



The relationship of nurses sex role identity with job position, rural-urban location, demographic information, and professional role perception
by Bonnie McMillin

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF NURSING
Montana State University
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Abstract:

This study explored nurses sex role identities and the possible relationship of sex role identity to position in nursing, rural-urban location, demographic information, and professional role perception.

The Bern Sex Role Inventory (BSRI), Spence's Personal Attribute Questionnaire (PAQ), and general demographic information were included in a mailed questionnaire. This questionnaire was sent to 320 registered nurses, half in Montana and half in Minneapolis. The sampling method was a stratified random sample of educators, administrators, and staff nurses from both the rural and urban locations.

There were 214 questionnaires returned of which 211 were utilized in data analysis. Respondents rated themselves on the BSRI, rated their perceptions of the ideal nurse on the PAQ, and answered demographic questions.

Each respondent received a masculinity mean score and a femininity mean score for both the BSRI (self rating) and the PAQ (ideal nurse rating). From these scores, respondents' self ratings and ideal nurse ratings were placed in one of four sex role categories: undifferentiated (low masculinity and low femininity); masculine (high masculinity and low femininity); feminine (high femininity and low masculinity); and androgynous (high masculinity and high femininity). Cutoffs for high and low femininity and masculinity were determined by use of a median split of normative data.

Of those sampled: 12.80% were undifferentiated; 20.85% feminine; 24.17% masculine; and 42.18% androgynous. Perceptions of the ideal nurse included: 6.19% undifferentiated; 5.71% feminine; 10% masculine; and 78.10% androgynous. Significant differences were found among staff nurses, educators, and administrators in terms of their sex role, identities as measured by the BSRI ($p = .009$) with more educators and administrators in the masculine and androgynous categories than staff nurses. The rural-urban samples did not differ on sex role identity.

Masculinity, mean scores differed significantly with several variables including type of job held, highest education, and full-time versus part-time employment. The masculinity score was higher for those respondents with more education, with jobs requiring more responsibility and authority, and with full-time employment.

Nurses' perceptions of the ideal nurse were predominantly androgynous, (78.10%). There were no significant differences among the various groups or with demographic variables in regards to this perception.

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Date August 24, 1981

THE RELATIONSHIP OF NURSES' SEX ROLE IDENTITY WITH JOB POSITION,
RURAL-URBAN LOCATION, DEMOGRAPHIC INFORMATION,
AND PROFESSIONAL ROLE PERCEPTION

by

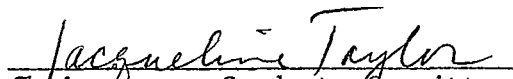
BONNIE McMILLIN

A thesis submitted in partial fulfillment
of the requirements for the degree

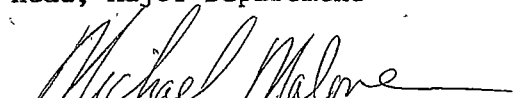
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ABSTRACT

This study explored nurses' sex role identities and the possible relationship of sex role identity to position in nursing, rural-urban location, demographic information, and professional role perception. The Bem Sex Role Inventory (BSRI), Spence's Personal Attribute Questionnaire (PAQ), and general demographic information were included in a mailed questionnaire. This questionnaire was sent to 320 registered nurses, half in Montana and half in Minneapolis. The sampling method was a stratified random sample of educators, administrators, and staff nurses from both the rural and urban locations.

There were 214 questionnaires returned of which 211 were utilized in data analysis. Respondents rated themselves on the BSRI, rated their perceptions of the ideal nurse on the PAQ, and answered demographic questions.

Each respondent received a masculinity mean score and a femininity mean score for both the BSRI (self rating) and the PAQ (ideal nurse rating). From these scores, respondents' self ratings and ideal nurse ratings were placed in one of four sex role categories: undifferentiated (low masculinity and low femininity); masculine (high masculinity and low femininity); feminine (high femininity and low masculinity); and androgynous (high masculinity and high femininity). Cutoffs for high and low femininity and masculinity were determined by use of a median split of normative data.

Of those sampled: 12.80% were undifferentiated; 20.85% feminine; 24.17% masculine; and 42.18% androgynous. Perceptions of the ideal nurse included: 6.19% undifferentiated; 5.71% feminine; 10% masculine; and 78.10% androgynous. Significant differences were found among staff nurses, educators, and administrators in terms of their sex role identities as measured by the BSRI ($p = .009$) with more educators and administrators in the masculine and androgynous categories than staff nurses. The rural-urban samples did not differ on sex role identity.

Masculinity mean scores differed significantly with several variables including type of job held, highest education, and full-time versus part-time employment. The masculinity score was higher for those respondents with more education, with jobs requiring more responsibility and authority, and with full-time employment.

Nurses' perceptions of the ideal nurse were predominantly androgynous (78.10%). There were no significant differences among the various groups or with demographic variables in regards to this perception.

CHAPTER 1

INTRODUCTION

The Problem

For at least the past fifteen years nursing has advanced the idea that nurses are independent decision-makers within the context of a people-oriented, helping profession (Stromborg, 1976). Nurses have assumed a number of varying roles such as researchers, clinical specialists, academicians, independent practitioners, and health care managers (Minnigerode, Kayser-Jones & Garcia, 1978; Till, 1980). This implies that nurses utilize nurturing, expressive qualities which traditionally have been categorized as feminine characteristics, and at the same time, exercise independence and decisiveness which traditionally have been categorized as masculine characteristics. This blending of both masculine and feminine characteristics in a person has been termed psychological androgyny (Bem, 1974) and has been the subject of considerable research concern in the past decade (e.g., Bem, 1974, 1975, 1977; Heilburn, 1976; Spence, Helmreich & Stapp, 1975).

The public image of nursing, however, has remained an extension of the traditional female role (Rodgers, 1975; Yeaworth, 1976). Beletz (1974, p. 432) found that the public continues to view nurses "in sex-linked, task-oriented terms; a female who performs unpleasant technical jobs and functions as assistant to the physician." Descriptions of nurses have included terms such as submissive, nurturant, passive,

intuitive, caring, and self sacrificing. Studies have suggested that many women select nursing as a vocation because it has been acceptable within their traditional feminine ideology (Moore & Rickel, 1980).

This public view of nursing has been a mirror image of the traditional characterization of women. Weak, intuitive, inconsistent, sensitive, passive, empathetic, emotionally oriented, and introverted are all adjectives used to describe women (Grissum & Spengler, 1976). These adjectives and characterizations of women have been perpetuated through the mass media, educational, religious, and political systems. In recent years however, many women have begun to move away from these constricting roles and to seek positions that hold authority, power, and wealth. A conflict of role expectations has resulted.

Nurses, like women in general, have faced role conflicts between the two incompatable images. Which image is reflective of today's practicing registered nurse? Several studies have been done to correlate nursing students' sex role identity and their image of nursing (Stromborg, 1976; Till, 1980; Ziegler, 1977), but there have been no studies of this nature correlating practicing registered nurses' sex role identity with other variables.

Statement of Purpose

It was the purpose of this study to explore the sex role identity of a relatively large sample of practicing registered nurses. Furthermore, the author was interested in whether or not nurses' sex role

identities were related to variables such as position in nursing, rural-urban setting, various demographic data, type of job held, and professional role perception. Due to the descriptive nature of this study, hypotheses were not appropriate but the following questions served as the framework for the data analysis.

1. What is the ratio of androgynous to masculine-typed to feminine-typed to undifferentiated nurses?
2. What is the ratio of androgynous to non-androgynous nurses with regard to position and rural-urban location?
3. What demographic variables (age, education, sex) are correlated with the sex role categories.
4. What correlations exist between sex role identity and professional role perception?

Definition of Terms

Sex role identity: Sex role identity referred to the classifications of feminine, masculine, androgynous, and undifferentiated as measured by the Bem Sex Role Inventory.

Practicing registered nurse: Registered nurses who were employed in nursing at the time of the study.

Professional role perception: Professional role perception referred to the set of expectations a nurse has about the ideal nurse. Another sex role inventory, the Personal Attribute Questionnaire, was used for respondents to rate the ideal nurse. Ideal was defined in the

questionnaire as "those characteristics that you feel are most desirable for a nurse to possess."

Rural: The rural area in this study was comprised of the State of Montana.

Urban: The urban area in this study was comprised of Minneapolis, Minnesota, and surrounding suburbs.

Age: Age of respondents was measured in years.

Gender sex: Gender sex referred to the biological sex of the respondents.

Education: Education was categorized in terms of the nurse's a) basic education and b) further education; e.g., diploma, associate, baccalaureate, masters, etc.

Position in nursing: Position in nursing referred to the classifications of staff, administrative, and educative roles.

Type of job held: Type of job held referred to the categories of staff nurse, head nurse, practitioner, supervisor, educator, and director of nursing.

CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Role Theory

Roles

The term role had its origins in the theatrical world referring to a part one plays or is assigned in a drama (Thomas & Biddle, 1966). Since the 1920's however, role has been explored in depth in the social sciences. Several different perspectives of role have been presented here.

Linton, an anthropologist viewed role as a culturally imposed blueprint for behavior that has been externally forced on individuals. Society has expected certain behavior associated with certain positions (1934).

Another perspective on role came from a social psychologist, George Mead. He saw role in terms of a reflexive self in which individuals define themselves as both the subject and object (1952). Individuals learn their role through interaction with others and select only certain cues that are more relevant than others upon which to base behavior (Hardy & Conway, 1978). In this symbolic interaction perspective, society has served only as a framework within which roles develop.

Bates, a sociologist, conceptualized role or position as a means by which an individual engages in reciprocal activity. He proposed four postulates regarding role and position:

1. There are limited number of roles in any culture and they are combined in various ways to compose a limited number of positions.

2. There is an adjustment or strain toward consistency within any given position between the various roles comprising that position.

3. Each position contains a certain number of dominant and recessive roles.

4. For every role there is a paired reciprocal role which is part of a different system (1956, 315-317).

These postulates were useful in considering the different sex role identities within the positions of women and nurses. Bates suggested that there was an inherent pressure to adjust to the norm of a position even though there was some allowance for dominant and recessive roles. Adherence to or deviance from the norm was a decision individuals made concerning each role and position they assumed. When an individual held two or more roles which have different norms, role conflict resulted. Role conflict was defined here as "the condition in which existing role expectations are contradictory or mutually exclusive" (Hardy & Conway, 1978, p. 82). An individual assuming the role of adult, woman, and nurse have often experienced role conflicts as the expected behaviors for the three positions are often conflictual.

Integrating all of these viewpoints of role together, the author has formulated the following concept of role which served as the framework for this study. Roles represented patterns of expected social

behavior learned through interaction with others. Groups of related roles form positions (Hardy & Conway, 1978). Every individual holds many positions, some ascribed on the basis of age, gender, social class, etc., and some achieved on the basis of educational or occupational background (Elkin & Handel, 1972). This study dealt with the ascribed roles of women, the achieved role of nurses, and the interaction between the two.

Development of Sex Roles

The ascribed roles of men and women have been fundamental in the effective functioning of a society. All cultures have defined different characteristics, tasks, and activities for men and women although these vary from culture to culture. Some regularities, however, have existed cross-culturally for these gender roles (Mussen, 1969). In most cultures men have defined both the female and male roles, resulting in a predominance of power for men. From early nomad times to the present, men have been more aggressive, dominating, and have had greater authority than women (deBeauvoir, 1952). Women, on the other hand, have traditionally assumed dependent, expressive, and nurturant roles. Even though there have been exceptions, the dominant-submissive positions of men and women are apparent in many cultures today. These dichotomous positions are examples of Bates' reciprocal paired roles.

How do these sex roles develop? The development of sex differences is thought to be influenced by genetic factors, differential treatment

by parents to specific sex, and other socializing effects (Maccoby & Jacklin, 1974). After an exhaustive literature review, Maccoby, et al., found strong evidence of only four fairly well established sex differences between males and females:

1. Females have greater verbal ability than males;
2. Males excel in visual-spatial ability;
3. Males excel in mathematical ability; and
4. Males are more aggressive than females (1974, pp. 351-352).

The etiology of these sex differences however has been very difficult to establish. Most likely, there has been an interaction of biological and socialization factors contributing to these differences.

By the age of two or three, children know their own sex-labeled identity (Mussen, 1969). There have been several theories that attempt to explain this early sex role socialization of children. These have been listed here.

1. Imitation theory: Children pattern their behavior by choosing same sex models, especially same sex parent.
2. Reinforcement theory: Significant others reward sex-appropriate behavior and punish sex-inappropriate behavior.
3. Self-socialization theory: Children develop a concept of what it is like to be male or female. Once a clear understanding of sex identity has been established, children attempt to fit their own behavior into a concept of sex-appropriate behavior (Maccoby & Jacklin,

1974, pp. 1-2).

Maccoby, et al., found a number of similarities among the socialization of boys and girls. In the first five years, both sexes have appeared to receive equal amounts of affection; have been equally allowed and encouraged to be independent; have been equally discouraged from being dependent; and both sexes have appeared to receive the same response to aggressive behavior. There have been differences, however, too. Boys have been handled more roughly, have received more physical punishment, and have received more praise and criticism from their caretakers. In other words, boys have been the recipients of more intense socialization than girls. These differences have been most evident in the area of sex-typed behavior. For example, parents have become much more concerned with a boy labeled a sissy than with a girl labeled a tomboy. Boys have been subjected to greater parental pressure to conform to sex-appropriate behavior (Maccoby & Jacklin, 1974).

Although there have been several different theories relating to the method of this sex role socialization, it has been well established that children have developed sex roles at early ages. This sex-typing has affected every interaction, every role, and every position that children encounter throughout life. "It is a banal truth that the individual's sex role is the most salient of his many social roles. No other social role directs more of this overt behavior, emotional reactions, cognitive attitudes, and general psychological and social

adjustment" (Mussen, 1969, p. 707).

Sex Role Identity as Adults

Prior to the early 1970's, adult sex roles were viewed as dichotomies with masculinity on one end of the continuum and femininity on the other. Masculinity has been associated with an instrumental orientation of completing the job or solving the problem whereas femininity has been associated with an expressive orientation of concern for the welfare of others and the harmony of the group (Parsons & Bales, 1955). Another approach has been to relate masculinity with an agentic orientation or a concern for oneself and femininity with a communal orientation or a concern for the relationship between oneself and others (Bakan, 1966). Whatever approach was taken, a person was assessed as being either masculine or feminine but possessing characteristics of both was not possible.

In 1970 a landmark study was done relating sex-role stereotypes and clinical judgements of mental health (Broverman, Broverman, Clarkson, Rosenkrantz, & Vogel, 1970). Seventy-nine trained male and female psychiatrists, psychologists, and social workers (46 men, 33 women) were asked to respond to bi-polar items on a sex-role stereotype questionnaire. They were to rate each question as to where a normal, mature, socially competent adult male would fall on the continuum, as well as a healthy female, and finally, for a healthy adult, regardless of sex. Interestingly enough, the clinicians, both male and female,

indicated that healthy adult women differed from healthy men by being more submissive, less independent, less competitive, more excitable in minor crises, having their feelings more easily hurt, more emotional, more conceited about appearances, less objective, and disliking math and science. The profile was the same for healthy adults and healthy men, but in both cases women were seen as different. Also, the male-designated items were seen as more socially desirable in twenty-seven of the thirty-eight items. Women were viewed by mental health professionals in a negative manner and in opposition to the healthy adult. Role conflicts were inevitable as women found themselves in the precarious position of being regarded as healthy women and unhealthy adults or as unhealthy women and healthy adults. A replication of this study with the general public revealed similar results (Broverman et al., 1972).

Serious questions arose in the 1960's regarding the traditional assumption that masculinity and femininity represented the opposite poles of a single dimension (Bem, 1974; Block, 1973; Carlson, 1971; Constantinople, 1973; Spence, Helmreich, & Stapp, 1975). Studies revealed that highly sex-typed individuals were having some problems. High femininity in an individual was associated with high anxiety, low self esteem and low self acceptance (Cosentino & Heilbrun, 1964). High masculinity was correlated with better psychological adjustment in adolescence (Mussen, 1961) but with high anxiety, high incidence of

neuroticism, and low self acceptance in adulthood (Mussen, 1962). Maccoby found that highly sex-typed children tended to have lower overall intelligence and creativity (1966).

In the early 1970's proponents of the women's liberation movement argued that traditional sex role definitions limited both men and women from developing their fullest potentials as human beings. This, plus previous studies, prompted researchers to reexamine the methods of studying sex role identity. The concept of one individual integrating both masculine and feminine traits was being explored. This blending of both masculine and feminine attributes was termed psychological androgyny (Bem, 1974; Heilbrun, 1976).

Bem (1974) developed the first instrument for assessing masculinity and femininity as independent dimensions. The Bem Sex Role Inventory (BSRI) yielded a feminine score, a masculine score, and an androgynous score. The inventory contained sixty items: twenty feminine; twenty masculine; and twenty neutral personality characteristics. Individuals rated themselves on a scale from one to seven in relation to how well the characteristic describes that individual. "The masculinity and femininity scores indicate the extent to which a person endorses masculine and feminine personality characteristics as self-descriptive. Masculinity equals the mean self-rating for all endorsed masculine items and femininity equals the mean self-rating for all endorsed feminine items... The androgyny score reflects the relative amounts of masculinity and femininity that the person includes in his/her self description,

and as such, it best characterizes the nature of the person's total sex role" (Bem, 1974, p. 158). The androgyny score was originally calculated by the use of a test of difference between an individual's masculinity mean score and femininity mean score normalized with respect to the standard deviations of their masculinity and femininity scores. The greater the absolute value of the androgyny score, the more sex-typed or sex-reversed the person was. In contrast, the closer the androgyny score was to zero the more androgynous the person was. The androgynous score and scoring method were later revised to differentiate those individuals who scored high in both the masculine and feminine scales and those who scored low in both the masculine and feminine scales. Those who scored high in both categories were still termed androgynous while those scoring low in both categories were then termed undifferentiated (Bem, 1977).

After the development of the BSRI, Bem conducted research to investigate psychological androgyny. Implicit in her investigations was the assumption that androgyny contributed to personal and social effectiveness. In two experiments Bem (1975) tested the hypothesis that psychologically androgynous individuals would be more likely than highly sex-typed individuals to display sex role adaptability across various situations without regard to sex role stereotypic behavior. The first experiment was designed to evoke a stereotypically masculine behavior, independence, under social pressure to conform. The second experiment attempted to evoke a stereotypically feminine behavior,

nurturance, through play with a kitten. Androgynous subjects of both sexes displayed masculine behavior (independence under social pressure to conform) and feminine behavior (nurturance through play with a kitten). In contrast, the masculine-typed individuals did not differ from the androgynous subjects on the independence but did not score well with nurturance. Feminine-typed subjects did not score well with either independence or nurturance. This finding was contradictory to Bem's hypothesis that feminine-typed individuals would score well in a nurturant situation.

Puzzled by the results of the feminine-typed subjects being low in nurturance, Bem devised two additional experiments dealing with nurturance. This time subjects interacted with a human infant in the first study and listened to a lonely student in the second. Both of these studies bore similar results to the previous study involving the kitten with the exception of the feminine-typed subjects. This time feminine-typed subjects were judged to be more nurturant than masculine-typed subjects. Bem suggested that the feminine-typed subjects' low nurturance with the kitten may have been due to the unique interaction with animals as opposed to humans. Both studies dealing with human nurturance supported the hypothesis of high level nurturance in feminine-typed subjects (Bem, Martyna & Watson, 1976).

Bem and Lenney conducted another study (1976) to further test the effects sex roles had on individuals. She hypothesized that

"cross-sex behavior is motivationally problematic for sex-typed individuals and they will actively avoid it as a result" (p. 48). Subjects were asked to indicate which of a series of activities they would be more willing to perform for pay while being photographed. Sex-typed individuals were more likely to choose sex-appropriate activities than androgynous subjects even though the choice often cost them money. In addition, engaging in simple cross-sex behavior caused sex-typed subjects to report negative feelings about themselves and psychological discomfort (Bem & Lenney, 1976).

In these studies, androgynous individuals responded in a manner appropriate to the situation, not restricted by sex role stereotypic behaviors. This finding supported Bem's original assumption that androgyny contributed to personal and social effectiveness.

Other scales defining masculinity and femininity as independent variables have also been developed (Spence, Helmreich, & Stapp, 1975; Heilbrun, 1976). Spence, et al., correlated self ratings on their sex role orientation scale (PAQ) with self-esteem measured by the Texas Social Behavior Inventory. For both men and women, androgynous subjects were highest in self-esteem followed by those high in masculinity. Undifferentiated individuals, or those low in both masculinity and femininity were the lowest in self-esteem. This study was replicated (Wetter, 1975) with similar findings.

Heilbrun (1976), using his sex role scale, found androgynous and

undifferentiated subjects at opposite ends of a role consistency scale. The androgynous subjects displayed ego integrity while undifferentiated subjects displayed role diffusion. Other studies have reported androgynous individuals to be more socially poised and intellectually oriented (Berzins, 1975), to receive more honors and awards, date more, and have a lower incidence of childhood illness than nonandrogynous individuals (Helmreich, Wilhelm, & Stapp, 1975). From these different investigations strong evidence has suggested that individuals not restricted by highly sex-typed identity have greater flexibility in behavior, higher self-esteem, and a stronger ego identity.

Sex Role and Occupational Role

Sex role identity has been related to occupational choice (Bailyn, 1964; Block, Vonder Lippe, & Block, 1973; Hawley, 1971, 1972; Putnam & Hansen, 1972; Tangri, 1972). Sex role stereotypes have influenced the sex appropriateness of different occupational roles. Occupations appropriate for females have been those requiring nurturing, helping, and empathizing qualities while occupations appropriate for males have been those requiring detachment, coolness, object orientation, and assertiveness qualities (Epstein, 1970). Oppenheimer (1975, p. 323) identified certain characteristics that have been linked with professions dominated by one sex or the other and these have been listed in Table 1.

Block found an inverse relationship between occupational advancement and femininity (1973). Women's socialization encouraged the nurturant,

Table 1

Characteristics of Sex-Linked Professions

Women's Professions (e.g., Nursing, Teaching)	Men's Professions (e.g., Law, Medicine, Engineering)
1. Requires large numbers of skilled but cheap laborers.	1. Requires small number of highly skilled but expensive workers.
2. Do not require extensive training or great amounts of time, energy or devotion.	2. Required extensive training and great amounts of time, energy, and devotion.
3. Training received prior to employment. Virtually no investment by employer.	3. Employer usually provides or contributes to training.
4. Does not require continuity in employment or a long term commitment.	4. Requires both continuity and long term commitment.
5. Does not require overtime work.	5. Requires a lifetime of overtime work.
6. Mobility not important. These jobs exist everywhere.	6. Mobility often a requirement.
7. Rarely women in managerial positions over men.	7. Men often in managerial positions over women.

submissive and conservative aspects of the traditional female role and at the same time, discouraged self assertiveness, achievement orientation, and independence qualities, conventional aspects of the male role. Those women who advanced in their careers were felt to have done so by suppressing their female values and exaggerating masculine ones.

Societal attitudes towards the woman's role has been inconsistent with the achievement orientation in the United States (Putnam and Hansen, 1972). Again, women have been faced with role conflict. Bailyn (1964) suggested that women entered predominantly female professions in order to avoid this conflict. "By lessening the distance between her roles and hence reducing the contradictions in her self image, it would be expected to ease her problems" (p. 708).

Tangri (1972) compared women working in traditional female occupations with those in traditional male occupations. The women in the male dominated work settings were more autonomous, individualistic, and more motivated by internally imposed values to perform to capacity than were women in the female dominated work settings.

A relationship was found between a woman's career choice and her perception of men's views of the feminine ideal (Hawley, 1971, 1972). Women in traditional female occupations felt men viewed behavior in sex appropriate terms. Women working in male occupations did not perceive men evaluating behaviors on a sex appropriate basis.

From these studies, it became apparent that sex role stereotypes have influenced occupational choice. There has also been a low evaluation placed on female professions (Touhey, 1974) similar to the evaluation of femininity (Broverman, et al., 1970). Low prestige, low wages, and low desirability have characterized female professions. Touhey found that high prestige and desirability of professions were inversely

related to the proportion of women in that profession. Increasing males in traditional female work settings, such as nursing, increased occupational prestige and desirability (Touhey, 1974). Occupational choice, prestige, and advancement all seemed to be affected by sex role stereotypes.

The Nursing Role

Development of the Nurse Role

Modern nursing originated with Florence Nightingale. Over a hundred years ago, she introduced the shocking viewpoint that one needed to learn how to be a nurse. Up until this time, it was universally accepted that being a woman was the only requirement necessary for caring for the sick. During this period, hospitals were places of squalor and filth. Two stereotypes dominated nursing: some nurses were reported to be drunkards and notoriously immoral while other nurses were from religious orders. Florence Nightengale visualized nurses and nursing differently from either of these images. She saw nurses as highly trained, efficient, and equitably paid professionals. She developed a School of Nursing which proclaimed two goals for its graduates, the acquisition of knowledge and the development of character. Today fragments of the various historical images of nursing have flourished; e.g., religious and secular, moral and immoral, educated and uneducated (Woodham-Smith, 1963).

In the late 1880's, schools of nursing were being considered in

the United States due to the improved patient care in England attributed to the utilization of trained nurses. Apprenticeship arrangements with hospitals were established as a matter of financial feasibility. The schools provided nursing services through the students in exchange for the hospitals' provision of clinical experiences. This apprenticeship arrangement became the most popular and economic means of providing patient care (Ashley, 1976). Student labor became the accepted and major source of patient care providers. Even into the 1930's many hospitals employed no instructors and offered little to the students in way of instruction. The system of apprenticeship was profitable for hospital administrators and physicians as well as a method of keeping nurses subject to the will of others.

The first American schools of nursing were established with the family as the institutional model for the operation of hospitals.

The role of women (nurses) was very early conceived as that of caring for the 'hospital family.' Their purpose was to provide efficient economical production in the form of patient care; they were to be loyal to the institution and devoted to preserving its reputation. Through service and self-sacrifice, they were to work continuously to keep the 'family' happy. All the departments of the hospital - from wards and operating rooms to storerooms and kitchens - depended upon the continuous presence of nurses. For 24 hours a day, nurses were expected to be versatile in their skills, to demonstrate their ability to take care of whatever needs might arise, whether in the area of patient care, medical treatment, housekeeping, dispensing drugs, or supervising the diet and the kitchen. Like mothers in a household, nurses were responsible for meeting the needs of all members of the hospital family - from patients to physicians. Continuous responsibility for the care of those confined to hospital

beds is still a unique function of the nursing profession.

In addition, women (nurses) were expected to look out for the needs of men (the physicians) in the hospital family who, for the most part, did not reside in the household, but were free to come and go. In the absence of men, women were expected to assume full responsibility for their decision-making functions by taking on the male role themselves. This decision-making role was, of course, relinquished upon the return of the men. Nurses were, and still are, constantly supportive of the institution, especially of its male members, and constantly busy. (Ashley, 1976, p. 17).

Hospital administrators and physicians opposed any reform or further education for nurses. Physician's power and authority was threatened by education for nurses. There was a great deal of time spent attempting to convince nurses and the general public of the subordinate role of nursing. William Alexander Dorland, a physician, addressed the 1908 graduating nurses of the Philadelphia School of Nursing, urging the continuance of their intellectual inferiority:

If a little knowledge is a dangerous thing in most avenues of employment, in nursing it is more than dangerous - it is fatal. Good nursing is not facilitated by too elaborate an education in professional matters; rather it is hampered or even rendered useless thereby. I believe that a superficial knowledge of physiology and anatomy, together with a thorough acquaintance with hygiene, will answer every purpose. (Cited in Ashley, 1976, p. 77).

Public meetings, led by physicians were held to discuss the role of the nurse. One physician felt nurses were educating themselves beyond usefulness.

Hospital administrators were also instrumental in restricting the

nursing role. They cultivated the idea that nurses existed only for the purpose of assisting the physicians and hospitals in their work. Superintendents, or directors of nursing, were subservient to hospital administrators and boards of trustees. They had no authority over nursing policies, budget or work conditions. Student needs were subordinated to the needs of the hospital. In the 1920's, superintendents did become associate members of the American Hospital Association but were non-voting members with no influence on organizational policies.

When the professional organization sought legal recognition for the nursing profession in the early 1900's, they met strong opposition similar to the opposition to education for nurses. When legal recognition was achieved in the form of Nurse Practice Acts, it only reinforced nurses' subservience to physicians. The Practice Acts stated that nurses practice nursing under the supervision of physicians.

Apprenticeship and legalized subordination shaped the role of the nurse in America. "With paternalism legalized and apprenticeship institutionalized in nursing, the oppression of nurses was built into the laws of the land and into the educational system" (Ashley, 1975, p. 1466).

Many nurses during this time were accomplices of their own subjugation. They complied with the system perhaps because it so closely paralleled the accepted role for women. Nurses narrowly identified

with issues of hospital development, improved patient care, and hospital reform. Nursing supported the development and growth of hospitals, regardless that these very institutions have been a primary force in maintaining nursing as a powerless, subordinate profession (Ashley, 1975).

Role of the Nurse Today

The role of nursing today has been shaped by history, physician and hospital administrator influence, public image, and by the profession itself. Each of these forces has had a different perspective on the role of the nurse, often resulting in role diffusion.

History of the nursing role has been previously discussed, but remnants of that early nurse role are seen today. Hospital schools of nursing have flourished even as the professional organization has been demanding baccalaureate education for all new nurses. The American Nurses' Association proposal for a baccalaureate level education for all new graduates by 1985 has found many opponents inside and out of the profession.

Physicians and hospital administrators have continued their attempts at controlling nursing through political and economic means. The American Medical Association and the American Hospital Association both have vehemently opposed state nurse practice acts which have not defined nurses under the supervision of physicians (Aroskar, 1980). A 1970 statement by the American Medical Association's Committee on Nursing

assumed that nurses would remain in their "logical place at the physician's side," functioning under the physician's supervision for the purpose of "extending the hands of the physician" (p. 1881-1883).

A 1980 American Hospital Survey revealed that only 56% of directors of nursing have had full administrative control of the nursing service department budget (Ellis, 1980) even though the nursing department's financial operation has represented the greatest percentage of a hospital's total expense (DiVincenti, 1977). Without control of the budget, nursing directors have been kept virtually powerless in all areas of nursing services.

The public image of nursing has reflected the influences of history, the media, and the medical world. Ray Birdwhistell, an anthropologist, studied the public image of nursing according to social class in 1948. He found that the upper class viewed nurses as skilled menial workers somewhat more prestigious than beauticians but significantly less prestigious than social workers. The middle class viewed nurses as semi-skilled, perhaps working temporarily before marriage. They also viewed the nurse in sexual terms as a "husband hunter" or an "easy mark." The lower class saw nursing as "the noblest of all professions" (Lamb, 1973).

A study in the 1970's revealed television's image of the nurse as a sex symbol involved in romantic relationships. The nurse, portrayed as generally unintelligent, always functioned in a subordinate role to the physician. In conjunction with the television image,

hospitalized patients were interviewed concerning their image of the nurse. The majority of respondents identified the nurse as a female who provided human contact and physical care. The nurse was described in terms of a technical, functional doer who "takes doctor's orders, gives medication, serves meals, gives shots, and provides bedpans." Respondents were then asked about the first thoughts and images that came to mind when the word nurse was said. Some of the responses were "sterile person in white," "aide to doctors," "nicest person outside of doctor when you're sick," "almost a lesser doctor," and "being a maid is part of her duties." The composite image of the nurse was "of a female nurturer, medicator, physician's assistant, maid, and administrator" (Beletz, 1974, p. 434).

After considering historical roles, hospital and physician influence, and the public image of nursing, how has the profession conceptualized the nurse's role? The profession has presented the nurse as an independent practitioner who has collaborative relationships with other health care providers (Chioni & Panicucci, 1971). Specific responsibilities of any nursing role have included health assessment, promotion and maintenance of health, facilitation of growth and development (psychological as well as physical), supportive counseling, and health teaching (Challela, 1979). Whether a nurse has been a researcher, academician, staff nurse, administrator, or clinical specialist, the underlying nurse role has been the framework for that particular nursing position. Career commitment, independence, high level intellectual

functioning, leadership, and assertiveness have all been essential qualities to the operationalization of the nurse role. These qualities (male stereotyped behaviors), coupled with warm, expressive, and nurturant qualities (female stereotyped behaviors) have comprised the professional view of the nurse (Till, 1980).

Characteristics of Nurses

Muhlenkamp and Parsons (1972) reviewed forty-eight studies over a ten year span dealing with characteristics of nurses. All of these studies were reported in Nursing Research between 1960 and 1970. From this review, conclusions were drawn about common characteristics of nurses. These included choice of a helping role, submissiveness, dependency, high religious and low economic values, and high social interests. These characteristics have all been consistent with the feminine sex role. Other investigators found similar results (Davis, 1969; Mauksch, 1963; O'Neil, 1975; Smith, 1968; Stein, 1969).

Specific personality attributes of nurses included needs for orderliness and endurance (Gynther & Gertz, 1962); dedication (Brown, Swift & Oberman, 1974); below average interest in learning and self esteem (Meleis & Farrel, 1974); responsible, generous, dependent, and passive (Aldag & Christensen, 1967); humanistic and interpersonally sensitive (Davis & Olesen, 1964); and a great need for endurance, intraception, abasement, order, nurturance and deferrence (Stein, 1969). Again, many of these attributes have been consistent with the female

sex role stereotype. Other studies have found nurses deficient in traditionally masculine-typed behaviors such as aggression, rebellion (Aldag & Christensen, 1967), autonomy, dominance (Levitt, Lubin, & Zuckerman, 1962; Navran & Stauffacher, 1958; Spaney, 1953; Stauffacher & Navran, 1968), originality, creativity, intellectualism (Brown, et al., 1974), career commitment (Davis & Olesen, 1965; Schultz, 1965) and leadership (Stein, 1969).

A recent study which compared managerial women in traditional female occupations (nursing) with managerial women in predominately male occupations revealed leadership attributes and behaviors of the two groups to differ across occupational settings. Managerial women in male professions had higher achievement motivation, were more involved in their jobs, more production-oriented and described themselves as significantly more often having characteristics attributed to managers and men in our society than did the nurse managers (Moore & Rickel, 1980). All of these investigations have suggested that characteristics of nurses have supported the traditional role of women and the public image of nurses.

Sex Role Studies and Nurses

Very few studies have specifically measured nurses' sex role identity with instruments that have allowed an individual to possess both masculine and feminine characteristics. A small pilot study (Simpson & Green, 1975) found 38% of the nurse sample to be

androgynous by the BSRI. Another study had 186 nursing students rate the ideal nurse using the Spence, et al., PAQ questionnaire (Minnigerode, Kayser-Jones, & Garcia, 1978). Surprisingly, the ideal nurse was rated as psychologically androgynous.

Stromborg (1976) studied the relationship between nursing students' sex role identity and their image of nursing. A traditional single continuum, bipolar sex role tool (MF scale of the Minnesota Multiphasic Personality Inventory) revealed a positive relationship between sex role identity and the student's image of nursing. The more masculine the sex role identity, the closer the student's image of nursing was to that image portrayed by the profession. A similar investigation compared nursing students' sex role identity with their image of nursing along with a comparison of nursing students' sex role identity with the general college females' sex role identity (Till, 1980). The BSRI was used and results indicated that nursing students endorsed more feminine characteristics than general college females. Nursing students' image of nursing and endorsement of masculine characteristics were also positively correlated. Ziegler (1977), comparing baccalaureate nursing students and college students (male and female), found no significant differences in sex role identity using Spence's, et al., PAQ.

The sex role identity investigations in nursing have almost exclusively been done with nursing students and results have been conflicting. Simpson and Green (1975) found 38% of their pilot study

sample to be androgynous and Minnigerode's, et al., study revealed nursing students' images of the ideal nurse to be androgynous. Till, however, reported nursing students to endorse more femininity than other college females. These conflicting results may have been due to the many role conflicts women have faced as nurses and as adults in a highly achievement-oriented society, or may be due to the age and developmental levels of the student population.

CHAPTER 3

METHODOLOGY

Introduction

This study attempted to establish relationships between or among variables and thus was descriptive in nature (Brink & Wood, 1978).

It was the purpose of the author to examine practicing registered nurses' sex role identities and the possible relationship of that identity to position in nursing, rural-urban location, education, age, gender sex, type of job held, and professional role perception.

Population

This investigation drew from two populations:

1. All registered nurses in Montana who were working in nursing at the time of the study; and
2. All registered nurses in Minneapolis, Minnesota, and surrounding suburbs who were working in nursing the time of the study.

Sample

The author drew a stratified sample for the study. Because position held in nursing was a variable of considerable interest to the author, each population was divided into three groups from which random samples were drawn. The groups were educators, administrators, and staff nurses. Definitions for each group have been listed here.

Educators: Registered nurses who were presently teaching nursing

in a state approved school of nursing at the time of the study. The school of nursing had a diploma, associate, baccalaureate, and/or masters degree program.

Administrators: Registered nurses who held the top management position in a hospital, nursing home, or community health agency at the time of the study.

Staff Nurses: Registered nurses who were employed in nursing at the time of the study, but who did not meet the requirements of the previous two groups.

The author obtained a list of educators from the various schools of nursing in both Montana and Minneapolis from which two separate random samples were drawn.

A list of all hospitals, nursing homes, and community health agencies was assembled for both Montana and the Minneapolis area. For Montana this list was procured through the State Board of Nursing. For Minneapolis, the Minneapolis/St. Paul telephone directory was used. Then, separate random samples were drawn for each area and questionnaires were sent to the nursing administrators of each of these institutions. This was an example of a cluster sample.

Staff nurses were chosen by random sample from the State Board of Nursing registry from both states. Because administrators and educators were also included in these registries, the sample size for the staff nurse category was increased by 10 each for Montana and

Minneapolis. When selecting names from the Minnesota registry, names were discarded if addresses were not within the Minneapolis area and other names were drawn. This process was repeated until the sample size was reached with the appropriate number of subjects. Respondents from this staff nurse sample who fit either the educator or administrator categories were entered into the appropriate category.

Sample Size

Response rate of the mailed questionnaire was considered when determining sample size. If the response rate was greater than 50%, the risk of serious response bias would not be an issue (Polit & Hungler, 1978). The author wished to receive 30 responses in each of the three categories of each population. Considering response rate, 50 questionnaires for each category (60 for staff nurse category) in each population were sent. This was a total of 320 questionnaires.

Protection of Human Rights

Research involving human beings must be done with consideration for protection of human rights. Polit and Hungler (1978) have indicated three factors to be considered: informed consent; confidentiality of data collected; and freedom from harm.

Informed consent was dealt with in the cover letter to the questionnaire. This letter explained the purpose of the study, described the questionnaire, and guaranteed anonymity (see Appendix A). There

was also a statement concerning voluntary participation. Informed consent was inferred upon completion and return of the questionnaire.

Questionnaires were coded in such a way that the author was able to identify questionnaires with names only for the purpose of sending reminder letters to non-respondents. All identifying data were destroyed after the reminder letters were sent. Questionnaires were also coded to identify which category and population they were originally selected from.

The author foresaw no physical and minimal, if any, psychological harm that could come from participation in the study. The subjects were free to decline participation in part or all of the survey.

Instrument

Selection of a Tool

The mailed questionnaire was chosen for this study because of considerations of distance, cost, and time. The advantages of the mailed questionnaire included less cost involved, offered complete anonymity, and no interviewer bias. Disadvantages included generally a lower response rate, no opportunity to clarify questions, more superficial data, no control over order in which questions were answered, and no assurance that the respondent was the actual intended participant (Polit & Hungler, 1978).

Tool Description

The questionnaire consisted of a combination of the Bem Sex Role Inventory (BSRI), Spence's, et al., Personal Attribute Questionnaire (PAQ), and general demographic material (see Appendix B). Letters to obtain permission for use of the BSRI and the PAQ have been included in Appendix C and Appendix E respectively. Responses to these letters have been explained in Appendix D and Appendix F.

The Bem Sex Role Inventory. This questionnaire was used to determine the nurses' sex role identities. Bem (1974) developed the BSRI with three scales: a masculinity; a femininity; and a social desirability scale. The item selections for the masculine and feminine scales were chosen from a list of approximately 200 personality characteristics that were judged by the author and several others to be both positive in nature and either masculine or feminine in tone. Another list of approximately 200 personality characteristics was constructed that were considered half positive and half negative, but neither masculine nor feminine. From these two lists, judges were asked to rate each item on a seven point scale, ranging from one ("Not at all desirable") to seven ("Extremely desirable") as to be more desirable in American society for one sex than for the other. Each judge was asked to rate all 400 personality characteristics for one sex but not for both. One hundred Stanford undergraduates served as judges, half male and half female. Each characteristic was evaluated to be more desirable for a man or for a woman ($p < .05$). After

completion of this evaluation, 20 items were selected for the masculine scale and 20 for the feminine scale. Neutral items with respect to sex were eligible for the social desirability scale if: a) they were judged by both males and females to not be more desirable for one sex than the other ($t < 1.2$, $p > .20$); and b) judges, male and female, did not differ significantly in overall judgements of the desirability of that trait ($t < 1.2$, $p > .20$). From this evaluation, 10 positive and 10 negative traits were chosen to comprise the social desirability scale. Those characteristics for the masculine, feminine, and social desirability scales have been given in Appendix G.

Subjects were asked to indicate on a seven-point scale how well each of the 60 characteristics described themselves. The scales were calibrated from one ("Never or almost never true") to seven ("Always or almost always true"). After completion, subjects received three scores: a masculinity score; a femininity score; and an androgyny score. A social desirability score could be calculated also. The masculine and feminine scores represented the endorsement of masculine and feminine personality characteristics as self-descriptive. The masculinity score was computed by the mean self rating of all masculine items and the femininity score was the mean self rating of the feminine items. Both scores were logically independent as one did not influence the other (Bem, 1974).

The androgyny score represented the relative amounts of masculinity

and femininity a person included in his/her self description. This score was calculated using a median split of masculine and feminine scores of a large normative sample of participants.

The four categories distinguished by the median split included masculine, feminine, androgynous, and undifferentiated. A masculine sex role was the endorsement of masculine characteristics with rejection of feminine characteristics. A feminine sex role was the endorsement of feminine characteristics with rejection of masculine characteristics. An androgynous sex role was the endorsement of both masculine and feminine characteristics while an undifferentiated sex role represented the rejection of both masculine and feminine characteristics. This last category was added (Bem, 1977) after post hoc reanalysis of past data. The undifferentiated category was defined as those scores which were below the median for both masculinity and femininity.

The Personal Attribute Questionnaire (PAQ). The Personal Attribute Questionnaire (Spence, Helmreich, & Stapp, 1975), a second sex role inventory, was used to evaluate the nurse's professional role perception by rating each item for the ideal nurse. The nurse's sex role identity measured by the BSRI was then compared with the sex role identity of the ideal nurse as measured by the PAQ.

The PAQ was derived by Spence, et al., from the Sex Role Stereotype Questionnaire (SRSQ) developed by Rosenkrantz, Vogel, Bee, Broverman, and Broverman, 1968. The SRSQ consisted of 122 bipolar items on a

60 point Likert scales with dichotomous adjectives at each extreme (e.g., submissive, dominant).

The Personal Attribute Questionnaire (PAQ) items were taken directly from the SRSQ. The PAQ was developed as a revision of the SRSQ to provide a shorter and easier questionnaire to administer. The PAQ consisted of 55 items divided into three subscales: female-valued ($n = 18$); male-valued ($n = 23$); and sex-specific ($n = 12$) which was a mixture of masculine and feminine items. One item could not be classified and so does not appear in any of the subscales. The author, for purposes of this study only, included the male-valued and female-valued items. Each item was rated on a five point Likert scale as has been shown in the following example.

Very passive					Very active
1	2	3	4	5	

Respondents were instructed to select the number for each item that best described themselves. In this study however, respondents were asked to rate each item for the ideal nurse. Ideal was defined in the questionnaire as "those characteristics that you feel are most desirable for a nurse to possess."

Each item was scaled from one to five. If the item was male-valued, the most masculine response was a five. The same applied for a female-valued item. The questionnaire was constructed with some sex-valued items on the higher rating end of the scale and with some on the lower end. Therefore, for scoring purposes, ratings were reversed so that high

ratings were given to the sex-valued item. For example, item 73 had the female-valued attribute on the lower end of the rating scale which made a rating of one a high rating for the female attribute.

Does not hide
emotions at all

Almost always
hides emotions

1 2 3 4 5

Therefore, the scoring was reversed to give the proper point values for that item; i.e., a rating of five for the female-valued item, "Does not hide emotions at all." If a respondent marked one as a response, the one was recoded to a five. Correspondingly, a two was recoded to a four; a three remained a three; a four became a two; and a five became a one. The male-valued and female-valued items of the PAQ have been listed in Appendix H.

Once scores were coded, the male-valued item responses were added and then divided by 23 ($n = 23$) to obtain the masculinity mean. The female-valued item responses were also added and divided by 18 ($n = 18$) to obtain the femininity mean. These means served as the respondent's masculinity and femininity mean scores for the ideal nurse. From the mean masculinity and mean femininity scores, a fourfold sex role classification was calculated. These four classifications of undifferentiated, feminine, masculine, and androgynous were determined by use of a median split of the masculine and feminine scores, identical to the median split method used on the Bem Sex Role Inventory.

The female-valued items represented those feminine stereotyped

items (as developed for the SRSQ) in which the mean rating of the ideal individual was towards the feminine end of the bipolar scale. The male-valued items represented those masculine stereotyped items (as developed for the SRSQ) in which the mean rating of the ideal individual was toward the masculine end of the bipolar scale. Conceptualizing masculinity and femininity as two independent components of sex role identity enabled an individual to possess characteristics of both the male-valued and female-valued subscales and to receive both a masculinity mean score and a femininity mean score. Spence, et al. (1975), pointed out the similarities of the BSRI and PAQ in terms of their theoretical basis. Due to Spence's, et al., criticism of the original BSRI sex role categorization, Bem adopted the median split method also used by Spence.

Demographic Information. Demographic information (age, gender sex, education, type of job held, position in nursing, etc.) was included in the questionnaire between the BSRI and the PAQ. This hopefully minimized marking self, ideal, and typical nurses the same on similar items between the BSRI and PAQ.

Reliability and Validity of Tools

The Bem Sex Role Inventory. Internal consistency was estimated using coefficient alpha for the masculinity, femininity, and social desirability scales (Bem, 1974). All three scales were shown to be highly reliable (masculinity $\alpha = .86$, femininity $\alpha = .80$, and social

desirability α = .75). The androgyny score reliability could not be calculated directly using coefficient alpha, but was computed for the highly correlated androgyny difference score (femininity minus masculinity). This reliability score was .85.

The masculinity and femininity scores were logically independent and were also found to be empirically independent ($r = .11$ male and $r = -.14$ female). This supported Bem's original contention that masculinity and femininity are independent qualities.

The BSRI was administered for a second time to 28 males and 28 females to examine test-retest reliability. This second testing took place approximately four weeks after the first. All four scores proved to be highly reliable (masculinity $r = .90$, femininity $r = .90$, androgyny $r = .93$, social desirability $r = .83$).

The BSRI has been administered to a number of different samples (Bem, 1975; Bem, Martyna, & Watson, 1976; Bem, 1977, etc.) with consistent results. Findings of these investigations support that androgynous subjects consistently have displayed both instrumental and expressive functioning for appropriate situations whereas nonandrogynous subjects have utilized only one level of functioning, either instrumental or expressive. These studies done by Bem and others have validated the central hypothesis that androgyny is the blending of masculine and feminine role identities.

The Personal Attribute Questionnaire. Internal consistency was

calculated for the self scores by use of coefficient alpha and were found to be highly reliable (males $\alpha = .91$, females $\alpha = .90$). Test-retest reliability was tested for 31 respondents who retook the PAQ after 13 weeks. The r 's were .92 for men and .98 for women except for one male who appeared to respond at random.

Validity was tested by administering the PAQ to a second sample of introductory psychology students a few weeks later than the original sample. One hundred and sixty-four students (108 female, 56 males) completed the PAQ and significant or near significant differences ($p < 0.20$) were found for both sexes between their mean self ratings for 36 items.

Data Analysis

Due to the descriptive nature of this study, the author chose not to make any assumptions about the distribution of the sampled population. Therefore, nonparametric or distribution free statistics were utilized. This use of nonparametric statistics was also consistent with the median split test (also a nonparametric test) used for both the BSRI and the PAQ.

Nonparametric statistical methods have been characterized by:

(1) no assumptions are made concerning the normality or shape of the sample distribution; (2) the tests are not based on estimations of parameters; and (3) the methods are appropriate with nominal and ordinal data (Polit & Hungler, 1978).

Three different nonparametric tests for significance were used in evaluating the data collected: the Mann-Whitney U test; the Kruskal-Wallis one-factor analysis of variance by ranks; and the Spearman's rank order correlation coefficient or Spearman's Rho. Each were utilized under specific circumstances and that use has been explained here.

Mann-Whitney U Test. The Mann-Whitney U test has allowed the investigator to determine the probability that two independent samples have been drawn from the same population. More specifically, this nonparametric test was used to determine whether the summed ranks of one sample were significantly higher than those of the second sample (Kviz & Knafl, 1980). This test has probably been the most frequently used two sample test when a normal distribution has not been assumed. Compared to the T test, the asymptotic efficiency is $3/\pi$ or 95.50% (Marascuilo & McSweeney, 1977, p. 268). The Mann-Whitney U test has been based on the null hypothesis that the two populations have been identically distributed or that the two samples have been drawn from two identical populations. Calculations for the Mann-Whitney U tests were done by: (1) merging the two samples ranking the individual scores from high to low; and (2) calculating the U score as has been defined here.

$$(a) \quad U = n_1 n_2 + \frac{n_1 (n_1 + 1)}{2} - R_1$$

or

$$(b) \quad U = n_1 n_2 + \frac{n_2 (n_2 + 1)}{2} - R_2$$

where n_1 = the number of observations in sample one

n_2 = the number of observations in sample two

R_1 = sum of the ranks of the items in sample one

R_2 = sum of the ranks of the items in sample two

Both equations (a and b) yield the same two scores except that the sign would be opposite. The conclusion, however, would be the same.

The U statistic has been described as "a measurement of the difference between the ranked observations of the two samples and yields evidence about the difference between the two population distributions. Very large or very small U values constitute evidence of the separation of the ordered observations of the two samples. The sampling distribution of the U has a mean equal to $\mu_U = \frac{n_1 n_2}{2}$ and a standard deviation of $\sigma_U = \sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}$ (Hamburg, 1977, p. 530).

If n_1 and n_2 were in excess of ten items, the sampling distribution would rapidly approach normality, and a Z approximation would be used. The calculation was $Z = \frac{U - \mu_U}{\sigma_U}$. Then standard Z tables were used to determine p values or significance levels. For purposes of this study, a 10% level of significance was used ($\alpha = 0.10$).

Ties in ranking were assigned the average rank value and there was a correction value for the calculation of σ_U for ties, but the effect has been normally negligible for large samples.

The Mann-Whitney U test was used in this study when two groups were being compared; e.g., the rural sample versus the urban sample.

When more than two groups were being observed, the Kruskal-Wallis one-factor analysis of variance by ranks was used.

Kruskal-Wallis One-Factor Analysis of Variance by Ranks. The Kruskal-Wallis test, also a nonparametric test has been described as an extension of the two sample test for means in which several independent groups can be tested as to whether they have been drawn from populations having the same means. "Analogously, the Kruskal-Wallis one-factor analysis of variance by ranks is a nonparametric test that represents a generalization of the two-sample Mann-Whitney U rank sum test" (Hamburg, 1977, p. 535). The efficiency of the Kruskal-Wallis test as compared with the T test also has been computed at $3/11$ or 95.50% for normal distributions (Marascuilo & McSweeney, 1977, p. 87).

The Kruskal-Wallis test has been calculated in much the same manner as the Mann-Whitney U test. The null hypothesis has been defined: for C independent random samples (where $C > 2$), the populations are equally distributed or samples are drawn from C identical populations. The calculations were done as follows:

(1) Observations from C independent random samples were pooled and ranked from high to low;

(2) The test statistic for the Kruskal-Wallis test, a comparison of the variation of the ranks of the sample groups, was defined as

$$K = \frac{12}{n(n+1)} \left(\sum \frac{R_j^2}{n_j} \right) - 3(n+1)$$

where n_j = the number of observations in the j th sample

$n = n_1 + n_2 \dots n_c$ = total number of observations in the
 c populations

R_j = the sum of the ranks for the j th sample.

(3) This sampling distribution or K was very close to the chi square distribution (χ^2) with $V = c - 1$ (v = degrees of freedom).

Thus, once K was calculated, a chi square table was utilized to accept or reject the null hypothesis. In this study, again the 10% significance level was used ($\alpha = 0.10$). Sample sizes should have been greater than five for the χ^2 distribution. As with the Mann-Whitney U test, ties were assigned the mean of the tied ranks. A corrected K was calculated in the case of ties.

The Kruskal-Wallis one-factor analysis of variance by ranks was used in this study to test significant differences in distribution among sample groups of three or more; e.g., staff nurse, educator, and administrator sample groups.

Spearman's Rank Order Correlation Coefficient. Spearman's rank order correlation coefficient, another nonparametric test used in this study, has been compared to the Pearson Product-Moment Correlation coefficient which has been a widely used parametric statistic for bivariate correlation. Whereas Pearson's R has measured the degree of variation in one variable in relationship to the variation of another variable, Spearman's ρ has measured the degree of variation in the

ranking of one variable in relationship to the variation in the ranking of another variable. Compared to the Pearson R, the Spearman's Rho efficiency under bivariate normality has been established at $(3/\pi)^2$ or 91.20% (Marascuilo & McSweeney, 1977, p. 435). As a measurement of the extent of correlation between two samples of ranked ordered observations for ordinal data, Spearman's rho has indicated the direction and strength of an observed relationship. The correlation coefficient, or r, has ranged from -1.00 to +1.00 and has provided a single number which has indicated the relationship between two variables. A -1.00 has represented a perfect inverse relationship while a +1.00 has represented a perfect positive relationship and a zero, no relationship at all. The computations for the Spearman's rho were:

(1) ranking the values for the two variables from one to n separately;

(2) computing Spearman's r_s which was defined as "the sum of the squared differences in the paired ranks for two variables over all cases, divided by ... what the sum of the squared differences in ranks would have been had the two sets of rankings been totally independent" (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975, p. 289). The equation was

$$r_s = \frac{1 - 6 \sum_{i=1}^n d_i^2}{N^3 - N}$$

where d_i = the difference in the ranks of corresponding variables for the same case

n = number of cases;

(3) the significance levels for the computed r_s were found by using the standardized tables for the critical values of Spearman's rank correlation coefficient. For this study, a 10% significance level was used ($\alpha = 0.10$).

Ties were again assigned the mean of the tied ranks and a corrected r_s was computed for all ties.

The Spearman rho was used in this study to examine relationships between variables of individual cases; e.g., individual's Bem masculinity scores and their ages.

The Mann-Whitney U test, the Kruskal-Wallis test and Spearman's rho test were utilized throughout the data analysis to point out significant differences between and among groups and to examine possible relationships between variables.

Pilot Study

A small pilot study was conducted to test the questionnaire in terms of understandability, acceptability, readability, and ease of completion. Ten registered nurses completed the questionnaire in early April, 1981, and offered helpful comments.

The background of those nurses participating in the pilot has been summarized in Table 2. All 10 nurses were instructed to fill out the questionnaire and to make critical comments concerning: (1) time taken to fill out; (2) ease of completion; (3) readability; (4) physical layout of questionnaire; (5) any objectionable items; (6) understandability of

items; and (7) any other impressions of the questionnaire.

Table 2
Background Data of Nurses in Pilot Study

Age	Occupation	Sex	Marital	Basic Education	Highest Degree Obtained
Range 27-45	4 graduate students	10 females	7 married	7 diploma	4 baccalaureate
Mean 40.1	2 nursing instructors		2 single	1 associate	1 practitioner
n = 9	2 hospital staff nurses		1 divorced	2 baccalaureate	1 masters
	1 community health nurse				1 Ph.D.
	1 nursing school dean				3 no further education

Comments received were very helpful and have been summarized here.

- (1) The questionnaire took 20-25 minutes to complete.
- (2) Directions were clear, direct, and understandable.
- (3) The original questionnaire instructed respondents to rate both the ideal nurse and typical nurse on the Personal Attribute Questionnaire. Several pilot study participants felt this was very difficult to rate, both from the standpoint of time and ease of completion. Because of these comments, the typical nurse ratings were eliminated.

(4) Readability, understandability, and physical layout were acceptable. There were minor changes in some demographic questions which consisted of adding or clarifying categories, etc.

Other comments concerned the cover letter and led to several changes which included: (1) offering an abstract of the study; and (2) beginning the letter with a more direct request for participation in the study.

All ten of the pilot questionnaires were completed appropriately. There were no missing data except for one age which was intentionally left blank. There was slight ambiguity of response with two questionnaires. One respondent, on several occasions, answered 3-4 on the Likert scale questions and another respondent marked 5.5 for several of the Likert scale questions. These scores were coded based on the toss of a coin; heads representing the higher number and tails the lower number.

Scores from the pilot study for the Bem Sex Role Inventory and the Personal Attribute Questionnaire data for the ideal nurse have been given in Appendix I.

In summary, the pilot study enabled the author to refine the questionnaire prior to the actual research. Also, methods of coding and data analysis were developed and tested.

CHAPTER 4

RESULTS

Introduction

Results of this study have been discussed in four sections of this chapter. First, a description of the sample has been presented, followed by the results of the Bem Sex Role Inventory. Then, the Personal Attribute Questionnaire data has been discussed in terms of the ideal nurse. Lastly, relationships between the Bem Sex Role Inventory, demographic data, and the Personal Attribute Questionnaire have been explored.

Data have been presented throughout the chapter in several groupings: (1) the total sample; (2) the Montana or rural sample; (3) the Minneapolis or urban sample; (4) the staff nurse sample; (5) the educator sample; and (6) the administrator sample. Frequently, these groups have been further divided to compare and contrast Montana and Minneapolis staff nurses, educators, and administrators.

Description of the Sample

Three hundred and twenty questionnaires were mailed to a stratified random sample (sampling procedure described in previous chapter) of registered nurses in April of 1981. One hundred and thirty-five responses (42.19% return rate) were returned. A reminder letter was sent one month after the original mailing to those who had not responded to the questionnaire and 79 questionnaires were returned from the second

mailing for a total of 214 responses or a 66.88% return rate. Of the 214 responses, 111 (51.87% of the total sample) were from the Montana sample and 103 (48.13% of the total sample) were from the Minneapolis sample. The breakdown of the six groups has been listed below.

Table 3
Response Rate of Mailed Questionnaire

	Staff Nurse	Educator	Administrator	Totals
Montana	35/60 (58.34%)	44/50 (88%)	32/50 (64%)	111/160 (69.38%)
Minneapolis	34/60 (56.67%)	31/50 (62%)	38/50 (76%)	103/160 (64.38%)
Totals	69/120 (57.50%)	75/100 (75%)	70/100 (70%)	214/320 (66.88%)

From these responses, three questionnaires were eliminated as the respondents did not meet the criteria of present employment in nursing. This decreased the total sample to 211. The three rejected questionnaires were from the Minneapolis staff nurse sample, which was the only group the author was unable to confirm employment of respondents.

There were also a number of respondents whose position in nursing did not correspond to the group from which they were selected. For example, even though some questionnaires were sent to directors of nursing, some were filled out by supervisors or head nurses. Thus, questionnaires were then sorted according to the six category definitions (previous chapter) of Montana staff nurse, Montana educator, Montana

administrator, Minneapolis nurse, Minneapolis educator, and Minneapolis administrator. The revised response rate was as follows.

Table 4
Revised Response Rate of Mailed Questionnaire

	Staff Nurse	Educator	Administrator	Total
Montana	40	44	27	111
Minneapolis	39	30	31	100
Totals	79	74	58	211

In developing the sample size of this study, the author desired at least 30 responses from each of the six groups. Note that the desired 30 responses were received in each of the original groups but in the revised groupings the Montana administrator group had only 27 responses.

Sociocultural data have been presented here to characterize the sample. With 204 females and 7 males, the sample was 96.68% female. This percentage corresponds closely to national statistics that show nursing to be 98.60% female (American Nurses' Association Facts about Nursing, 1972-1973). The mean age for the total sample was 41.67 years ($n = 206$) with a range of 22 to 74 years. Mean age for the Montana sample was 42.64 years and for the Minneapolis sample, 40.58 years. Mean age for these two samples was not significantly different ($p > 0.10$). A table of age distribution has been given in Table 5.

Table 5
Age Distribution of Sample

Ages	Montana			Minneapolis			Totals
	Staff	Educators	Admin.	Staff	Educators	Admin.	
21-30	12	5	4	9	3	0	33
31-40	11	12	3	15	15	14	70
41-50	8	14	9	8	9	13	61
50-74	7	13	10	7	3	4	44

n = 208

Mean ages for the six groups have been given in Table 6.

Table 6
Mean Age of Sample by Position in Nursing and Rural-Urban Location

	Staff Nurse	Educators	Administrators
Montana	38.83 years	44.09 years	45.77 years
Minneapolis	38.05 years	40.97 years	42.07 years

n = 208

The mean age increased with positions that most often require more responsibility. Significant differences (Kruskal-Wallis test) were

found among staff nurse, educator, and administrator groups in terms of mean age ($p = .010$). The mean age was significantly lower (Mann-Whitney U test) for the staff nurse sample when compared to the educator sample ($p = .037$), and for the staff nurse sample and the administrator sample ($p = .004$). The educator and the administrator mean ages were not significantly different from one another ($p > .10$) however.

Marital status of the sample was also recorded and has been given here.

Table 7
Marital Status of Sample

	Montana				Minneapolis				Ttl.
	Staff	Educ.	Admin.	Totals	Staff	Educ.	Admin.	Totals	
Single	4	10	2	16	6	6	5	17	33
Married	29	25	22	76	30	22	18	70	146
Divorced	4	7	3	14	2	1	8	11	25
Widowed	3	2	0	5	1	1	0	2	7
Totals	40	44	27	111	39	30	31	100	211
									n = 208

Marital status was not found to differ significantly among the groups (Kruskal-Wallis test).

Basic nursing education of those sampled included 105 (50%) diploma

nurses, 20 (9.52%) associate degree nurses, and 85 (40.48%) baccalaureate nurses (one missing datum, $n = 210$). One hundred and six respondents (50.24%) had not completed any further formal education after their basic preparation, whereas 19 (9%) had added a baccalaureate degree, 4 (1.90%) had completed a practitioner program, 73 (34.60%) a masters degree, 6 (2.84%) a Ph.D. and 3 (1.42%) completed other types of degrees in addition to their basic preparation. The education level of the six groups has been presented here.

Table 8

Current Education Level of Sample

	Staff Nurse			Educator			Administrator			Totals
	MT	MN	Ttl.	MT	MN	Ttl.	MT	MN	Ttl.	
Diploma	18	15	33	1	0	1	12	11	23	57
Associate	5	6	11	0	1	1	2	2	4	16
Baccalaureate	13	14	27	8	3	11	10	7	17	55
Practitioner	0	1	1	1	0	1	1	1	2	4
Masters	4	3	7	32	22	54	2	10	12	73
Ph.D.	0	0	0	2	4	6	0	0	0	6

$n = 211$

As would be expected, education levels did differ significantly (Kruskal-Wallis test) among the three types of nursing positions

($p < .0005$). Significance levels have been given below.

Table 9

Differences Among Position in Nursing and Educational Levels

Comparison Groups	p (Mann-Whitney U test)
Staff Nurse Educator	$p \leq .00005$
Staff Nurse Administrator	$p > .10^*$
Educator Administrator	$p \leq .00005$
* not significantly different	

The educator sample held the highest education level with 82.43% of the respondents holding degrees above the baccalaureate degree. This was contrasted with the staff nurse sample in which only 10.13% and the administrator sample in which 24.14% held more advanced degrees than a baccalaureate degree. The rural-urban samples were not significantly different (Mann-Whitney U test) except for the Montana and Minneapolis administrators who held degrees above a baccalaureate degree. Eleven Minneapolis administrators held degrees beyond the baccalaureate, contrasted with three from Montana holding advanced degrees.

All of the respondents included in the analysis were employed in nursing at the time the questionnaire was completed. One hundred and

seventy-five (82.93%) were employed full-time and 36 (17.06%) were employed part-time. The mean number of hours worked part-time was 20 hours with a range of 4 to 32 hours. The breakdown of full-time versus part-time for the six groups has been given in Table 10.

Table 10
Part-time/Full-time Employment Status of Sample

	Staff Nurse		Educator		Administrator	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Montana	29	11	42	2	27	0
Minneapolis	19	20	27	3	31	0
Totals	48	31	69	5	58	0

n = 211

The part-time nurses were predominantly in the staff nurse category.

Place of employment and clinical/teaching areas gave an idea of the diversity of the samples and have been illustrated in Tables 11 and 12. Many respondents were employed in more than one clinical and/or teaching area. It was interesting to note that the Montana nurses worked in more clinical and/or teaching areas at one time (33 nurses worked in more than one area) than the Minneapolis nurses (23 nurses worked in more than one area). The mean number of clinical teaching areas for the

Table 11

Place of Employment of Sample

	Montana	Minneapolis	Totals
Hospital	34	30	64
Clinic	3	1	4
School	0	2	2
Community Health	10	7	17
School of Nursing	44	31	75
Physician's Office	2	2	4
Nursing Home	18	21	39
Other	0	5	5
			n = 210

Table 12

Clinical and/or Teaching Areas

	Montana	Minneapolis	Totals
Medical	25	16	41
Surgical	32	18	50
Pediatrics	19	10	29
Obstetrics	16	9	25
Psychiatry	9	7	16
Community Health	16	11	27
ICU/CCU	13	3	16
Emergency	10	7	17
Ambulatory Care	5	5	10
Geriatrics	31	28	59
Other	14	24	37
Total	190*	136*	326*
* Note: sums exceed total n			n = 201

Montana nurses was 1.73 as contrasted to 1.38 for the Minneapolis nurses ($p = .074$, Mann-Whitney U). This has suggested that nurses in rural areas have been expected to and do function in more clinical areas than do nurses in urban areas. The range for clinical/teaching areas was one to nine and that distribution has been given in Table 13.

Table 13

Number of Clinical Areas Worked by Rural-Urban Groups

# Clinical Areas	Montana	Minneapolis	Totals
1	76	69	145
2	16	15	31
3	4	4	8
4	6	1	7
5	1	2	3
6	2	0	2
7	3	0	3
8	1	0	1
9	0	1	1
n = 201			

The next characteristic of the sample described in this section is that of type of job which has been illustrated in Table 14.

Table 14

Type of Job by Rural-Urban Groups

Type of Job	Montana	Minneapolis	Totals
Staff Nurse	22	25	47
Head Nurse	7	2	9
Supervisor	8	9	17
Director of Nursing	27	31	58
Clinical Practitioner	2	2	4
Nursing Instructor	44	30	74
Other	1	1	2
Totals	111	100	211

Directors of Nursing were asked how many registered nurses they employed. These data were grouped as 1-29, 30-99, and greater than 100 to correlate with small, medium, and large health care facilities. The range was 2 to 800. The rural/urban distribution has been presented in Table 15. Understandably, the majority of facilities employing large

Table 15

Directors of Nursing - # of Nurses Employed

	Montana	Minneapolis	Totals
1-29	23	14	37
30-99	2	4	6
100 +	3	12	15

numbers of registered nurses were located in the urban area.

The description of the sample gave data concerning age, sex,

education, position, type of job, and marital status. Later in the chapter, these items have been related to the Bem Sex Role Inventory and the Personal Attribute Questionnaire.

The Bem Sex Role Inventory

The Bem Sex Role Inventory consisted of 60 personality characteristics, 20 of which have been determined to be feminine characteristics, 20 male characteristics, and 20 non-sex-typed or neutral characteristics (these classification designations were discussed in Chapter 3).

Respondents were asked to rate each item as to how that characteristic described themselves. A seven point Likert scale was used that was scaled from one (1) "Never or almost never true" to seven (7) "Always or almost always true."

To score the Bem Sex Role Inventory, the author first determined each respondent's mean femininity and masculinity scores. This was done by adding up all the scores for the feminine characteristics and dividing by 20 (number of characteristics). The same procedure was used to determine the mean masculine score. There were rare instances in which respondents left a characteristic blank. In this situation, the author assigned that item the most neutral response or a four (4) "Occasionally true."

After both the mean femininity and masculinity scores were determined, the author categorized each respondent into one of four sex role categories: undifferentiated; feminine; masculine; or

androgynous. These categories were defined by a normative median split. In other words, respondents were placed in one of the four sex role categories according to their own masculinity and femininity scores in relation to normative medians for masculinity and femininity. Normative data, as opposed to the sample's data, were utilized due to the predominantly female sample. The normative data were based on samples of 1978 Stanford University undergraduates (476 males and 340 females) and results were statistically weighted to equalize the sex distribution. The means, medians, and standard deviations of that normative sample have been presented in Table 16 below.

Table 16
Normative Data for Bem Sex Role Inventory

	Sexes Combined*	Females (n = 340)	Males (n = 476)
Femininity			
Mean	4.82	5.05	4.59
Median	4.90	5.10	4.60
Standard Deviation	.59	.53	.55
Masculinity			
Mean	4.95	4.79	5.12
Median	4.95	4.80	5.10
Standard Deviation	.68	.66	.65

* This sample was statistically weighted to equalize sex distribution

To classify subjects into the four sex role categories, the median normative femininity and masculinity scores were used as dividers for

the fourfold classification. Each of the four categories have been defined here.

(1) Undifferentiated represented an individual's femininity mean score less than the normative femininity median (4.90) and an individual's masculinity mean score less than normative masculinity median (4.95).

(2) Feminine represented an individual's femininity mean score greater than the normative femininity median (4.90) and an individual's masculinity mean score less than the normative masculinity median (4.95).

(3) Masculine represented an individual's femininity mean score less than the normative femininity median (4.90) and an individual's masculinity mean score greater than the normative masculinity median (4.95).

(4) Androgynous represented an individual's femininity mean score greater than the normative femininity median (4.90) and an individual's masculinity mean score greater than the normative masculinity median (4.95).

This median split categorization has been illustrated in Table 17. It was by this classification system that the author formed the four sex role categories with this study's sample.

The results of the Bem Sex Role Inventory have been presented here. The author looked at individual item means, masculinity and femininity means, and sex role classifications of the respondents.

Table 17

Median Split Categorization of Bem Sex Role Inventory

		Masculinity Score	
		Below Median < 4.95	Above Median > 4.95
Femininity Score	Below Median < 4.90	Undifferentiated	Masculine
	Above Median > 4.90	Feminine	Androgynous

Means of individual items for the entire sample were calculated and ranked from highest to lowest and have been listed in Appendix J. This ranking as a group has suggested those attributes that were most and least characteristic of the sample (determined by self description).

Interestingly, many characteristics ranked towards the top and bottom came from the Social Desirability Scale and were neither feminine or masculine. Originally, these items were designed to measure social desirability with 10 socially desirable items and 10 socially undesirable items (Bem, 1974). This scale has no longer been utilized as a measure of social desirability, but most of those items have ranked very high or low, respectively, on the group means.

These characteristics, as self descriptive of nurses, were different from the findings of most earlier studies. Appendix K has summarized four previous studies dealing with characteristics of nurses. Dependent and submissive attributes were common to all four studies.

Results of the study reported here, however, have emphasized "self reliance," independence," "self sufficiency," and "leadership abilities." The difference in findings may well have been a change in characteristics of nurses over time although different methodologies and populations may have contributed to the difference.

The masculinity and femininity means of the Bem Sex Role Inventory for all the various groups have been illustrated in Appendix L. Masculinity means were significantly different among staff nurses, educators, and administrators (Kruskal-Wallis), ($p < .0005$).

Significant differences (Mann-Whitney U) were found between staff nurses and educators ($p = .019$) and staff nurses and administrators ($p < .0005$) for the masculinity means. Staff nurses' masculinity scores were significantly lower than the educators' or the administrators' masculinity scores. There were no significant differences among groups for the femininity means. Rural-urban differences for masculinity or femininity means were not significant ($p > 0.10$).

From individual masculinity and femininity scores, the sex role categories were calculated. The breakdown of the various groups into the four sex role categories has been listed in Appendix M.

Significant differences (Mann-Whitney U test) were not found with the Bem Sex Role categories between the rural-urban groups ($p > .10$) but significant differences (Kruskal-Wallis test) were found among staff nurses, educators, and administrators ($p = .009$). The significance

levels for the particular groups have been listed in Table 18.

Table 18

Differences Among Position in Nursing and Bem Sex Role Categories

Categories	Undiff.	Feminine	Masculine	Androgynous	Mann-Whitney p value
Staff Nurse	9 (11.39%)	30 (37.97%)	16 (20.25%)	24 (30.39%)	.0395
Educator	13 (17.57%)	8 (10.81%)	17 (22.97%)	36 (48.65%)	
Staff Nurse	9 (11.39%)	30 (37.97%)	16 (20.25%)	24 (30.39%)	.0024
Administrator	5 (8.63%)	6 (10.34%)	18 (31.03%)	29 (50%)	
Educator	13 (17.57%)	8 (10.81%)	17 (22.97%)	36 (48.65%)	> 0.10*
Administrator	5 (8.63%)	6 (10.34%)	18 (31.03%)	29 (50%)	

* No significant difference

As has been illustrated in Table 18, staff nurses in this sample did differ significantly from educators and administrators in terms of their sex role identities. Educators and administrators, however, did not differ in their sex role identities ($p > .10$). There were greater percentages of masculine and androgynous (high in both masculinity and

femininity) individuals in the educator and administrator groups than were found in the staff nurse group. Results of the Bem masculinity mean scores (discussed previously) were also significant for the same groups and in the same direction. These results have suggested that there may be relationship between the relative amounts of masculinity an individual endorses and the position held in nursing.

The Bem Sex Role Inventory has been examined again in the last section of this chapter in relation to demographic data and professional role perceptions.

The Personal Attribute Questionnaire

The Personal Attribute Questionnaire consisted of 55 items divided into three subscales: a female-valued subscale ($n = 18$); a male-valued subscale ($n = 23$); and a sex-specific subscale ($n = 12$) which was a mixture of masculine and feminine items. One item could not be classified and thus did not appear in any of the subscales. For the purpose of this study, the author has included only those items in the male and female-valued subscales. From these two subscales, a masculinity mean score, a femininity mean score, and a sex role classification has been calculated.

Respondents were instructed on the questionnaire to rate each item for the ideal nurse. Ideal was defined as "those characteristics that you feel are most desirable for a nurse to possess."

Each item was on a five point Likert scale with one pole being

designated either male-valued or female-valued as has been shown here.

(a)	Not at all emotional					Very emotional (fv)
	1	2	3	4	5	

or

(b)	Very neat in habits (fv)					Very sloppy in habits
	1	2	3	4	5	

In item (a) the female-valued item was on the higher rating end of the scale, whereas in item (b) the female-valued item was on the lower rating end of the scale. Scoring was determined by which pole the sex-valued item was on. If the sex-valued item was on the higher rating end, whatever number a respondent recorded was the score assigned to that item. If however, the sex-valued item was on the lower rating end of the scale, the number the respondent recorded was reversed. For example, if on (b) a respondent answered with a "4", the reversed value was a "2". In other words, scores increased as they approached the sex-valued pole. The recoding schedule has been listed in Table 19.

Table 19

Reversal of Sex-Valued Items on Lower Scoring Pole of PAQ

Respondent's Answer	Reversed Score
1	5
2	4
3	3
4	2
5	1

Once coding was completed, the female-valued item scores were added and divided by 18 ($n = 18$) to obtain a femininity mean score. Then, the male-valued item scores were added and divided by 23 ($n = 23$) to obtain a masculinity mean score. These scores were calculated for all cases. As with the BSRI, a missing value on an item was assigned the most neutral response or a "3".

After both a femininity mean score and a masculinity mean score were calculated for all cases, the author categorized each respondent's scores into one of four sex role categories: undifferentiated; feminine; masculine; or androgynous. These categories were determined on the basis of a normative median split (median of the means). Normative medians, as opposed to the sample's medians were utilized again due to the predominantly female population. The normative data were based on samples of 248 male and 282 female students in an introductory psychology class at the University of Texas at Austin in 1973. These data were statistically weighted to equalize the sex distribution. The means, medians, and standard deviations of the normative sample have been shown in Table 20.

To classify subjects into the four sex role categories, the normative femininity median of the means score and the normative masculinity median of the means score were used as dividers for the fourfold classification. Each category has been defined here.

- (1) Undifferentiated represented an individual's femininity mean

Table 20

Normative Data for Personal Attribute Questionnaire

	Sexes Combined*	Females (n=282)	Males (n=248)
Femininity			
Mean	3.84	3.95	3.71
Median	3.92	4.03	3.82
Standard Deviation	.417	.417	.431
Masculinity			
Mean	3.58	3.51	3.65
Median	3.56	3.48	3.63
Standard Deviation	.328	.337	.347

* This sample statistically weighted to equalize the sex distribution

score less than the normative femininity median (3.92) and an individual's masculinity mean score less than normative masculinity median (3.56).

(2) Feminine represented an individual's femininity mean score greater than normative femininity median (3.92) and an individual's masculinity mean score less than the normative masculinity median (3.56).

(3) Masculine represented an individual's femininity mean score less than the normative femininity median (3.92) and an individual's masculinity mean score greater than the normative masculinity median (3.56).

(4) Androgynous represented an individual's femininity mean score

greater than the median of the masculinity means (3.56).

The median split categorization has been illustrated in Table 21.

Table 21

Median Split Categorization of Personal Attribute Questionnaire

		Masculinity Score	
		Below Median < 3.56	Above Median > 3.56
Femininity	Below Median < 3.92	Undifferentiated	Masculine
Score	Above Median > 3.92	Feminine	Androgynous

It was by this categorization system that the author formed the four sex role categories for the ideal nurse. The results of the Personal Attribute Questionnaire with regards to the ideal nurse have been presented here. The author looked at individual item means, masculinity and femininity means, and sex role categorizations of the ideal nurse.

Means of individual items for the entire sample were calculated and ranked from highest to lowest. This ranking has been listed in Appendix N. These ranked means represented those attributes that were most desirable to those attributes that were not as desirable for the ideal nurse to possess. Those attributes most desired (top half of rankings) for the ideal nurse included both expressive qualities (understanding, aware of others' feelings, considerate, helpful, warm, gentle, etc.) and instrumental qualities (stands up well under pressure,

self confident, active, makes decisions easily, not excitable in a minor crisis, etc.). Minnegerode, Kayser-Jones, & Garcia (1978) also examined the concept of the ideal nurse using a short form of the PAQ. One hundred and eighty-six nursing students rated the ideal nurse on nine male-valued, eight female-valued, and seven sex-typed items. The male and female-valued items of the short PAQ were also included in the long form of the PAQ used in this study so that the means and ranks of those individual items were compared. These have been listed in Appendix O. Using the Mann-Whitney U summed rank test, the two rankings for the 17 identical items were not significantly different ($p > 0.10$). This suggested a similarity in how nurses and nursing students viewed the ideal nurse. The masculinity and femininity means of the Personal Attribute Questionnaire for the various groups has been given in Appendix P.

There were significant differences (Kruskal-Wallis test) among staff nurse, educator, and administrator groups for the masculinity mean scores ($p = .026$) but no significant differences for the femininity mean scores ($p > 0.10$). No rural-urban differences were found with these scores. Specific differences (Mann-Whitney U test) between the staff nurse, educator, and administrator groups have been given in Table 22. As can be seen from this table, the staff nurse and educator groups were the only significant groups and only different on the masculinity mean score.

Table 22

Differences Among Position in Nursing and
PAQ Masculinity & Femininity Mean Scores

Groups	Masculinity Difference (p value)	Femininity Difference (p value)
Staff Nurse Educator	.0065	> 0.10
Staff Nurse Administrator	> 0.10	> 0.10
Educator Administrator	> 0.10	> 0.10

Sex role categories were calculated next for the various groups and those results have been listed in Appendix Q. No significant differences were found among the staff, educator, and administrator groups or between rural-urban populations. The various groups of nurses were consistent in their concept of the ideal nurse's sex role identity. The high percentage (78.10%) of those seeing the ideal nurse as androgynous has been found to be consistent with the profession's view of the nurse possessing both warm, nurturant and independent, assertive characteristics. This finding has also been consistent with the Minnegrode's, et al., (1978) study mentioned previously, in which, as a group, the ideal nurse was rated as psychologically androgynous. Results for the ideal nurse from the PAQ have been discussed again in relationship with self ratings on

the BSRI.

Relationships of Sex Role Identity with Demographic Data and
Professional Role Perception

The results of the Bem Sex Role Inventory and the Personal Attribute Questionnaire have been discussed in terms of the sex role categories for the sample at large, for the various groups of staff nurses, educators, and administrators, and for the rural-urban populations. Any possible relationships between the BSRI and demographic data have been explored next along with a comparison of nurses' self ratings on the BSRI compared to their professional role perceptions (the ideal nurse ratings - PAQ).

Age and the BSRI have been considered first. The respondents' ages were not found to be significantly different (Kruskal-Wallis test) with the Bem Sex Role Inventory ($p > .10$). However, even though significance was not reached, there appeared to be a trend of increasing percentages of masculine and androgynous-typed individuals with increased age except for the 51-74 age group as can be seen in Table 23.

Table 23
Age Categories by Bem Sex Role Categories n = 207

	21-30	31-40	41-50	51-74	Totals
Undifferentiated	4 (12.12%)	7 (10%)	6 (10%)	10 (22.72%)	27
Feminine	10 (30.30%)	15 (21.42%)	12 (20%)	6 (13.64%)	43
Masculine	8 (24.24%)	24 (34.29%)	12 (20%)	6 (13.64%)	50
Androgynous	11 (33.34%)	24 (34.29%)	30 (50%)	22 (50%)	87
Totals	33	70	60	44	207

Percentages of masculine and androgynous subjects together illustrate this increase as has been shown in Table 24. In the 41-50 age group as the masculine group decreased, there was a marked increase in the percent of androgynous individuals (from 34.30% in the 31-40 age group to 50.00%). Whether these differences in sex role identity as related to age were due to developmental changes, socialization differences, or other factors, could be a subject for future research.

Table 24

Percentages of Masculine & Androgynous Individuals by Age

Ages	21-30 years	31-40 years	41-50 years	51-74 years
Masculine	24.20%	34.30%	20%	13.60%
Androgynous	33.30%	34.30%	50%	50%
Total	57.50%	68.60%	70%	63.60%

Due to the small number of males ($n = 7$) in the sample, tests of significance were not performed for the BSRI, but the various categories by sex have been listed in Table 25.

Table 25

Gender Sex by Bem Sex Role Inventory

$n = 211$

	Undifferentiated	Feminine	Masculine	Androgynous
Female	26	44	46	88
Male	1	0	5	1

Marital status and sex role identity (BSRI) were not found to be related (Kruskal-Wallis test).

Education was considered next in relation to sex role identity (BSRI). No significant differences (Kruskal-Wallis test) were found except with highest degree obtained and the Bem masculinity score ($p = .002$). The more education the respondent had, the greater their masculinity score was. Incidentally, the PAQ masculinity score and highest degree obtained were also found to be significant (Kruskal-Wallis test, $p = .009$) in the same direction.

Differences between full and part-time employment were also significant (Mann-Whitney U test) with both the Bem masculinity scores ($p = .001$) and the PAQ masculinity scores ($p = .0776$). The full time respondent group had significantly higher masculinity scores than the part-time respondent group.

The Bem masculinity scores and sex role categories were both significantly related to respondent's type of job. Mean ranks for type of job and Bem masculinity scores have been listed in Table 26. Spearman's rho was also calculated for the Bem masculinity scores and type of position ($r = .2541$, $p = .001$) which showed a significant but mild correlation.

Sex role categories and type of job have been listed in Table 27. Sex role categories among types of jobs were significant (Kruskal-Wallis test, $p = .013$). Spearman's rho also showed significance

($p = .010$) but the relationship was not very strong ($r = .1598$). In the sample, as the type of job required more authority and responsibility of the employee, the percentages of masculine and androgynous individuals in that job increased.

Table 26

Mean Ranks of Bem Masculinity Scores by Type of Job

Job	Mean Rank	Number of Respondents
Staff Nurse	68.97	47
Head Nurse	82.89	9
Practitioner	95.17	3
Supervisor	110.38	17
Educator	111.15	74
Nsg. Director	126.92	58
Kruskal-Wallis test $p < .0005$		$n = 208$

Table 27

Sex Role Categories (BSRI) and Type of Job

	Undiff.	Feminine	Masculine	Androgynous	Totals
Staff Nurse	8 (17.02%)	21 (44.68%)	5 (10.64%)	13 (27.66%)	47
Head Nurse	0 (0%)	4 (44.44%)	2 (22.22%)	3 (33.34%)	9
Practitioner	0 (0%)	0 (0%)	0 (0%)	3 (100%)	3
Supervisor	1 (5.88%)	3 (17.65%)	6 (35.29%)	7 (41.18%)	17
Educator	13 (17.57%)	8 (10.81%)	17 (22.97%)	36 (48.65%)	74
Nsg. Director	5 (8.62%)	6 (10.34%)	18 (31.04%)	29 (50%)	58
					$n = 208$

Highest degree, full-time/part-time employment, and type of job were the only demographic data that reached significance with regard to the Bem Sex Role Inventory. There was also a trend noticed with increasing age and increased percentages of masculine and androgynous individuals.

Concerning the respondent's own sex role category (BSRI) in relation to their professional role perception (ideal nurse - PAQ), there was no significant correlation found (Spearman's rho, $r = .0208$, $p = .382$). In other words, how respondents rated themselves did not relate significantly to how they rated the ideal nurse. Since such a large percentage of the sample rated the ideal nurse as androgynous, it was not surprising that a correlation was not present. Over 75% of the sample envisioned the ideal nurse as possessing both masculine and feminine qualities, whereas only 41.70% of the sample rated themselves as possessing both masculine and feminine qualities.

The Bem masculinity scores and the PAQ masculinity scores seemed to be related however (Spearman's rho, $r = .2996$, $p = .001$). This relationship was such that as respondents' masculinity ratings increased, their PAQ masculinity ratings most likely increased also. The relationship of the BSRI masculinity ratings and the PAQ masculinity ratings have lent support to the compatibility of the two sex role inventories.

Summary of Data Analysis

In summary, the findings have been related to the original four questions presented in Chapter 1 under the Statement of Purpose.

(1) What is the ratio of androgynous to masculine-typed to feminine-typed to undifferentiated nurses? For the entire sample ($n = 211$), there were 42.18% ($n = 89$) androgynous nurses, 24.17% ($n = 51$) masculine-typed, 20.85% ($n = 44$) feminine-typed, and 12.80% ($n = 27$) undifferentiated nurses. This distribution was not consistent with the public image of the nurse in the traditional feminine sex role stereotype.

(2) What is the ratio of androgynous to non-androgynous nurses with regard to position in nursing and rural-urban location? These results have been listed in the following table.

Table 28
Position in Nursing by Sex Role Identity

	Staff Nurse	Educator	Administrator	Totals
Undifferentiated	9 (11.39%)	13 (17.57%)	5 (8.63%)	27
Feminine	30 (27.97%)	8 (10.81%)	6 (10.34%)	44
Masculine	16 (20.25%)	17 (22.97%)	18 (31.03%)	51
Androgynous	24 (30.39%)	36 (48.65%)	29 (50%)	89
Totals	79	74	58	211
				$n = 211$

There were significant differences among staff nurses' sex role identity scores and the educators' and administrators' scores. The educators' and administrators' scores were not significantly different however. Educator and administrator groups both had higher percentages of masculine and androgynous individuals than did the staff nurse sample.

Table 29

Rural-Urban Location by Sex Role Identity

	Montana	Minneapolis	Totals
Undifferentiated	18 (16.22%)	9 (9%)	27
Feminine	22 (19.82%)	22 (22%)	44
Masculine	26 (23.42%)	25 (25%)	51
Androgynous	45 (40.54%)	44 (44%)	89
Totals	111	100	211
			n = 211

There were no significant differences found between the rural-urban populations with regard to sex role identity. The breakdown of the sex role categories by rural-urban locations has been listed in Table 29.

(3) What demographic variables (age, education, sex) are correlated with the sex role categories?

Demographic data that were found to differ significantly for the four sex role categories included only type of job held. Highest degree and full-time/part-time employment were both found to differ significantly with the Bem masculinity scores. The more educated and also the full-time respondents endorsed more masculinity than did their counterparts. Age did not reach significance, but a trend was noted that as age increased so did the percentages of masculine and androgynous individuals. There were not enough male subjects ($n = 7$) to test for differences between sexes.

(4) What correlations exist between sex role identity and professional role perception?

There was no significant relationship found between the nurses' sex role identity and their perceptions of the ideal nurse. There was, however, a positive relationship between the masculinity scores for a respondent and the masculinity scores for the ideal nurse. In other words, as a respondent endorsed more masculinity, the respondent also endorsed more masculinity for the ideal nurse. Again, masculinity scores of individuals seemed to have influenced their perceptions of the masculinity endorsement for the ideal nurse.

CHAPTER 5

DISCUSSION

Summary and Conclusions

The purpose of this study was to examine the sex role identities of a relatively large sample of practicing registered nurses and also, to investigate any possible relationships among nurses' sex role identities and position in nursing, rural-urban location, demographic data, and nurses' professional role perceptions. This descriptive study has implications for nurses, who are often faced with role conflicts surrounding differing expectations of the nurse.

Review of the literature suggested that the nurse has been seen by the public as a dependent, submissive, handmaiden to the physician (traditional feminine sex role stereotype). Historically, the nurse has been envisioned on one hand as a pure, white, religiously-oriented female, while on the other hand, the nurse has been portrayed as an immoral, lower class prostitute. Physicians and hospital administrators have worked very hard politically, economically, and legally to keep nurses in a dependent and passive role. The nursing profession, however, has described nurses as independent practitioners who possess leadership abilities, assertiveness, high level intellectual functioning, and career commitment (masculine sex role stereotype), as well as warm, nurturant, and caring qualities (feminine sex role stereotype). Understandably, the role of the nurse has often been unclear due to these

differing expectations and consequently, nurses have experienced role conflicts. How nurses view their own sex roles and their professional role perception have not been addressed adequately in the literature. A few studies have dealt with nursing student's sex role identities, but only a pilot study was found that dealt with practicing registered nurses and their sex role identities.

This descriptive study explored practicing registered nurses' sex roles and their perceptions of the ideal nurse's sex role identity. Also, various other variables such as position, rural-urban location and demographic data were explored as to their relationship to sex role identity. The author was particularly interested in differences in sex role identities among staff nurses, educators, and administrators.

The underlying conceptual framework for this study was based on role theory in which roles represented patterns of expected behavior learned through interactions with others. An individual's sex role has been one of the earliest learned and most influential roles of a person's many roles. Traditional masculine characteristics have included assertiveness, independence, aggressiveness, and intelligence whereas traditional feminine characteristics have included nurturance, dependency, submissiveness, emotionality, and passivity. In the late 1960's investigators began questioning the concepts of masculinity and femininity as dichotomous and mutually exclusive. The idea that an individual could possess both warm, nurturant qualities, as well as assertive, intelligence qualities had not been previously investigated.

The concept of androgyny, or the endorsement of both masculine and feminine traits was developed and investigated. Studies have since suggested that those individuals who have been categorized as androgynous had higher self esteem, were more adaptable, and had stronger ego identities. The concept of androgyny in relationship to nurses was explored in this study along with an investigation of variables that might have an influence on sex role identity.

The methodology of the study included a mailed questionnaire comprised of two established sex role inventories interspersed with demographic questions. The Bem Sex Role Inventory, the first questionnaire used, consisted of 60 characteristics, each on a seven point Likert scale. Respondents were instructed to rate each item according to how it described themselves. The demographic questions were followed next by a version of the Personal Attribute Questionnaire, the second sex role inventory. On this inventory, respondents were asked to rate the 41 Likert-scale characteristics for the ideal nurse. On both inventories, masculinity and femininity mean scores were calculated and from these scores, respondents were assigned one of four sex role categories: undifferentiated (low masculinity and low femininity); feminine (low masculinity and high femininity); masculine (high masculinity and low femininity); or androgynous (high masculinity and high femininity). Thus, each respondent received two sex role identity assignments; one representing self description and the other representing

their conceptualization of the ideal nurse. These self descriptive sex role identities and the ideal nurse's sex role identities were compared along with demographic data.

Questionnaires were sent to 320 registered nurses from six different populations which included rural staff nurses, urban staff nurses, rural educators, urban educators, rural administrators, and urban administrators. The rural area included all of Montana while the urban area was comprised of Minneapolis and surrounding suburbs. Random samples of nurses were selected from each of the six groups. Of the 320 questionnaires sent, 214 were returned and 211 were ultimately used for data analysis.

The four categories of sex role identities for the nurses sampled included 12.80% undifferentiated, 20.85% feminine, 24.17% masculine, and 42.18% androgynous. Interestingly, 66.35% or two-thirds of the sample were either masculine-typed or androgynous which has not been consistent with the public image of the nurse as highly feminine.

Among the staff nurse, educator, and administrator groups, there were significant differences in both their masculinity mean scores and their sex role identities. More specifically, educators and administrators both endorsed more masculine traits and had higher percentages of masculine and androgynous individuals in their groups than did the staff nurse group. Results for the sex role identities between the educator and administrator groups were not significantly

different. Whether the educators and administrators endorsed more masculinity traits due to their positions or whether they were chosen for their positions due to these traits could be a question for future research. Other variables that may have influenced the relationship of sex role identity and position are education and age.

Type of job and sex role identity were also found to be significant. The masculinity scores and percentages of masculine and androgynous individuals increased in the following order (from low to high): staff nurse; head nurse; practitioner; supervisor; educator; and director of nursing. Nurses in these categories endorsed more masculinity as their jobs entailed more responsibility and authority.

The rural-urban populations did not differ significantly on sex role identities, demographic data or their professional role perception. These data have suggested homogeneity between the two populations and have lended support to the randomness of the samples. One interesting difference between the rural-urban nurse populations was that rural nurses did work and/or teach in more clinical areas at one time than did urban nurses. With smaller hsopitals and less specialization in rural areas, it has not been surprising that the rural nurse must be flexible and capable in several clinical areas.

Demographic data which were found to differ significantly with different sex role identities included highest degree, full or part-time employment, and type of job (discussed above). The more education the nurses had, the higher their masculinity scores were. This finding

seemed empirically logical as higher education beyond the baccalaureate level has often been centered around self direction, independence, and the development of leadership abilities which have all been traditional masculine sex role stereotyped characteristics. Also, the attainment of higher education has always been more socially acceptable for men than for women. Thus women who have sought higher education have probably not been as likely to endorse traditional feminine roles.

Full or part-time employment was also a factor that differed significantly with masculinity scores. Full-time nurses had higher masculine scores than did part-time nurses. A variable that may have influenced higher masculinity scores was that nurses in the administrator group and educator group were almost all full-time.

The age groups and sex role identity did not differ significantly but there appeared to be a trend of increasing percentages of masculine and androgynous individuals combined as age increased except for the oldest group in which the percentages dropped some. Whether this drop was due to socialization, developmental stage, increased needs, or other factors is unknown. A longitudinal study of the entire sample over 10 to 20 years would very interesting to see what changes, if any, would be made in the individual's sex role identity, position in nursing, and professional role perception.

There was no significant correlation established between the nurses' own sex role identities and their perception of the ideal nurse's sex role identity. Such a large percentage of the population sampled rated

the ideal nurse as androgynous (79.10%) that it was no wonder that there was a difference in the two groups. This finding may suggest that the nursing profession has been successful in portraying the role of the nurse as both expressive and instrumental (androgynous) to nurses, but that the nurse's own sex role identity has not quite reached that point, although 42.18% of the sample viewed themselves as androgynous.

In summary, the results of this study should be encouraging to nursing. The public image of the highly feminine nurse did not hold true for this sample. Over 42% of the nurses saw themselves as androgynous while another 24% rated themselves as masculine. As nurses sampled held jobs entailing more responsibility and authority such as administrator or educator positions, there were greater percentages of androgynous individuals in those groups than in staff nurse groups. This finding indicates that the profession has indeed been choosing or developing individuals for positions of authority and power consistent with the concept of the androgynous nurse. It has been those nurses in positions as administrators and educators who serve as the role models for nurses and future nurses.

Limitations

Limitations of the study included first of all, the limitations imposed by any mailed questionnaire. These limitations included lower response rate, no opportunity to clarify questions, more superficial data, no control over order in which questions were answered, and no

assurance that the respondent was the actual intended participant.

For this particular study the response rate was 66.88%, thus response bias was not really an issue. Clarifying questions and the order in which items were answered was out of the author's control, but the questionnaires were consistently answered appropriately with minimal missing data. The author did encounter the problem of several questionnaires being completed by a nurse other than the nurse to whom the questionnaire was originally sent. These particular questionnaires were placed into whatever group was appropriate as determined by type of job response and then coded and analyzed with the other data.

The descriptive nature of the study allowed the author to collect a large amount of data concerning a relatively large sample of nurses. In turn, this large amount of data was analyzed in order to obtain results about certain characteristics of that sample. The distribution of groups, ages, sex, and other demographic data have suggested that the samples were representative of the populations they were drawn from.

The limitations of any descriptive study have included lack of experimental controls and thus the inability to infer cause-effect relationships. This study was not designed, however, to infer cause and effect but rather to explore characteristics of the population and what relationships, if any, might exist among these characteristics.

One limitation the author had questioned was the conceptual framework underlying the Personal Attribute Questionnaire. Spence, et al.,

(1975) contended that the male-valued and female-valued items in the questionnaire were logically independent. It is true that a respondent could score high, low, or differently on the masculinity and femininity scales but the male and female-valued items were taken from a traditional bipolar sex role scale with masculinity and femininity on the same continuum. Even though the sex-valued items conceptually represented a positive attribute that was more characteristic of one of the sexes, the opposite pole was originally seen as characteristic for the other sex. The independence issue was not completely clear in this questionnaire.

There were a few comments by respondents also concerning the difficulty in rating the ideal nurse on the PAQ. Specific comments concerned:

- (1) Nurses' roles have been so diversified that there is no one ideal type;
- (2) Specific items were objectionable in reference to the ideal nurse; e.g., interested in sex, good at sports, and enjoys art and music; and
- (3) Some items were difficult to respond to as the response was dependent upon the situation.

The results of the Personal Attribute Questionnaire for the ideal nurse were very close to the results of an earlier study of the ideal nurse (Minnegrode, et al., 1978) which utilized the short form of the PAQ. This has suggested reliability of the results.

Nonparametric statistics were utilized for this study due to the descriptive nature of the research and also to be consistent with the median split scoring method for both the BSRI and PAQ. Nonparametric statistics make no assumptions about the distribution of the sample and are appropriate for ordinal and nominal data. They have, however, not been as powerful or efficient as parametric statistics. This power or efficiency was not necessarily needed when cause and effect were not the issues but rather the issue was whether there was a relationship present. For this reason, nonparametric statistics were more appropriate.

Implications and Recommendations

The implications of sex role identity for nursing have been great. Results from this study have suggested that nurses see themselves and the ideal nurse much differently than the public, physicians, and hospital administrators see nurses. This difference in the image of the nurse may cause serious role conflicts as the nurse often must deal with many differing expectations, including those from physicians, clients, employers, and the nurses' own expectations of the role of the nurse in the health care delivery system.

The knowledge base from this study could be utilized to conduct further research to:

- (1) explore what factors actually do influence sex role identity;
- (2) investigate the same population over the next twenty years (longitudinal study) to determine how sex role identity varies with

increasing age, changes in position, etc.;

(3) study methods to help nurses deal with role conflicts encountered professionally;

(4) explore methods to promote the public image of the nurse as androgynous; and

(5) replicate the study with another large sample of nurses to validate these findings.

Few reported studies have dealt with sex role identity and practicing registered nurses. The concept of androgyny, or the blending of both masculine and feminine traits, seems to be consistent with the profession's perception of the nurses' role and the results of this study have supported this perception with over 42% of the nurses sampled rating themselves as androgynous and over 78% rating the ideal nurse as androgynous.

APPENDICES

APPENDIX A

COVER LETTER TO REGISTERED NURSES REQUESTING PARTICIPATION IN STUDY

Dear Registered Nurse:

I am writing to ask you to participate in a study of sex role identity in nursing. Today's nurse is faced with differing role expectations from the profession, the public and from other health professionals. As nurses have expanded their roles to include practitioners, clinical specialists, researchers, patient advocates, etc., there has been a great deal of confusion surrounding the role of the nurse. Some of this confusion is embedded in the historical relationship of nursing with the traditional female sex role. This study will investigate how nurses today view themselves in terms of sex roles and also how nurses envision the ideal nurse.

Enclosed you will find a questionnaire asking you to rate yourself and the ideal nurse against a number of psychological characteristics. There are also some questions requesting general demographic information. I think you will find the questionnaire interesting and easy to answer. The information will be used in the completion of a study of nurses' sex role identities for my graduate thesis. Your participation in this study will be greatly appreciated and will ultimately contribute to a growing body of knowledge about the role of the nurse in today's health care delivery system.

Your participation is voluntary and all answers will remain confidential and anonymous. The answers will be analyzed for the entire group of nurses who are being asked to participate, and individuals will not be identifiable.

If you are willing to participate in this study, please fill out the questionnaire and return it as soon as possible (by June 1) in the self-addressed, stamped envelope. If you would like to receive an abstract of the study's findings, please enclose your name and address or send me a postcard. Please feel free to contact me if you have any questions. Thank you for your help.

Sincerely,

Bonnie McMillin, RN
Montana State University
Graduate Student
410 South 12th
Bozeman, MT 59715

Enclosure

APPENDIX B

MAILED QUESTIONNAIRE

BEM SEX ROLE INVENTORY

by Sandra L. Bem, Ph.D

Below you will find listed a number of personality characteristics. I would like you to use those characteristics to describe yourself, that is, I would like you to indicate, on a scale from 1 to 7, how true of you each of these characteristics is. Please do not leave any characteristic unmarked.

Example: sly

Write a 4 if it is occasionally true that you are sly.

Sly	4
-----	---

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

*

Defend my own beliefs	Adaptable	Flatterable
Affectionate	Dominant	Theatrical
Conscientious	Tender	Self-sufficient
Independent	Conceited	Loyal
Sympathetic	Willing to take a stand	Happy
Moody	Love children	Individualistic
Assertive	Tactful	Soft-spoken
Sensitive to needs of others	Aggressive	Unpredictable
Reliable	Gentle	Masculine
Strong personality	Conventional	Gullible
Understanding	Self-reliant	Solemn
Jealous	Yielding	Competitive
Forceful	Helpful	Childlike
Compassionate	Athletic	Likable
Truthful	Cheerful	Ambitious
Have leadership abilities	Unsystematic	Do not use harsh language
Eager to soothe hurt feelings	Analytical	Sincere
Secretive	Shy	Act as a leader
Willing to take risks	Inefficient	Feminine
Warm	Make decisions easily	Friendly

Demographic Information

61. Age _____
62. Sex
 Female _____
 Male _____
63. Birth Order
 Youngest _____
 Middle child _____
 Oldest _____
 Only child _____
64. Basic Nursing Education
 Diploma _____
 Associate _____
 Baccalaureate _____
65. Highest Degree Obtained
 Baccalaureate _____
 Practitioner _____
 Masters _____
 PhD _____
 Other _____ (please explain)

66. Employment
 Full time _____
 Part time _____ (if part time, how
 many hours/week _____)
 Unemployed _____
67. Place of Employment
 Hospital _____
 Clinic _____
 School _____
 Community Health _____
 School of Nursing _____
68. Clinical Area of Employment/
 Teaching
 Medical _____
 Surgical _____
 Pediatrics _____
 Obstetrics _____
 Psychiatry _____
 Community Health _____
 ICU/CCU _____
 Emergency _____
 Ambulatory Care _____
 Geriatrics _____
 Other _____ (please explain)

69. Type of Position
 Staff Nurse _____
 Head Nurse _____
 Supervisor _____
 Director of Nursing _____
 How many RNs under your
 employ _____
 Clinical Practitioner _____
 Nursing Instructor _____
 School of Nursing _____
 Inservice _____
70. Marital Status
 Single _____
 Married _____
 Divorced _____
 Widow/Widower _____
- Physician's Office _____
 Independent Nursing Practice _____
 Other _____ (please explain)

THE PERSONAL ATTRIBUTES QUESTIONNAIRE

by Janet Spence, Robert Helmreich, & Joy Stapp

On the following pages are a series of 5-point scales which describe a variety of psychological characteristics. For each one, you are to rate the ideal nurse. For example, how artistic is the ideal nurse? On the scale below very artistic is indicated at the far right and not at all artistic is at the far left. If you think the ideal nurse is moderately artistic you might answer 4.

Not at all artistic 1 2 3 4 5 Very artistic

Ideal Nurse

For each scale, select the number on the scale that best describes your perceptions of the ideal nurse and indicate it in the appropriate column beside the item number. Please be sure to answer every item.

Ideal will be defined here as those characteristics that you feel are most desirable for a nurse to possess.

71. Not at all independent 1 2 3 4 5 Very independent
72. Very passive 1 2 3 4 5 Very active
73. Does not hide emotions 1 2 3 4 5 Almost always
at all hides emotions
74. Not at all considerate 1 2 3 4 5 Very considerate
75. Not at all easily 1 2 3 4 5 Very easily influenced
influenced
76. Very ungrateful 1 2 3 4 5 Very grateful
77. Poor at sports 1 2 3 4 5 Good at sports
78. Not at all excitable 1 2 3 4 5 Very excitable in
in a minor crisis a minor crisis
79. Not at all emotional 1 2 3 4 5 Very emotional

[illegible]

80. Not at all able to devote self completely to others 1 2 3 4 5 Able to devote self completely to others
81. Very blunt 1 2 3 4 5 Very tactful
82. Weak conscience 1 2 3 4 5 Very strong conscience
83. Very rough 1 2 3 4 5 Very gentle
84. Not at all helpful to others 1 2 3 4 5 Very helpful to others
85. Not at all competitive 1 2 3 4 5 Very competitive
86. Not at all skilled in business 1 2 3 4 5 Very skilled in business
87. Knows the way of the world 1 2 3 4 5 Does not know the way of the world
88. Not at all kind 1 2 3 4 5 Very kind
89. Not at all adventurous 1 2 3 4 5 Very adventurous
90. Not at all aware of feelings of others 1 2 3 4 5 Very aware of feelings of others
91. Not at all outspoken 1 2 3 4 5 Very outspoken
92. Not at all interested in sex 1 2 3 4 5 Very interested in sex
93. Can make decisions easily 1 2 3 4 5 Has difficulty making decisions
94. Gives up very easily 1 2 3 4 5 Never gives up easily
95. Very shy 1 2 3 4 5 Very outgoing
96. Almost never acts as a leader 1 2 3 4 5 Almost always acts as a leader

[illegible]

	Ideal Nurse
97. Very neat in habits <u>1 2 3 4 5</u> Very sloppy in habits	
98. Not at all intellectual <u>1 2 3 4 5</u> Very intellectual	
99. Not at all self-confident <u>1 2 3 4 5</u> Very self-confident	
100. Feels very inferior <u>1 2 3 4 5</u> Feels very superior	
101. Not at all creative <u>1 2 3 4 5</u> Very creative	
102. Always takes a stand <u>1 2 3 4 5</u> Never takes a stand	
103. Not at all understanding of others <u>1 2 3 4 5</u> Very understanding of others	
104. Very cold in relations with others <u>1 2 3 4 5</u> Very warm in relations with others	
105. Not at all ambitious <u>1 2 3 4 5</u> Very ambitious	
106. Dislikes children <u>1 2 3 4 5</u> Likes children	
107. Does not enjoy art and music at all <u>1 2 3 4 5</u> Enjoys art and music very much	
108. Easily expresses tender feelings <u>1 2 3 4 5</u> Does not express tender feelings at all	
109. Goes to pieces under pressure <u>1 2 3 4 5</u> Stands up well under pressure	
110. Retiring <u>1 2 3 4 5</u> Forward	
111. Not at all timid <u>1 2 3 4 5</u> Very timid	

COMMENTS:

APPENDIX C

LETTER REQUESTING PERMISSION TO USE BEM SEX ROLE INVENTORY

Sandra L. Bem
Department of Psychology
Uris Hall
Cornell, University
Ithaca, New York 14853

December 10, 1980

Dear Ms. Bem:

I am a graduate student in nursing at Montana State University and am doing research in the area of sex role identity of nurses. I would be very interested in obtaining the manual for the Bem Sex Role Inventory and permission to use the tool in my research.

Thank you for your time and consideration.

Sincerely,

Bonnie McMillin, RN, BSN

Bonnie McMillin, RN, BSN
410 South 12th
Bozeman, MT 59715

APPENDIX D

RESPONSE REGARDING PERMISSION TO USE BEM SEX ROLE INVENTORY

Response to the request for the BSRI and permission to use was obtained by purchasing the manual from the Consulting Psychologists Press, 577 College Avenue, Palo Alto, California 94306. The author was directed to this source by a reply from Sandra Bem that the manual and questionnaire could be purchased from the above-mentioned company.

APPENDIX E

LETTER REQUESTING PERMISSION TO USE PERSONAL ATTRIBUTE QUESTIONNAIRE

Janet Spence
Department of Psychology
University of Texas at Austin
Austin, Texas 78712

December 10, 1980

Dear Ms. Spence:

I am a graduate student in nursing at Montana State University and am doing research in the area of sex role identity of nurses. I would be very interested in obtaining the manual for the Personal Attribute Questionnaire and permission to use the tool in my research.

Thank you for your time and consideration.

Sincerely,

Bonnie McMillin, RN, BSN

Bonnie McMillin, RN, BSN
410 South 12th
Bozeman, MT 59715

APPENDIX F

RESPONSE REGARDING PERMISSION TO USE PERSONAL ATTRIBUTE QUESTIONNAIRE

Janet Spence responded to the author's letter of request by sending the Personal Attribute Questionnaire manual. No letter accompanied this material.

APPENDIX G

MASCULINE, FEMININE, & SOCIAL DESIRABILITY SCALE ITEMS OF
THE BEM SEX ROLE INVENTORYMasculine Scale Items

Acts as a leader	Has leadership abilities
Aggressive	Independent
Ambitious	Individualistic
Analytical	Makes decisions easily
Assertive	Masculine
Athletic	Self-reliant
Competitive	Self-sufficient
Defends own beliefs	Strong personality
Dominant	Willing to take a stand
Forceful	Willing to take risks

Feminine Scale Items

Affectionate	Loves children
Cheerful	Loyal
Childlike	Sensitive to the needs of others
Compassionate	Shy
Does not use harsh language	Soft-spoken
Eager to soothe hurt feelings	Sympathetic
Feminine	Tender
Flatterable	Understanding
Gentle	Warm
Gullible	Yielding

Social Desirability Items

Adaptable	Conceited
Conscientious	Conventional
Friendly	Inefficient
Happy	Jealous
Helpful	Moody
Likable	Secretive
Reliable	Solemn
Sincere	Theatrical
Tactful	Unpredictable
Truthful	Unsystematic

APPENDIX H

SEX VALUED ITEMS OF THE PERSONAL ATTRIBUTE QUESTIONNAIRE

Male Valued (n = 23)

Independent
Not easily influenced
Good at sports
Not excitable, minor crisis
Active
Competitive
Skilled in business
Knows ways of world
Adventurous
Outspoken
Interested in sex
Makes decisions easily

Not give up easily
Outgoing
Acts as a leader
Intellectual
Self confident
Feels superior
Takes a stand
Ambitious
Stands up under pressure
Forward
Not timid

Female Valued (n = 18)

Emotional
Not hide emotions
Considerate
Grateful
Devotes self to others
Tactful
Strong conscience
Gentle
Helpful to others

Kind
Aware, others feelings
Neat
Creative
Understanding
Likes children
Warm to others
Enjoys art & music
Expresses tender feelings

APPENDIX I

MEAN SCORES AND SEX ROLE CLASSIFICATIONS OF PILOT STUDY PARTICIPANTS

Self Ratings (BSRI)				Ideal Nurse Ratings (PAQ)		
	Masculinity	Femininity	Sex Role	Masculinity	Femininity	Sex Role
1.	5.30	4.55	3 *	4.39	4.48	4
2.	4.35	5.45	2	4.39	4.70	4
3.	5.20	5.30	4	4.22	3.74	3
4.	5.20	4.10	3	4.39	4.26	4
5.	5.95	4.75	3	4.56	4.04	4
6.	4.50	4.50	1	4.06	3.83	3
7.	4.85	4.40	1	4.22	4.39	4
8.	4.65	5.55	2	4.56	4.35	4
9.	4.90	5.05	2	3.78	3.74	3
10.	6.00	4.50	3	3.61	4.39	4

*Undifferentiated = 1

Feminine = 2

Masculine = 3

Androgynous = 4

APPENDIX J

RANKING OF MEANS OF INDIVIDUAL ITEMS OF BEM SEX ROLE INVENTORY

Variable Number		Variable	Mean
1.	9	Reliable	6.59
2.	15	Truthful	6.44
3.	3	Conscientious	6.43
4.	57	Sincere	6.20
5.	44	Loyal (f)	6.18
6.	31	Self-reliant (m)	6.13
7.	4	Independent (m)	6.07
8.	60	Friendly	6.02
9.	43	Self sufficient (m)	5.99
10.	26	Loves children (f)	5.98
11.	1	Defends own beliefs (m)	5.97
12.	33	Helpful	5.90
13.	16	Leadership abilities (m)	5.89
14.	11	Understanding (f)	5.89
15.	45	Happy	5.87
16.	8	Sensitive to needs of others (f)	5.86
17.	21	Adaptable	5.79
18.	10	Strong personality (m)	5.75

Variable Number		Variable	Mean
19.	35	Cheerful (f)	5.75
20.	5	Sympathetic (f)	5.74
21.	14	Compassionate (f)	5.72
22.	59	Feminine (f)	5.72
23.	58	Acts as a leader (m)	5.72
24.	25	Willing to take a stand (m)	5.69
25.	46	Individualistic (m)	5.63
26.	20	Warm(f)	5.59
27.	55	Ambitious (m)	5.57
28.	27	Tactful	5.55
29.	2	Affectionate (f)	5.52
30.	29	Gentle (f)	5.50
31.	54	Likable	5.48
32.	17	Eager to sooth hurt feelings (f)	5.42
33.	40	Makes decisions easily (m)	5.37
34.	7	Assertive (m)	5.23
35.	23	Tender (f)	5.21
36.	37	Analytical (m)	5.08
37.	19	Willing to take risks (m)	4.98
38.	52	Competitive (m)	4.71
39.	56	Do not use harsh language (f)	4.70

Variable Number		Variable	Mean
40.	47	Soft spoken (f)	4.70
41.	30	Conventional	4.70
42.	22	Dominant (m)	4.59
43.	32	Yielding (f)	4.38
44.	13	Forceful (m)	4.35
45.	34	Athletic (m)	4.16
46.	28	Aggressive (m)	4.04
47.	41	Flatterable (f)	3.94
48.	38	Shy (f)	3.13
49.	51	Solemn	3.10
50.	6	Moody	3.01
51.	18	Secretive	2.99
52.	36	Unsystematic	2.82
53.	12	Jealous	2.82
54.	48	Unpredictable	2.75
55.	50	Gullible (f)	2.67
56.	42	Theatrical	2.61
57.	24	Conceited	2.56
58.	39	Inefficient	2.32
59.	53	Childlike (f)	2.19
60.	49	Masculine (m)	2.05

APPENDIX K

PREVIOUS INVESTIGATIONS CONCERNING CHARACTERISTICS OF NURSES

Investigators	Gynther & Gertz	Aldag & Christenson	Smith	Muhlekamp & Parsons
Year	1960	1967	1968	Review of nursing characteristics 1960-70
Population	Student nurses	Student nurses	Student nurses	Student nurses Graduate nurses Professional nurses
Test Used	EPPS ¹	MMPI ²	EPPS ¹ AVL Study of Values ³	Variety of tests
High Scores or Attributes Characteristic of Nurses	Orderliness, endurance	Responsible-generous, dependent, passive	Concern for general welfare of mankind, desire to help others, dependency	Nurturance, choice of a helping role, submissiveness, dependency, high religious values
Low Scores or Attributes not Characteristic of Nurses	Leadership, freedom from restriction, autonomy, change	Aggressive, rebellious		Low economic values, dominance, autonomy, achievement

¹ EPPS, Edwards Personal Preference Scale

² MMPI, Minnesota Multiphasic Personality Inventory

³ AVL Study of Values, Allport-Vernon-Lindzey Study of Values

APPENDIX L

MASCULINITY AND FEMININITY MEANS OF BEM SEX ROLE INVENTORY

	Masculinity Means	Femininity Means
Entire Sample	4.67	4.52
Montana	4.67	4.48
Minneapolis	4.68	4.57
Staff Nurse	4.44	4.61
Montana Staff Nurse	4.38	4.53
Minneapolis Staff Nurses	4.51	4.69
Educators	4.74	4.48
Montana Educators	4.79	4.47
Minneapolis Educators	4.67	4.50
Administrators	4.91	4.47
Montana Administrators	4.93	4.44
Minneapolis Administrators	4.90	4.48

APPENDIX M

SEX ROLE CATEGORIES OF SELF-BEM SEX ROLE INVENTORY

Groups	Undifferentiated	Feminine	Masculine	Androgynous
Entire Sample	27 (12.80%)*	44 (20.85%)	51 (24.17%)	89 (42.18%)
Montana	18 (16.22%)	22 (19.82%)	26 (23.42%)	45 (40.54%)
Minneapolis	9 (9%)	22 (22%)	25 (25%)	44 (44%)
Staff Nurses	9 (11.39%)	30 (37.97%)	16 (20.25%)	24 (30.39%)
Montana	7 (17.50%)	17 (42.50%)	9 (22.50%)	7 (17.50%)
Minneapolis	2 (5.13%)	13 (33.33%)	7 (17.95%)	17 (43.59%)
Educators	13 (17.57%)	8 (10.81%)	17 (22.97%)	36 (48.65%)
Montana	8 (18.18%)	2 (4.55%)	9 (20.45%)	25 (56.82%)
Minneapolis	5 (16.66%)	6 (20%)	8 (26.67%)	11 (36.67%)
Administrators	5 (8.63%)	6 (10.34%)	18 (31.03%)	29 (50%)
Montana	3 (11.11%)	3 (11.11%)	8 (29.63%)	13 (48.15%)
Minneapolis	2 (6.45%)	3 (9.68%)	10 (32.26%)	16 (51.61%)
* Row percents	n = 211			

APPENDIX N

RANKING OF INDIVIDUAL ITEM MEANS OF THE
PERSONAL ATTRIBUTE QUESTIONNAIRE FOR IDEAL NURSE

	Variable Number	Variable	Mean
1.	90	Aware of feelings of others (f)	4.77
2.	109	Stands up under pressure (m)	4.74
3.	103	Understanding of others (f)	4.65
4.	74	Considerate (f)	4.61
5.	82	Strong conscience (f)	4.61
6.	88	Kind (f)	4.56
7.	84	Helpful to others (f)	4.54
8.	104	Warm in relations with others (f)	4.50
9.	99	Self confident (m)	4.49
10.	81	Tactful (f)	4.39
11.	72	Active (m)	4.38
12.	93	Makes decisions easily (m)	4.32
13.	78	Not excitable in a minor crisis	4.32
14.	83	Gentle (f)	4.30
15.	71	Independent (m)	4.26
16.	97	Neat (f)	4.24
17.	96	Acts as a leader (m)	4.23
18.	111	Not timid (m)	4.16

Variable Number		Variable	Mean
19.	105	Ambitious (m)	4.15
20.	94	Not give up easily (m)	4.15
21.	101	Creative (f)	4.14
22.	98	Intellectual (m)	4.12
23.	106	Likes children (f)	4.10
24.	89	Adventurous (m)	3.99
25.	95	Outgoing (m)	3.95
26.	110	Forward (m)	3.85
27.	108	Expresses tender feelings (f)	3.84
28.	86	Skilled in business (m)	3.80
29.	76	Grateful (f)	3.75
30.	102	Takes a stand (m)	3.71
31.	107	Enjoys art and music (f)	3.70
32.	85	Competitive (m)	3.67
33.	91	Outspoken (m)	3.56
34.	92	Interested in sex (m)	3.53
35.	80	Devotes self to others (f)	3.46
36.	75	Not easily influenced (m)	3.43
37.	100	Feels superior (m)	3.43
38.	87	Knows way of the world (m)	3.41
39.	77	Good at sports (m)	3.33

Variable Number		Variable	Mean
40.	73	Not hides emotions (f)	3.07
41.	79	Emotional (f)	3.05

APPENDIX O

COMPARISON OF MEANS & RANKINGS OF IDEAL NURSE CHARACTERISTICS OF
STUDY WITH MINNEGRODE, et al., 1978 STUDY

Characteristic	This Study-1981		Minnegrode et al. Study-1978	
	Mean	Rank	Mean	Rank
Aware of others' feelings (f)	4.77	1	4.74	2
Stands up under pressure (m)	4.74	2	4.58	7
Understanding (f)	4.65	3	4.65	3
Kind (f)	4.56	4	4.64	4
Helpful (f)	4.54	5	4.75	1
Warm (f)	4.50	6	4.64	5
Self confident (m)	4.49	7	4.34	10
Active (m)	4.38	8	4.29	12
Makes decisions easily (m)	4.32	9	4.34	9
Not excitable in minor crisis (m)	4.32	10	3.97	14
Gentle (f)	4.30	11	4.31	11
Independent (m)	4.26	12	4.15	13
Never gives up easily (m)	4.15	13	4.39	8
Competitive (m)	3.67	15	3.80	15
Devotes self to others (f)	3.46	14	4.64	6
Feels superior (m)	3.43	16	3.30	16
Emotional (f)	3.05	17	2.74	17
Mann-Whitney U ($p > 0.10$)				

APPENDIX P

MASCULINITY AND FEMININITY MEANS FOR
IDEAL NURSE-PERSONAL ATTRIBUTE QUESTIONNAIRE

	Masculinity Mean Scores	Femininity Mean Scores
Entire Sample	3.39	3.77
Montana	3.38	3.76
Minneapolis	3.40	3.78
Staff Nurse	3.29	3.84
Montana	3.23	3.83
Minneapolis	3.36	3.85
Educator	3.51	3.73
Montana	3.57	3.73
Minneapolis	3.43	3.73
Administrator	3.36	3.72
Montana	3.30	3.69
Minneapolis	3.42	3.74
		n = 210

APPENDIX Q

SEX ROLE CATEGORIES OF IDEAL NURSE-PERSONAL ATTRIBUTE QUESTIONNAIRE

Groups	Undifferentiated	Feminine	Masculine	Androgynous
Entire Sample	13 (6.19%)*	12 (5.71%)	21 (10%)	164 (78.10%)
Montana	10 (9.09%)	6 (5.46%)	10 (9.09%)	84 (76.36%)
Minneapolis	3 (3%)	6 (6%)	11 (11%)	89 (80%)
Staff Nurse	3 (3.80%)	7 (8.86%)	6 (7.59%)	63 (79.75%)
Montana	3 (7.50%)	5 (12.50%)	3 (7.50%)	29 (72.50%)
Minneapolis	0 (0%)	2 (5.13%)	3 (7.69%)	34 (87.18%)
Educator	4 (5.41%)	3 (4.05%)	10 (13.51%)	57 (77.03%)
Montana	3 (6.82%)	1 (2.27%)	5 (11.36%)	35 (79.55%)
Minneapolis	1 (3.33%)	2 (6.67%)	5 (16.67%)	22 (73.33%)
Administrator	6 (10.53%)	2 (3.51%)	5 (8.77%)	44 (77.19%)
Montana	4 (15.38%)	0 (0%)	2 (7.69%)	20 (76.93%)
Minneapolis	2 (6.45%)	2 (6.45%)	3 (9.68%)	24 (77.42%)
*Row percents	n = 210			

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