.49 & 3.8 & 3.05 & -1.66 \\
Aggressive & 10.2 & 4.63 & 11.8 & 3.78 & -2.37* \\
Mediator & 10.1 & 3.86 & 9.5 & 3.97 & 0.91 \\
Goal-oriented & 8.3 & 4.14 & 8.3 & 4.08 & -0.03 \\
\hline
\end{tabular}
\end{table}

*p<.02  **p<.003
the independent t-tests of the characteristics for these two groups. ANPs who entered practice prior to 1980 ranked "decisive" and "aggressive" significantly higher than ANPs who entered practice in 1980 or later, indicating that these qualities are perceived to be more important to the practice of ANPs who entered practice prior to 1980. These two groups did not differ significantly in respect to any of the other characteristics.

Thirty of ANPs who completed the questionnaire were not currently practicing in a primary health care setting. The data from these respondents were compared to ANPs who were currently practicing in primary health care settings. Comparison of the mean ranking, standard deviation, and results of the independent t-tests of these two groups is presented in Table VII.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Practicing ANP (N=122)</th>
<th>Non-practicing ANP (N=30)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
<td>M</td>
</tr>
<tr>
<td>Decisive</td>
<td>6.0</td>
<td>3.56</td>
<td>5.6</td>
</tr>
<tr>
<td>Compassionate</td>
<td>6.8</td>
<td>3.44</td>
<td>6.9</td>
</tr>
<tr>
<td>Technically-oriented</td>
<td>9.1</td>
<td>4.19</td>
<td>9.4</td>
</tr>
<tr>
<td>Perceptive</td>
<td>4.3</td>
<td>2.98</td>
<td>4.7</td>
</tr>
<tr>
<td>Logical</td>
<td>6.0</td>
<td>3.32</td>
<td>6.0</td>
</tr>
<tr>
<td>Nurturing</td>
<td>8.7</td>
<td>3.76</td>
<td>7.9</td>
</tr>
<tr>
<td>Analytical</td>
<td>7.5</td>
<td>3.99</td>
<td>5.9</td>
</tr>
<tr>
<td>Intuitive</td>
<td>6.8</td>
<td>3.96</td>
<td>7.3</td>
</tr>
<tr>
<td>Problem-solver</td>
<td>3.9</td>
<td>3.34</td>
<td>3.2</td>
</tr>
<tr>
<td>Empathetic</td>
<td>6.4</td>
<td>3.73</td>
<td>7.4</td>
</tr>
<tr>
<td>Person-oriented</td>
<td>3.5</td>
<td>2.83</td>
<td>3.0</td>
</tr>
<tr>
<td>Aggressive</td>
<td>11.3</td>
<td>4.12</td>
<td>10.2</td>
</tr>
<tr>
<td>Mediator</td>
<td>9.7</td>
<td>3.87</td>
<td>9.8</td>
</tr>
<tr>
<td>Goal-oriented</td>
<td>8.3</td>
<td>4.05</td>
<td>8.5</td>
</tr>
</tbody>
</table>

*p< .05
who are currently practicing ranked the characteristic, "analytical," significantly lower than those who are not practicing. This indicates that ANPs who were not working as in primary health care perceived analytical ability as a more important component of nurse practitioner practice than did those ANPs who were working in primary health care settings. There were no other significant differences between these two groups in relation to the characteristics of ANPs.

Rank-ordering of the characteristics.--In addition to doing the t-test on the mean rankings of the characteristics of ANPs, how each group rank-ordered the fourteen characteristics was also examined. The average ranking of the fourteen characteristics for all respondents is presented in Table VIII. The characteristics perceived as the three most important were the same for all groups; however, those who entered practice in 1980 or later varied the order

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person-oriented</td>
<td>3.45</td>
</tr>
<tr>
<td>Skilled in problem-solving</td>
<td>3.88</td>
</tr>
<tr>
<td>Perceptive</td>
<td>4.44</td>
</tr>
<tr>
<td>Decisive</td>
<td>5.92</td>
</tr>
<tr>
<td>Empathetic</td>
<td>6.65</td>
</tr>
<tr>
<td>Compassionate</td>
<td>6.68</td>
</tr>
<tr>
<td>Intuitive</td>
<td>7.03</td>
</tr>
<tr>
<td>Analytical</td>
<td>7.23</td>
</tr>
<tr>
<td>Goal-oriented</td>
<td>8.39</td>
</tr>
<tr>
<td>Nurturing</td>
<td>8.50</td>
</tr>
<tr>
<td>Technically-oriented</td>
<td>9.06</td>
</tr>
<tr>
<td>Skilled in mediation</td>
<td>9.78</td>
</tr>
<tr>
<td>Aggressive</td>
<td>11.05</td>
</tr>
</tbody>
</table>
among the three. The three characteristics most highly valued by all groups were "person-oriented," "skilled in problem-solving," and "perceptive." There was more variation from that point on. The characteristic, "logical" was ranked fourth or fifth by all but one group, the male respondents. "Decisive" was ranked fourth or fifth by all but two groups--males and subjects entering practice in 1980 or later. All groups with the exception of those not currently practicing as ANPs, those entering practice in 1980 or later, and those in nurse-managed settings ranked characteristics traditionally valued by nursing and those traditionally valued by medicine equally among the ten characteristics most important to ANP practice. ANPs not practicing and those who entered practice in 1980 or later ranked six characteristics traditionally valued by nursing among the ten characteristics they perceived as most important to ANP practice. ANPs practicing in nurse-managed settings ranked six characteristics that are traditionally valued in medicine among the ten characteristics perceived as most important to their practice.

**Advanced Nurse Practitioner Functions**

Data from the tool "Advanced Nurse Practitioner Functions" was examined to test hypotheses two, four, six, and eight. Subjects rated each item within each category in relation to its importance to their practice. On the four point scale one was "extremely important"; two, "important"; three, "not very important"; and four, "not at all important." There was also a box which could be checked if the subject perceived the function as "not appropriate" to ANP practice.

**T-test comparisons of categories of functions.** Ratings for the items within each of these categories were averaged and mean ratings for the subjects
in each of the groups were tabulated. The mean ratings of the groups were compared using separate independent t-tests. The results of these comparisons are portrayed in Tables IX through XII. The hypothesis which was tested is stated below, followed by the appropriate table.

**Hypothesis 2.**—There will be no significant difference in perceived importance of ANP functions by male and female ANPs in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection functions, and evaluative functions.

The results of the t-test comparing these two groups is presented in Table IX. There were no significant differences in the responses of male and female subjects.

**TABLE IX**

ADVANCED NURSE PRACTITIONER FUNCTIONS BY MALES AND FEMALES

<table>
<thead>
<tr>
<th>Functions</th>
<th>Male (N=20)</th>
<th>Female (N=132)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
<td>M</td>
</tr>
<tr>
<td>Data gathering</td>
<td>1.54</td>
<td>0.39</td>
<td>1.44</td>
</tr>
<tr>
<td>Assessment/analysis</td>
<td>1.73</td>
<td>0.39</td>
<td>1.62</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>1.55</td>
<td>0.50</td>
<td>1.69</td>
</tr>
<tr>
<td>Strategy selection/impl.</td>
<td>1.67</td>
<td>0.31</td>
<td>1.78</td>
</tr>
<tr>
<td>Evaluative</td>
<td>1.68</td>
<td>0.58</td>
<td>1.55</td>
</tr>
</tbody>
</table>

**Hypothesis 4.**—There will be no significant difference in perceived importance of ANP functions by ANPs whose educational preparation was in a master's degree program and those whose educational preparation was in a certificate or non-master's program in each of the following categories: data
gathering functions, assessment/analysis functions, diagnostic functions, strategy selection functions, and evaluative functions.

The results of the t-test comparing the responses of ANPs prepared in master's programs and non-master's programs are presented in Table X. There were no significant differences between these two groups.

### TABLE X

**ADVANCED NURSE PRACTITIONER FUNCTIONS BY EDUCATIONAL PREPARATION**

<table>
<thead>
<tr>
<th>Functions</th>
<th>Master's (N=53)</th>
<th>Non-master's (N=99)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
<td>M</td>
</tr>
<tr>
<td>Data gathering</td>
<td>1.51</td>
<td>0.52</td>
<td>1.43</td>
</tr>
<tr>
<td>Assessment/analysis</td>
<td>1.56</td>
<td>0.46</td>
<td>1.68</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>1.68</td>
<td>0.64</td>
<td>1.67</td>
</tr>
<tr>
<td>Strategy selection/impl.</td>
<td>1.77</td>
<td>0.52</td>
<td>1.77</td>
</tr>
<tr>
<td>Evaluative</td>
<td>1.61</td>
<td>0.61</td>
<td>1.54</td>
</tr>
</tbody>
</table>

**Hypothesis 6.--**There will be no significant difference in perceived importance of ANP functions by ANPs who practice in a physician-managed setting and those who practice in a nurse-managed setting in each of the following categories: data-gathering functions, assessment/analysis functions, diagnostic functions, strategy selection functions, and evaluative functions.

The data from the t-test analysis comparing the responses of ANPs practicing in nurse-managed setting and those in physician-managed settings are presented in Table XI. There were no significant differences.
TABLE XI
ADVANCED NURSE PRACTITIONER FUNCTIONS
BY PRACTICE SETTING

<table>
<thead>
<tr>
<th>Functions</th>
<th>Nurse managed (N=56)</th>
<th>Physician managed (N=74)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
</tr>
<tr>
<td>Data gathering</td>
<td>1.48</td>
<td>0.38</td>
</tr>
<tr>
<td>Assessment/analysis</td>
<td>1.67</td>
<td>0.40</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>1.66</td>
<td>0.62</td>
</tr>
<tr>
<td>Strategy selection/impl.</td>
<td>1.78</td>
<td>0.40</td>
</tr>
<tr>
<td>Evaluative</td>
<td>1.58</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Hypothesis 8.--There will be no significant difference in perceived importance of advanced nurse practitioner functions by advanced nurse practitioners who entered practice in 1980 or later and those who entered practice prior to 1980 in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection functions, and evaluative functions.

TABLE XII
ADVANCED NURSE PRACTITIONER FUNCTIONS
BY ENTRY INTO PRACTICE

<table>
<thead>
<tr>
<th>Functions</th>
<th>Before '80 (N=73)</th>
<th>'80 &amp; later (N=78)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>S.D.</td>
</tr>
<tr>
<td>Data gathering</td>
<td>1.47</td>
<td>0.34</td>
</tr>
<tr>
<td>Assessment/analysis</td>
<td>1.68</td>
<td>0.40</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>1.70</td>
<td>0.59</td>
</tr>
<tr>
<td>Strategy selection/impl.</td>
<td>1.75</td>
<td>0.37</td>
</tr>
<tr>
<td>Evaluative</td>
<td>1.55</td>
<td>0.51</td>
</tr>
</tbody>
</table>
The results of the t-test analysis of the data comparing the responses of ANPs who entered practice before 1980 with those who entered practice in 1980 or later are presented in Table XII. There were no significant differences between these two groups.

Chi-square analysis of functions. -- The responses of all subjects to each of the items in the five categories of functions (data-gathering, assessment, diagnosis, strategy selection, and evaluation) were analyzed using one way Chi squares to determine if the responses differed from chance. The results of this analysis are summarized in Table XIII. In the majority of cases the Chi squares were significant.

Response one (extremely important) was selected significantly more frequently than expected by chance for the following items:

Data gathering functions:
1. Perform comprehensive health history.
2. Perform complete physical examination.
3. Perform episodic health assessments.
4. Perform interim/follow-up health assessments.
5. Record/dictate a concise, comprehensive narrative of the data base.
9. Elicit feedback from the client regarding reason for seeking care.

Assessment functions:
1. Differentiate normal/functional states from abnormal/dysfunctional states.
2. Determine internal resources of client (i.e., strength, endurance, knowledge, motivation, skills, communication).

Strategy selection/implementations functions:
5. Refer clients to other professionals as indicated.
10. Provide a personal presence and human contact (touching, listening) to the client and family.

11. Provide follow-up/continuity of care for clients.

Evaluative functions:

2. Evaluate the results of treatment/management to determine if the condition is improved, the same or worse and the reasons why.

Response two (important) was selected significantly more frequently than expected by chance for the following items:

Data gathering functions:

6. Order diagnostic tests (i.e., x-rays, ECG, blood chemistry, hematology, etc.).

Assessment/analysis functions:

4. Interpret diagnostic tests

6. Determine external sources of clients that influence functional capacity and health (housing, finances, personal support network, transportation, communication devices).

7. Determine environmental features that influences clients's functional capacity and health (temperature, air quality, pollens, noise, lighting).

Diagnostic functions:

2. Diagnose imbalances between requirements of daily living and the client's functional health status and resources for meeting those requirements.

Strategy selection/implemention functions:

8. Provide expertise and assistance in dealing with bureaucracies and health personnel.
Evaluative functions:
1. Establish outcome criteria for evaluation results of treatment/management.

Responses one and two were selected more often than any other choice and differed significantly from chance for the following items:

Data gathering functions:
7. Perform diagnostic tests (i.e., nose and throat culture, hematocrit, vaginal smears, etc.).
8. Perform screening procedures (i.e., Pap smear, blood glucose, vision, hearing, etc.).

Strategy selection/implementation functions:
1. Prescribe medications in consultation with a physician.
2. Prescribe medications in keeping with previously established protocols.
6. Assist clients in examining values, attitudes, goals and expectations associated with health issues and problems.
9. Counsel/support/encourage clients with emotional health problems.

"Not appropriate" was selected significantly more frequently than expected by chance for the following items:

Strategy selection/implementation functions:
3. Suture minor lacerations.
4. Perform incision and drainage of wounds.
<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>CHI SQUARE (df)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Gathering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Comp. health history</td>
<td>88.76 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>2. Comp. physical exam</td>
<td>48.49 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>3. Episodic exam</td>
<td>25.66 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>4. Interim exam</td>
<td>14.83 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>5. Record data base</td>
<td>10.96 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>6. Order diag. tests</td>
<td>63.75 (3)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>7. Perform diag. tests</td>
<td>70.23 (3)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>8. Do screening procedures</td>
<td>44.54 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>9. Elicit client feedback</td>
<td>44.90 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Differentiate nl./abn.</td>
<td>73.00 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>2. Determine client int. resources</td>
<td>06.34 (1)</td>
<td>p&lt; .012</td>
</tr>
<tr>
<td>3. Determine impact hith prob.</td>
<td>00.06 (1)</td>
<td>p&lt; .685</td>
</tr>
<tr>
<td>4. Interpret diag. tests</td>
<td>47.79 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>5. Determine effect of lifestyle</td>
<td>00.59 (1)</td>
<td>p&lt; .448</td>
</tr>
<tr>
<td>6. Determine client ext. sources</td>
<td>52.08 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>7. Determine envirn. features</td>
<td>43.53 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Diagnose abnormality</td>
<td>00.12 (1)</td>
<td>p&lt; .681</td>
</tr>
<tr>
<td>2. Diagnose imbalances</td>
<td>43.06 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td><strong>Strategy Selection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Prescribe med.(consult.)</td>
<td>38.66 (3)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>2. Prescribe med.(protocol)</td>
<td>47.92 (3)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>3. Suture lacerations</td>
<td>25.04 (4)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>4. I. &amp; D. of wounds</td>
<td>12.61 (3)</td>
<td>p&lt; .006</td>
</tr>
<tr>
<td>5. Referral of clients</td>
<td>26.33 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>6. Assist clients to exam...</td>
<td>51.09 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>7. Provide information...</td>
<td>00.03 (1)</td>
<td>p&lt; .646</td>
</tr>
<tr>
<td>8. Provide expertise...</td>
<td>29.20 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>9. Counsel clients</td>
<td>39.30 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>10. Provide personal presence</td>
<td>18.52 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>11. Provide follow-up</td>
<td>27.56 (1)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Establish outcome criteria</td>
<td>38.00 (2)</td>
<td>p&lt; .001</td>
</tr>
<tr>
<td>2. Evaluate results</td>
<td>07.11 (1)</td>
<td>p&lt; .007</td>
</tr>
</tbody>
</table>

*a* Chi square not significant  
*b* Responses spread over three or more options
The items in which the responses did not differ significantly from chance were:

Assessment functions:
3. Determine the impact of health problems and their treatment on daily living and functional capacities of clients and their families.
5. Determine the effect of individual and family lifestyle on maintenance of health and functional capacities.

Diagnostic functions:
1. Diagnose the nature of the abnormality/dysfunction of the client.

Strategy selection/implementation functions:
7. Provide clients with information or sources of information and assistance in applying that information in daily living.

Some of the options were excluded from the Chi square analysis because there were too few responses made for these options. The general rule which was followed in the analyses was that any alternative which had fewer than ten responses (less than six percent of the responses possible) was excluded. This made the expected frequency counts more valid since they were based on fewer alternatives.

The items in which the responses were spread across three or more of the alternatives were subjected to further examination to determine if there were differences between the ANPs according to practice setting, educational preparation, when the practitioner entered practice, and whether or not the ANP was currently practicing. These items are indicated by the superscript \(^b\) on Table XIII. The Chi square test was used to examine the data in this context. The results indicated there was a significant difference in the responses of ANPs in physician-managed settings when compared to responses of those in
nurse-managed settings on five of the items. The results are presented in Tables XIV and XV. In relation to item six from the assessment/analysis category, twenty percent of ANPs in nurse-managed settings perceived that ordering diagnostic tests was inappropriate to their role. Another eighteen percent said that this function was either not very important or not at all important. Five percent of ANPs practicing in physician-managed settings thought that this function was inappropriate to their role and twelve percent thought this function was either not very important or not at all important.

In response to item one in the strategy selection category, twenty-two percent of ANPs in nurse-managed settings perceived that prescribing medications in consultation with a physician was inappropriate to their role, while twenty-five percent responded that this function was not important to their practice. Eight percent of ANPs in physician-managed settings perceived that this function was inappropriate to their role and eight percent said it was not important to their practices.

**TABLE XIV**

CHI SQUARE VALUES FOR SELECTED FUNCTIONS BY PRACTICE SETTING

<table>
<thead>
<tr>
<th>Function</th>
<th>Chi Square($X^2_4$)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment/analysis category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Order diagnostic tests</td>
<td>9.08</td>
<td>p&lt; .05</td>
</tr>
<tr>
<td>Strategy selection category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Prescribe medications in consultation with a physician.</td>
<td>14.46</td>
<td>p&lt; .006</td>
</tr>
<tr>
<td>2. Prescribe medications in keeping with protocols</td>
<td>11.22</td>
<td>p&lt; .02</td>
</tr>
<tr>
<td>3. Suture minor lacerations.</td>
<td>9.37</td>
<td>p&lt; .05</td>
</tr>
<tr>
<td>4. Perform incision and drainage of wounds</td>
<td>10.04</td>
<td>p&lt; .04</td>
</tr>
</tbody>
</table>
Forty-six percent of ANPs in nurse-managed settings and twenty-six percent of ANPs in physician-managed settings perceived suturing lacerations to be inappropriate to their roles. Another forty-four percent of those in nurse-managed settings and forty-seven percent of those in physician-managed settings said that this medical function was unimportant to their practices.

Twenty-seven percent of those in physician-managed settings and eleven percent of those in nurse-managed settings perceived suturing lacerations to be important to their practices. Forty-nine percent of ANPs in nurse-managed settings and twenty-eight percent of those in physician-managed settings perceived the performing of incision and drainage of wounds, another medically delegated function, to be inappropriate to their practices. Forty-two percent of ANPs in nurse-managed settings and forty-three percent of those in physician-managed settings viewed this function as unimportant to their practices.

TABLE XV

PERCENT OF RESPONSES OF ADVANCED NURSE PRACTITIONERS TO SELECTED FUNCTIONS BY PRACTICE SETTING

<table>
<thead>
<tr>
<th>Function</th>
<th>Physician Managed</th>
<th>Nurse Managed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment/analysis category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Order diagnostic tests.</td>
<td>82</td>
<td>12</td>
</tr>
<tr>
<td>Strategy selection category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Prescribe medications in consultation with a phys.</td>
<td>84</td>
<td>8</td>
</tr>
<tr>
<td>2. Prescribe medications in keeping with protocols.</td>
<td>84</td>
<td>7</td>
</tr>
<tr>
<td>3. Suture minor lacerations.</td>
<td>27</td>
<td>47</td>
</tr>
<tr>
<td>4. Perform incision and drainage of wounds.</td>
<td>29</td>
<td>43</td>
</tr>
</tbody>
</table>
Twenty-eight percent of those in physician-managed settings as opposed to nine percent of those in nurse-managed settings said this function was important to their practices. None of the other results of this analysis were significant. A complete summary of frequencies and percentage of responses of subjects to this questionnaire can be found in Appendix E.
CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was two-fold: 1) to identify role functions and characteristics perceived as important to ANPs in Texas, and 2) to identify differences in perceived importance of role functions and characteristics of ANPs according to gender, educational preparation, practice setting, and whether the practitioner entered practice before or after the current rules and regulations for ANP practice were adopted. This chapter includes a summary of the study, interpretation of the findings, conclusions which can be inferred from the findings, implications for nurse practitioner education and practice, and recommendations for future research.

Summary of the Study

A sample of three hundred advanced nurse practitioners in primary health care were selected from lists compiled from information provided by the Board of Nurse Examiners for the State of Texas. The two questionnaires and a demographic data form were mailed to the sample. There were 152 respondents, twenty males and 132 females. Thirty ANPs, twenty percent of those responding, reported that they were not practicing in primary health care at the time they received the questionnaire. Sixty-five percent of the respondents were prepared in certificate (non-master's degree) programs, and thirty-five percent in master's degree programs. Fifty-seven percent practiced in settings managed by physicians and forty-three percent in settings managed by nurses. Forty-eight percent had entered practice in 1980 or later, after the
rules and regulations governing ANP practice in the state were approved. A majority of those ANPs practicing in primary health care settings indicated they were performing, on a regular basis, most primary care provider functions, including performing simple laboratory tests and prescribing medications and/or performing other delegated medical acts.

Findings of the Study

**Characteristics of the Advanced Nurse Practitioner.**

Data from the questionnaire, "Characteristics of the Advanced Nurse Practitioner," were analyzed using independent group t-tests to test the following hypotheses.

1. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by male and female advanced nurse practitioners.

3. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by advanced nurse practitioners whose educational preparation was in a master's degree program and those whose educational preparation was in a certificate or non-master's program.

5. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by advanced nurse practitioners who practice in a physician-managed setting and those who practice in a nurse-managed setting.

7. There will be no significant difference in the ranking of characteristics of advanced nurse practitioners by advanced nurse practitioners who entered practice in 1980 or later and those who entered practice prior to 1980.
The following findings resulted from this study.

1. There were similarities in the ranking of the characteristics of ANPs among all groups.

2. The characteristics, "person-oriented," "perceptive," and "skilled in problem-solving," were ranked among the three most important characteristics by all groups.

3. The characteristic, "aggressive" was ranked fourteenth in importance by all groups, even though there were significant differences in the t-test between some of the groups because of differences in the mean ranking and standard deviation.

4. The characteristic, "skilled in mediation" was ranked thirteenth by all but one group, the graduates of master's degree programs. This group ranked that characteristic twelfth.

5. The characteristic, "technically oriented" was ranked twelfth by the majority of groups though that characteristic received rankings of ninth, tenth, eleventh, and thirteenth also.

6. The characteristic, "nurturing" was ranked ninth or lower by all the groups.

7. There were no significant differences in the ranking of characteristics between males and females.

8. There was one characteristic, "technically-oriented," for which the mean ranking was significantly different between ANPs practicing in physician-managed settings and those in nurse-managed settings.

9. There was one characteristic, "analytical," for which the mean ranking was significantly different between ANPs who were practicing in primary health care settings and those who were not.
10. There were two characteristics, "decisive" and "aggressive," for which the mean rankings were significantly different between ANPs who entered practice prior to 1980 and those who entered practice in 1980 or later.

11. There were three characteristics for which the mean rankings differed significantly between ANPs prepared in a master's degree program and those prepared in certificate programs. These were "technically-oriented," "analytical," and "aggressive."

12. Most of the groups included equal numbers of those characteristics traditionally valued by nursing and those traditionally valued by medicine among the ten most important characteristics.

Advanced Nurse Practitioner Functions

Independent group t-tests were used to analyze data from the instrument, "Advanced Nurse Practitioner Functions," to test the following hypotheses.

2. There will be no significant difference in perceived importance of advanced nurse practitioner functions by male and female advanced nurse practitioners in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection/implementation functions, and evaluative functions.

4. There will be no significant difference in perceived importance of advanced nurse practitioner functions by advanced nurse practitioners whose educational preparation was in a master's degree program and those whose educational preparation was in a certificate or non-master's program in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection/implementation functions, and
evaluative functions.

6. There will be no significant difference in perceived importance of advanced nurse practitioner functions by advanced nurse practitioners who practice in a physician-managed setting and those who practice in a nurse-managed setting in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection/implementation functions, and evaluative functions.

8. There will be no significant difference in perceived importance of advanced nurse practitioner functions by advanced nurse practitioners who entered practice in 1980 or later and those who entered practice prior to 1980 in each of the following categories: data gathering functions, assessment/analysis functions, diagnostic functions, strategy selection/implementation functions, and evaluative functions.

The responses of subjects were averaged for each of the categories and a mean response compiled for each of the groups. The Chi square test was also used to examine the data from this questionnaire to determine if the responses differed from chance. The following findings resulted from this study.

1. There were no significant differences between any of the groups on the independent t-tests.

2. With the exception of four items, all of the responses differed significantly from chance on the Chi square test.

3. Response one (extremely important) or two (important) were selected significantly more frequently that any of the other options.

4. The response, "not appropriate," was selected significantly more often than could be expected by chance for two functions in the strategy selection/implementation category. These two functions are suturing minor
lacerations and performing incision and drainage of wounds.

Other Findings

Selected functions on the tool were examined further using the Chi square test to determine if there were differences in responses to these items between groups. These were the functions in which the responses were more variable and were spread over three or more of the possible alternatives. Comparisons between groups were made on responses to fourteen of the functions. Frequency and percentage of responses of the groups were also examined. The following findings resulted from this study.

1. There were significant differences in responses between ANPs in nurse-managed settings and those in physician-managed settings on four functions:

a. Ordering diagnostic tests, a function from the data gathering category;

b. Prescribing medications in consultation with a physician, from the strategy selection/implementation category;

c. Suturing minor lacerations, from the strategy selection/implementation category; and

d. Performing incision and drainage of wounds, from the strategy selection/implementation category.

2. Thirty-eight percent of ANPs in nurse-managed settings and seventeen percent of those in physician-managed settings responded that ordering diagnostic tests was either not important or not appropriate to their role.

3. Forty-six percent of ANPs in nurse-managed settings and fourteen
percent of those in physician-managed settings said that prescribing medications in consultation with a physician was unimportant or inappropriate to their role.

4. Ninety percent of ANPs in nurse-managed settings and seventy-three percent of those in physician-managed settings said that suturing lacerations was either unimportant or inappropriate to their role.

5. Ninety-one percent of ANPs in nurse-managed settings and seventy-one percent of those in physician-managed settings said that performing incision and drainage of wounds was either inappropriate or unimportant to their practice.

Conclusions of the Study
The following conclusions can be drawn from this study.

1. ANPs consider some characteristics traditionally valued by nursing and some traditionally valued by medicine to be important to their practices.

2. Being person-oriented, perceptive, and skilled in problem-solving, is important to ANPs.

3. Being aggressive and technically-oriented, are not important to ANPs.

4. Being skilled in mediation is not important to ANPs.

5. Educational preparation influences which characteristics will be important to ANP practice. This will be discussed in the implications.

6. Some traditional medical functions, especially suturing lacerations, and performing incision and drainage of wounds, are not important aspects of the ANP role.

7. The practice setting has the greatest impact on which primary health
care functions will be important to ANP practice. This will be discussed in the
implications.

8. With the exception of the traditional medical functions indicated
above, all other primary health care provider functions included in the study
are important to ANP practice.

Implications of the Study

Primary health care nursing educators appear to be adequately
socializing ANPs into their new roles. The majority of ANPs practicing in Texas
appreciate many of the medical aspects of the role, as well as their nursing
heritage. However, there are some important implications for ANP education
and practice in the findings of the study.

Although some of the medical functions were perceived as unimportant
or even inappropriate to the ANP role, the data indicate that this is related to
the practice setting. ANPs in nurse-managed settings frequently do not have
physician-approved protocols and may also have limited or no access to
consulting physicians. Either approved protocols or consultation with a
physician is essential before functions which are determined by state law to be
medical acts can be delegated to an ANP. Prescribing medications, suturing
lacerations, and performing incision and drainage of wounds are among those
functions which must be medically delegated. It would be inappropriate for
ANPs to perform those acts in any setting without protocols or physician
consultation. These same functions, however, are performed regularly by
corpsmen in the military and by physician's assistants, both of whom are
technicians trained specifically to perform delegated medical techniques. These
are technical skills and ANPs in this study did not view being technically
oriented as important to their practices. This probably reflects the idea that although nursing includes highly technical skills, ANPs do not view themselves as technicians (DeYoung, 1981).

Nevertheless, ANPs need to become comfortable with medically delegated functions when they are in settings which require them, lest they lose employment opportunities to physician's assistants. In view of this, nurses studying to be ANPs should be encouraged to consider their future practice settings while in the educational program in order to provide them with opportunities to practice skills they will actually be using. For instance, if a focus of the program is to encourage ANPs to practice in rural medically underserved areas, then those ANPs who are interested in this type of setting need to have the opportunity to practice, under close supervision, suturing lacerations, and doing incision and drainage of wounds as well as other medical functions that may be expected of them in such a setting. Whenever possible, the student ANP should do a preceptorship in the setting where he or she plans to practice.

Being skilled in mediation was also not seen as important to ANP practice. This, too, has important implications for ANP education and practice. In view of the fact that the ability to mediate or negotiate differences between the practitioner and other professionals is important to the future of the role, it would seem that this is a skill the ANP needs. It is possible that if the phrase, "skilled in negotiation," had been used the response might have been different. However, this may be an area that needs to receive more emphasis in ANP educational programs since there are many instances in which the need to be a mediator or negotiator may arise in ANP practice.

The importance given to the characteristic "perceptive" has implications
for nursing research. Nursing researchers have just recently began to analyze the role of perception and intuition in the decision-making of "nurse experts" (Benner, 1983). The importance of the ANP being person-oriented and skilled in problem solving was validated in this study.

This study also has implications for educational administrators in institutions where ANPs are prepared. The purposes of the educational institution should provide the guiding principles for the initiation of the program. The type of program to be offered, certificate or master's degree, should be based on the overall mission of the institution and the needs of the population being served.

Recommendations for Future Research

One recommendation for future study is to replicate the study with ANPs from other states as subjects. Before that can be done there is a need to revise and refine the two questionnaires used in the study. The "Characteristics of ANPs" should be modified by substituting the word "negotiation" for "mediation." Under the assessment/analysis functions on the "ANP Functions" questionnaire, function six should be modified to read, "Determine the external resources of clients..." instead of "Determine the external sources of clients...." Additionally, the demographic data form should be modified to include more specific information concerning the practice setting (rural or inner city; family practice, family planning, or pediatrics, etc.; and physician's office, hospital clinic, or community based clinic, etc.), whether or not the practitioner is nationally certified as a practitioner, which medically delegated acts the ANP is performing, and how much time is being spent in different functions (interviewing, performing physical examinations or other tasks, teaching, or
counseling).

In addition to quantitative studies regarding nurse practitioner practice, qualitative studies can be done to aid nurse researchers in describing not only the content of ANP practice but how and why practitioners function as they do. Methods used in qualitative research include observation; documentation; analysis; and interpretation of attributes, patterns, characteristics, and meanings of specific, contextual and gestaltic features of the phenomena (ANP practice) under study (Leininger, 1985). Qualitative studies of smaller samples of the same ANPs who participated in this study could be done. One such study should focus on ascertaining and understanding the differences in the role performance of beginning and "expert" practitioners such as Benner (1983) describes in her work. The understanding of the phenomenon of ANP practice as it is practiced by experts in the field not only will generate further questions for scientific testing and theory building, but will also aid ANP educators in the process of educating and socializing novice practitioners into the role (Benner, 1983).

Qualitative methods could also be used to examine the content and process of practitioner-client interactions focusing on concepts such as problem-solving; decision-making; logic; intuition; perception; and those related to caring: nurturing, empathy and compassion. Using qualitative methods to examine the ANP's interaction with other professionals, including physicians, could aid in developing an understanding of such concepts as mediation, negotiation, and collaboration and how they are used in actual practice.

It is clear from the findings of this study that ANPs in Texas are not merely physician-extenders, they are nurses practicing in an expanded role to provide primary health care to the citizens of this state. Additional research in the ANP role is needed to further delineate and define that role.
CHAPTER BIBLIOGRAPHY


APPENDIX A

CHARACTERISTICS OF THE ADVANCED NURSE PRACTITIONER

Following is a list of characteristics of primary health care providers. Please rank order these in terms of the characteristics that are important to your practice as an advanced nurse practitioner. Place the rank for each item on the blank in front of each item. One(1) is most important, fourteen(14) is least important.

____decisive
____compassionate
____technically-oriented
____perceptive
____logical
____nurturing
____analytical
____intuitive
____skilled in problem-solving
____empathetic
____person-oriented
____aggressive
____skilled in mediation
____goal-oriented
APPENDIX B

ADVANCED NURSE PRACTITIONER FUNCTIONS

Following is a list of primary health care provider behaviors or functions. Using the scale provided, indicate by placing an X under the appropriate number on the scale, the degree to which each of these functions are important to your practice as a nurse practitioner in primary health care settings:

Scale: 1 = extremely important
       2 = important
       3 = not very important
       4 = not at all important

If you believe the behavior is not appropriate to the practice of the advanced nurse practitioner, place an X in the box to the right of each item.

A. DATA GATHERING FUNCTIONS

1. Perform comprehensive health history
   1  2  3  4
   |   |   |   |

2. Perform complete physical examination
   1  2  3  4
   |   |   |   |

3. Perform episodic health assessments
   1  2  3  4
   |   |   |   |
Scale: 1 = extremely important
2 = important
3 = not very important
4 = not at all important
Check box if not appropriate

4. Perform interim/follow-up health assessments
   1  2  3  4

5. Record/dictate a concise, comprehensive narrative of the data base
   1  2  3  4

6. Order diagnostic tests (i.e., x-rays, ECG, blood chemistry, hematology, etc.)
   1  2  3  4

7. Perform diagnostic tests (i.e., nose and throat culture, hematocrit, vaginal smears, etc.)
   1  2  3  4

8. Perform screening procedures (i.e., Pap smear, blood glucose, vision, hearing, etc.)
   1  2  3  4
9. Elicit feedback from the client regarding reason for seeking care.

N/A

B. ASSESSMENT/ANALYSIS FUNCTIONS

Analyze data base to:

1. Differentiate normal/functional states from abnormal/dysfunctional states

2. Determine internal resources of client (i.e., strength, endurance, knowledge, motivation, skills, communication)

3. Determine the impact of health problems and their treatment on daily living and functional capacities of clients and their families
Scale:  
1 = extremely important  
2 = important  
3 = not very important  
4 = not at all important  

Check box if not appropriate  

4. Interpret diagnostic tests  

5. Determine the effect of individual and family lifestyle on maintenance of health and functional capacities  

6. Determine external sources of clients that influence functional capacity and health (housing, finances, personal support network, transportation, communication devices)  

7. Determine environmental features that influence functional capacity and health (temperature, air quality, pollens, noise, lighting)
Scale: 1 = extremely important  
2 = important  
3 = not very important  
4 = not at all important  
Check box if not appropriate  
N/A

C. DIAGNOSTIC FUNCTIONS

1. Diagnose the nature of the abnormality/dysfunction of the client

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

2. Diagnose the inbalances between requirements of daily living and the client's functional health status and resources for meeting those requirements

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

D. STRATEGY SELECTION/IMPLEMENTATION FUNCTIONS

1. Prescribe medications in consultation with a physician

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

2. Prescribe medication in keeping with previously established protocols

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>
Scale:  
1 = extremely important  
2 = important  
3 = not very important  
4 = not at all important  

Check box if not appropriate  

3. Suture minor lacerations  

4. Perform incision and drainage of wounds.  

5. Refer clients to other professionals as indicated  

6. Assist clients in examining values, attitudes, goals, and expectations associated with health issues and problems  

7. Provide clients with information or sources of information and assistance in applying that information in daily living  

N/A
Scale:  
1 = extremely important
2 = important
3 = not very important
4 = not at all important

Check box if not appropriate

8. Provide expertise and assistance in dealing with bureaucracies and health personnel

9. Counsel/support/encourage clients with emotional health problems

10. Provide a personal presence and human contact (touching, listening) to the client and family

11. Provide follow-up/continuity of care for clients
E. EVALUATIVE FUNCTIONS

1. Establish outcome criteria for evaluating results of treatment/management

   1  2  3  4
   □  □  □  □

2. Evaluate the results of treatment/management to determine if the condition is improved, the same, or worse and the reasons why

   1  2  3  4
   □  □  □  □
APPENDIX C

DEMOGRAPHIC DATA

Place an X on the line by the appropriate response.

Are you currently functioning as an advanced nurse practitioner in a health care setting?

If you answered "yes" to question #1, indicate which of the following advanced nurse practitioner functions you carry out on a regular basis:

- Take and record complete health histories
- Form physical examinations
- Form simple laboratory tests
- Interpret information collected in a health assessment
- Advise clients on health education to clients
- Recommend non-prescriptive measures for relief of symptoms
- Evaluate health care provided and modify as needed
- Work collegially with other health care professionals and agencies
- Prescribe medications or perform other delegated medical functions

What type of program did you receive your educational preparation for an advanced nurse practitioner role?

- Continuing education program
- Master's degree program
- Other (specify)

Type of setting do you practice?

- Clinician-managed setting (i.e., physician's office or clinic where you are under the supervision of a physician)
- Nurse-managed setting (i.e., clinic or health/wellness center where you or the nurse manages the care, no direct physician supervision)

Did you enter practice?

- Before 1980
- 1980 or later

Would you like a summary of the report of research findings?
Dear Nurse Practitioner;

As a doctoral student at North Texas State University I am collecting data for a dissertation relevant to characteristics and functions of advanced nurse practitioners in primary health care in Texas. I am very interested in this topic as I am a Family Nurse Practitioner as well a teacher of nurse practitioners at the University of Texas at Arlington School of Nursing.

I am interested in your perception of the importance of selected characteristics and functions of primary health care providers to your practice. Although much research has been done on the nurse practitioner's role in terms of safety, effectiveness, and acceptance, little has been done in determining what it is that nurse practitioners do that makes them effective in altering client outcomes. This research could form the basis for defining that "something special" that nurses add to primary health care.

Success of this research depends on your response and that of the other nurse practitioners being sampled. I encourage you to respond quickly and to answer the questionnaire completely. Even if you are not currently functioning as an advanced nurse practitioner in a primary health care setting, please complete and return the questionnaire. Responses are confidential and data will be treated anonymously. Return of the questionnaire will be accepted as consent to use data for research purposes. A summary of the report of research findings will be sent to all participants who indicate a desire for it.

If you have any questions concerning the handling of the data or any other aspect of the study, please call me at 817-379-5168. Thank you for your willingness to participate in this study.

Sincerely,

Sue M. Barnes, R.N., C.
## APPENDIX E

### TABLE XVI

**FREQUENCY AND PERCENTAGE OF RESPONSES TO ANP FUNCTIONS**

<table>
<thead>
<tr>
<th>Functions</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency(Percentage)</td>
</tr>
<tr>
<td></td>
<td>Very important</td>
</tr>
<tr>
<td>Data gathering:</td>
<td></td>
</tr>
<tr>
<td>Takes comprehensive health history</td>
<td>132(87)</td>
</tr>
<tr>
<td>Does comprehensive physical exam</td>
<td>117(77)</td>
</tr>
<tr>
<td>Elicit client feedback</td>
<td>109(72)</td>
</tr>
<tr>
<td>Does episodic exam</td>
<td>103(68)</td>
</tr>
<tr>
<td>Does interim exam</td>
<td>98(64)</td>
</tr>
<tr>
<td>Record data base</td>
<td>93(61)</td>
</tr>
</tbody>
</table>

\[\]
<table>
<thead>
<tr>
<th>Functions</th>
<th>Options Frequency(Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very important</td>
</tr>
<tr>
<td>Do screening procedures</td>
<td>73(48)</td>
</tr>
<tr>
<td>Perform diagnostic tests</td>
<td>55(36)</td>
</tr>
<tr>
<td>Order diagnostic tests</td>
<td>40(26)</td>
</tr>
<tr>
<td>Assessment</td>
<td></td>
</tr>
<tr>
<td>Differentiate normal/abnormal states</td>
<td>128(84)</td>
</tr>
<tr>
<td>Determine client's internal resources</td>
<td>86(57)</td>
</tr>
<tr>
<td>Determine impact health prob. on lifestyle</td>
<td>71(46)</td>
</tr>
<tr>
<td>Determine effect of lifestyle on health</td>
<td>64(42)</td>
</tr>
<tr>
<td>Interpret diagnostic tests</td>
<td>59(39)</td>
</tr>
<tr>
<td>Determine clients' external resources</td>
<td>43(28)</td>
</tr>
<tr>
<td>Functions</td>
<td>Very important</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Determine environmental influence on health</td>
<td>28(18)</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
</tr>
<tr>
<td>Diagnose client abnormality</td>
<td>69(45)</td>
</tr>
<tr>
<td>Diagnose imbalances between lifestyle needs and resources</td>
<td>57(38)</td>
</tr>
<tr>
<td>Strategy selection</td>
<td></td>
</tr>
<tr>
<td>Refer clients as indicated</td>
<td>104(68)</td>
</tr>
<tr>
<td>Provide follow-up for clients</td>
<td>104(68)</td>
</tr>
<tr>
<td>Provide a personal presence to client</td>
<td>99(65)</td>
</tr>
<tr>
<td>Provide information to clients</td>
<td>72(47)</td>
</tr>
<tr>
<td>Counsel clients with emotional problems</td>
<td>65(43)</td>
</tr>
<tr>
<td>Prescribe medications using protocols</td>
<td>66(39)</td>
</tr>
<tr>
<td>Functions</td>
<td>Options Frequency (Percentage)</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td></td>
<td>Very important</td>
</tr>
<tr>
<td>Assist clients to exam. values &amp; goals</td>
<td>59(39)</td>
</tr>
<tr>
<td>Prescribe medications in consultation with physician</td>
<td>53(35)</td>
</tr>
<tr>
<td>Provide assistance in dealing with bureaucracy</td>
<td>44(29)</td>
</tr>
<tr>
<td>Suture minor lacerations</td>
<td>12(8)</td>
</tr>
<tr>
<td>Do incisions and drainage of wounds</td>
<td>9(6)</td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
</tr>
<tr>
<td>Evaluate results of treatment</td>
<td>88(58)</td>
</tr>
<tr>
<td>Establish outcome criteria</td>
<td>63(41)</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY

Books


**Journal Articles**


recommendations for establishing NP effectiveness. *Nurse Practitioner*, 12 (1), 75-79.


Reports


Public Documents

Rules and regulations for advanced nurse practitioners. Texas Register, 5, 1151-1152.