A STUDY OF ROLE FUNCTIONS OF
SCHOOL NURSES

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ABSTRACT

This descriptive field survey dealt with the functional role of the school nurse. It was stimulated by the ambiguity surrounding the school nurse role. It was designed to define performance of school nurse functions in five categories: health appraisal, health intervention, health education, management responsibility, and professional growth. This study examined (1) the extent of uniqueness or duplication of performance, (2) the variance of performance according to certain personal or situational factors, and (3) the amount of patterned consistency in performance and the existence of sub-roles and role conflict.

The conceptual framework was based upon sociological role theory. A self-administered questionnaire was developed and used as the measurement tool. The sample consisted of 42 school nurses of whom 27 responded with completed questionnaires.

The findings of this study showed that school nurses performed a wide variety of functions with health intervention functions most unique and least duplicated. Age was the characteristic underlying most variations in performance with a negative correlation. In general, the school nurse role showed a large amount of consistency. Two sub-roles were found, but evidence of role conflict was lacking. The
analysis of data, along with two serendipitous findings, formed the basis for many recommendations for future study.
CHAPTER 1

INTRODUCTION

School nursing has been one of the fastest growing sub-specialties of nursing in the United States, according to Kepler (1973:29). Boards of education are the largest employers of school nurses. According to statistics from Facts About Nursing (1969:31), "18,645 registered nurses, or 38 per cent of the overall total of 48,742 nurses employed for public health work, were employed by boards of education." A more recent survey, reported in The Nation's Nurses (1974:7), showed 30,972 registered nurses, or 3.9 per cent of the nation's total, employed as school nurses. This figure included both school nurses hired by boards of education and those employed by boards of health.

The focus of this study will be the school nurse role and the performance of school nurse functions. More specifically, this study will look at the characteristics of the school nurse role, and examine selected functions performed by school nurses in carrying out that role.

Despite their growing importance, school nurses have failed to clearly define their role. Their functions, expertise, and educational background remain varied and ambiguous. The value of professional nurses within the
school setting is being questioned and reassessed in many places. Although the total number of school nurses has increased, some school nurses have found themselves being replaced by paraprofessionals. Others have been challenged to update and increase their educational background and to function in a new manner with expanded skills and expertise. However, the efforts to expand the role and functions of the school nurse have often been painful and controversial.

**Historical Development**

School nursing has been a professional entity since the early part of this century. It began as a reflection of the social fabric of the times, when Lillian Wald assigned one of her Henry Street nurses to the New York City schools, and has continued to be challenged by the forces of change. Early school health programs were designed to meet health problems encountered in schools when laws were enacted making school attendance compulsory, and included communicable disease control, detection and correction of serious physical defects, and attempts to decrease absenteeism through nurse intervention and follow-up.

Three traditional areas of school health: medical, educational, and environmental, form the basis for school health programs today (Goerke and Stebbins, 1968:373), although their specific components have been altered, modified, and broadened with the years. Modern school health
programs have assumed responsibility for improving, as well as protecting, the health of children, and the emphasis has gradually become one of prevention of illness, and promotion of optimum mental, physical, and social well-being.

**Traditional Role**

The role functions of the nurse within the school health program have also changed. However, the image of school nurses has often remained at a past level of performance. According to Oda (1974:592),

School nursing has . . . suffered from a historically derived stereotypical image— that of band-aider, attendance checker, communicable and unpleasant disease detector, and official caretaker of illness and injury in schools.

The traditional school nurse role, although reflected in this study only indirectly, has caused questions to be raised regarding the usefulness and effectiveness of the school nurse and the school nurse role. In a controversial article, Hawkins (1971:751) concluded,

A careful review of the situation might . . . bring leaders of the profession to the point of questioning the present validity of school nursing. For nurses to withdraw completely from school systems would entail no immediately apparent loss for either themselves or the schools. The profession could accommodate them elsewhere, and only minor vested interests would seem to be involved.

A more optimistic view is voiced by others within the school nursing field. They emphasize the opportunity for nurses to creatively define their own roles, as determined by their varying interests, backgrounds, and
individual job situations, without being restricted by rigid and circumscribed functions. According to Oda (1974:592):
"... innovative, imaginative nurses may perceive this ... situation to be an open opportunity to delineate, expand, and interpret the role with individuality."

However, whether positively or negatively viewed, the role of school nursing does lack definition for a variety of reasons. Nursing in a school is subordinate to teaching, and often practiced under the direction of those who have no background or interest in health, including some principals or even school boards.

The school nurse is an independent practitioner, isolated from other nurses and health professionals from whom she could draw support and learning. Because of her close association to teaching, she may form closer ties to education than to her own field. In some states, like New York, she is called a nurse-teacher, thus "diluting ... [her] nursing nature," according to Hawkins (1971:745).

The school nurse's attempts at professional duties are often thwarted. She is frequently assigned duties which have only a loose connection with health, such as filling out accident reports, selling milk at lunch, or taking sick children home in her car. According to her stereotype, she spends a majority of her time performing clerical work or first aid, jobs easily performed by others not possessing special training. In a 1966 study of school nurse
activities conducted by New York City's Medical and Health Research Association (Hawkins, 1971:746), it was reported that school nurses spent almost half their time in clerical and housekeeping duties.

The school nurse has had difficulty establishing her area of expertise on the health team (including psychologists, social workers, speech therapists, and so forth) because her capabilities are ill-defined and overlap into other professional areas, and because her education is sometimes regarded as technical, rather than professional. In a Massachusetts report, Liddle and Kroll (1969:n.p.) state:

We have sensed that nurses are often regarded as "second-class citizens" by other personnel. We believe this condition is due largely to the irregularly structured working relationships and the lack of regular supervision available to nurses. . . . Since three-fourths of the nurses have only hospital-oriented R.N. degrees, they typically need more orientation and inservice education than other groups if they are to function as full-fledged members of the pupil services team.

These difficulties and issues within the school nurse field originate, in part, from a poorly defined role and a stereotyped image rooted in the past.

Expanded Role

In response, school nursing has begun to develop new role definitions for itself, with expanded and extended functions, and more stringent educational requirements.
Murphy (1970:381-384) distinguished between role extension, a process adding technical functions, and role expansion, a multi-directional role change with new components, supportive knowledge, and a theoretical basis. School nursing has moved in both directions. The School Nurse Practitioner, from programs such as that offered at the University of Colorado, probably represents the full expanded role of school nursing at this time. However, school nurses already established in existing staff positions and programs have begun to augment their previous skills with both extended and expanded functions.

This study focused on a merger of these two aspects of the school nurse role and did not attempt to differentiate between those functions which are considered expanded, and those which might be regarded as only extended. Although there may be no clear delineation between some aspects of the traditional, versus the expanded, school nurse role, the literature indicated many school nurses are assuming a broader variety of functions within their scope of practice. This study will reflect the variety of functions which are currently performed.

The expanded school nurse role includes an increase in health assessment skills and health intervention skills, providing more specific primary care, as well as complete well-child care. It includes in-depth assessment of physical, medical, social, emotional, and learning needs.
It may include new types of screening programs, as well as new skills with medical instruments, backed by increased knowledge and ability to translate the findings into a nursing diagnosis.

This type of medical model may be attractive to many school nurses, and may be especially appropriate for geographic areas such as Massachusetts, which has enacted laws giving the schools responsibility for all children, including those with serious handicaps (Massachusetts General Laws Relating to Education, Chapter 766, 1970). Certainly, other nurses may wish to acquire and incorporate some of these functions into their practice. Macdonough (1972:481) emphasized the unique expertise that a school nurse can offer by stating, "In Arizona, a state with few metropolitan districts but many rural regions . . . she is one of the few medically oriented persons in a community."

Concurrently, some school nurses are moving away from the medical model toward an expanded role in health education and health counseling. Health education may include teaching health facts on a one-to-one basis, planning and presenting health units in the classroom, or assisting in the development of the health curriculum and selection of appropriate texts and materials.

The school nurse counseling role is an evolving concept. School nurses have always, and often, given advice regarding health problems. But counseling in the expanded
role describes a client-counselor relationship in which solution is sought for medical, emotional, or various adjustment problems. It may occur with individuals, families, or groups, with a variety of counseling techniques and theories, but always uses the intervention of the nurse in an in-depth therapeutic way.

The role of the school nurse as a manager or administrator of the health program within her school is being recognized. She may supervise aides, health clerks, or L.P.N.'s, who are envisioned as a supplement, not a replacement, for the school nurse, freeing her to assume new responsibilities. In a larger frame of reference, she may work with community agencies in planning new programs and establishing patterns of referral. She may participate in evaluation, both for herself and her programs, and in epidemiological research, to determine priorities for health needs among the school age child.

**Education and Experience**

With these expanded functions, the recommended preparation in both experience and education of school nurses has also changed. The traditional hospital-based training and work experience is no longer considered adequate, although many diploma prepared nurses are currently practicing school nursing. The booklet edited by Knotts (1974:10) for the American School Health Association
stated, "The first step in the preparation of the school nurse is the completion of a baccalaureate degree program in nursing, with an area of concentration in ambulatory health care and community health nursing." Coakley and Parker (1965:85-86) discussed implications of the Stobo Study which researched nursing faculty opinions on the academic preparation of school nurses. They state:

The results of studies thus far leave little doubt that the nurse in the school should have a baccalaureate degree in nursing. The traditional diploma program with its emphasis on the care of the sick and injured and the remedial aspects of health has never been adequate preparation for school nursing. As the dimensions of school nursing expanded beyond the concept of prevention of illness to include the many aspects related to the promotion of health, it became obvious that baccalaureate preparation with experience in public health nursing is the minimum educational requirement.

This position is also supported by the American Nurses Association and various state nurse associations. Saltarelli and Ventura (1973:20) cited the position of the A.N.A. when they reported the recommendation "that all school nurses have a baccalaureate degree in nursing which includes theory and clinical experience in public health nursing with emphasis on health maintenance and promotion of health rather than control of illness."

According to Kepler (1973:27), permanent certification as a nurse-teacher in the state of New York requires a master's degree or the equivalent. Currently in Arizona,
standards of experience and education for school nurses are being written in an effort to obtain school nurse certification.

Those who advocate certification of school nurses based on high educational requirements usually do so on the premise that similar education is required by the other professionals with whom the school nurse will work as part of the school health team, and that the expanded school nurse role requires a wide theoretical base of knowledge. Experience is valued on the basis that the school nurse is usually an independent practitioner, operating away from the direct supervision and support of others within the nursing profession. As such, she is often called upon to make professional judgments quickly and responsibly, usually drawing on her past judgment, knowledge, and experiences.

However, no research can be found to document differences in the practice of school nurses with these widely varying backgrounds and experiences. The exceptions are studies of graduates of the School Nurse Practitioner program, which are not included in this study.

**Review of the Literature**

School nursing has been the subject of many articles, speeches, and workshops, but little valid research regarding school nurses and their role can be found.
Marriner (1971:417), from the Clinical Nursing School, University of Texas at San Antonio, confirmed this when she stated, "A review of the literature indicates that school nurses are not usually asked what they believe their functions are." She described the findings of a pilot research study, a descriptive comparative survey, done to determine the perceived importance of functions being performed by school nurses, and how school nurses felt they should perform. They were also asked questions regarding their educational preparation, what basic educational preparation they recommended, and what type of courses would be most valuable.

Details of the survey and its administration, the sample size and location, and the exact data gathered were not reported. It was limited to "practicing nurses in one school system in a specific area" (Marriner, 1971:419) because of a limitation on time and funds.

One of the stated findings indicated that 80 percent of the school nurses surveyed did not feel their education prepared them for school nursing, the two exceptions being a nurse with a masters degree, and a nurse from a specialized school nurse program (Marriner, 1971:420). This study also indicated "that the higher the priority the school nurse rated an activity, the more likely she was to carry out that function" (Marriner, 1971:419), although most
school nurses in the sample felt more time was spent on records, reports, and first aid than was desirable.

According to Marriner (1971:419), school nurse functions listed according to perceived priority, and the opinions of the school nurses regarding their education, both past and future, could be used to evaluate and plan future educational programs for school nurses.

In another study, the school nurses of Edmonds School District, Lynnwood, Washington, were given a questionnaire (Berg et al., 1973:316) to help describe their role in terms of functions performed, functions shared with others, and functions performed but viewed as inappropriate for school nurses. Although no data from this study were reported, the analysis was stated to show "marked agreement between health-related tasks assessed as appropriate nursing functions and those being performed by a majority of nurses" (Berg et al., 1973:317). Another major finding was the reported sharing of many functions between school nurses, other school personnel, students, and parents. In conclusion, this study stated (Berg et al., 1973:317), "This broad participation by nurses and others in the health-related tasks contributed to difficulties in defining the nurse's role and caused the respondents to perceive that their work lacked unity and structure."

The lack of specific data makes the findings of this study difficult to evaluate. Additionally, no information
is given on whether testing for reliability or validity was done on the questionnaire, which was based upon *Standards for School Nurse Services* (1970). Personal experience in attempting to develop a questionnaire from the same document indicates that validity may be difficult or impossible to achieve without major modifications.

Barbour, Ager, and Sundell (1970:546-548) reported the findings of a Denver, Colorado, study designed to elicit feelings and opinions of 73 Denver school nurses regarding a possible expanded role, and the educational skills and training needed to fulfill this role. Details of the content and format of the questionnaire, and information regarding its development were not reported. However, the stated findings showed school nurses enthusiastic about an expanded role and that, indeed, many school nurses have "already instrumentally expanded their traditional role as school and community needs arose which they could accommodate" (Barbour et al., 1970:547). The study further concluded that the Denver school nurses saw themselves wearing "many hats" and their possible expanded role to be one of a "dynamic change agent striving for community 'wellness'" (Barbour et al., 1970:547-548).

The nurses were also reported to have some hesitancy regarding the development of an expanded role due to (1) restrictive policies and a traditional school nurse orientation on the part of school and community, (2) essential need
for addition of clerical or nursing assistants to relieve
the volume of routine duties, and (3) need for clinical and
classroom instruction in order to gain proficiency in new
skills (Barbour et al., 1970:547-548).

The variables of age and type of school assignment
seemed to have no effect on the respondents' answers. It
was reported that "variances . . . appear to be solely a
function of the individual personality of the nurse—of her
interests, frustrations, experiences, personal needs, and
of her orientation to her role in relation to school and
community" (Barbour et al., 1970:457).

Hawkins (1971:746-747) pinpoints the frustration of
school nurses regarding routine office duties when he cites
the findings of the Medical and Health Research Association.
This study found school nurses spending almost half their
time in those non-professional tasks, and less than 5 per
cent on "community contacts and health education combined"
(p. 747). Although Hawkins has highlighted an area of
concern to many school nurses, it would have been valuable
to have known what duties the nurses performed the other 45
per cent of the time. Other details of the study, such as
composition, size, and location of the sample population
were not reported. It should also be noted that this study
was conducted in 1966, and may not be an accurate reflection
of school nurses who have responded to recent changes within
the profession and have strived to expand their functions.
Role of the School Nurse in Massachusetts (1973), a document cooperatively prepared by the Massachusetts Department of Education, the Department of Public Health, Massachusetts Nurses Association, and the Massachusetts School Nurse Organization, is stated to represent two years of study and preparation, and demonstrates the efforts of school nurses to clarify and define their role while improving the practice of school nursing. It states, "School nursing is a dynamic discipline embracing a variety of functions . . . Due to academic and professional skill . . . the school nurse is the faculty member qualified to assume responsibility of the school health service . . ." (p. 4).

This document lists 13 areas of professional responsibility and describes the role of the nurse in performing them. Although the functions of school nurses may vary from one area or one school to another, documents such as this, prepared with the expertise of nurses, may form a guideline for school nurses in delineating their future role.

Statement of the Problem

The school nurse role has lacked clarity and definition. Efforts to expand school nurse functions have been controversial with a lack of research to document progress.
Research Questions

The purpose of this study was to answer the following questions:

1. Is the functional role of the school nurse unique to them, or is it (or parts of it) duplicated by others?

2. Does the performance of identified functions vary according to certain personal and situational factors?

3. Do these functions fall into a pattern, or range of distribution, thus showing consistency of roles? Do any of these functions indicate the existence of sub-roles or role conflict?

Significance of the Problem

School nurses comprise a substantial sub-specialty of the nursing profession and have been present within the school setting for many years. Since the schools represent our country's pool of young people, they become a logical target for preventive health teaching and health programs. In this way, the number of potential patients, or clients, the school nurses may contact is by far the largest of any nursing specialty group.

As school nurses are asked to account for their value, research is needed to determine how their functions are affected by various personal and situational factors,
and the extent to which school nurses are able to create a unique and expanded role which they recognize as appropriate to perform.

The formulation of this study was stimulated by an interest in the historical development of school nursing and the current controversy and ambiguity regarding traditional and expanded school nurse roles. A review of the literature indicates a scarcity of valid research, despite the presence of several studies and surveys. The findings of these studies and surveys raise questions regarding the role of school nurses, and show the need for verification and additional study. The theoretical framework will be presented in Chapter 2.
CHAPTER 2

THEORETICAL FRAMEWORK

The framework for this study was based upon sociological role theory with application to school nurse roles and the study of the research questions, with appropriate assumptions and limitations. Specifically, several concepts will be described, which are: (1) the relationship between role theory and school nurse roles, and (2) how these roles may be affected by various personal and situational variables.

Role Theory

Gross, Mason, and McEachern (1958:18) state "... that theoretical formulations concerned with role analysis must include these three elements—social location, behavior, and expectations. ..." Or, stated another way, "... individuals (1) in social locations (2) behave (3) with reference to expectations" (p. 17).

Similarly, Sarbin in the book edited by Sills (1968:546) writes that:

In general the term "role" continues to be used to represent the behavior expected of the occupant of a given position or status. ... In this definition two features are emphasized: (1) expectations (i.e., beliefs, cognitions) held by certain persons in regard to what behaviors are appropriate for the occupant of a given
position, and (2) enactments (i.e., conduct) of a person who is assigned to, or elects to enter a given position.

The behavioral element of role is defined functionally by the activities or behaviors used in performing that role. Newcomb (1950:280) defines this as "... the behavior of the occupants of a position—not to all their behavior, as persons, but to what they do as occupants of the position." In describing the behavioral aspect of role, Davis (1949:90) states, "How an individual actually performs in a given position, as distinct from how he is supposed to perform, we call his role. The role, then is the manner in which a person actually carries out the requirements of his position."

Role behaviors or activities fall into patterns or ranges of distribution, showing the amount of role consistency. Linton (1945:45) stated, "The important thing to remember is ... not a single item of behavior but a series of behaviors varying within certain limits." Role behaviors or activities vary within their patterns or ranges of distribution according to situational factors, or according to the personal characteristics of the role performers. Behaviors which do not fall into an expected range of distribution may indicate the existence of one or more sub-roles, or may be indicative of strains or conflicts within the role.
Role theory appropriately describes the area of this study; that is, what functions a school nurse performs within the social location of the school, according to her expectations and those of others. The variables to be discussed, which may affect the pattern of school nurse functions, may be personal characteristics of the nurse herself, or situational characteristics of the work situation.

School Nurse Roles

The social location for school nurses is the environment of the school in which they work, with emphasis on the education of children and young people. The nurse's own educational preparation may have set her apart from this social system, since it is outside the academia of the teaching profession, and in the past has been focused on illness, rather than on health. Her role in the school social system has often been isolated from that of other nurse colleagues and she often has not integrated her position with other professionals, both in the school and in the larger social setting of the community.

Those who utilize the school nurse, both from the school and the surrounding community may have expectations of the school nurse role which vary from the school nurse's own perceptions and expectations. The ambiguity of these expectations has been put forth in the first chapter of this
paper, and the painful and controversial growth of the school nurse into an expanded role has been discussed. However, these expectations were not a topic for this study except as they are reflected by actual behavior.

This study focused on functions which the school nurses in the sample performed in carrying out their role. Selected functions were examined to determine the amount of role consistency present among the school nurses in the sample, whether a unique role for these school nurses exists within these functions, and the extent to which these functions were performed by others in the school setting. By the use of personal and situational variables, the selected functions were examined for the existence of sub-roles. The school nurses' opinions of the appropriateness of these selected functions were also determined, and used to ascertain the possible existence of role conflict.

The personal variables considered were those which the first chapter of this paper indicated may affect the school nurse role, especially regarding education and experience. The school nurses were asked their basic education, amount and approximate dates of continuing formal education, length of time in full-time school nursing, and type of work experiences before entering school nursing. The school nurses were also asked their age, since this variable may relate to their education and experience.
One situational variable considered was the presence or absence of a school health clerk, or aide, since this is one way in which school districts are freeing their school nurses to perform expanded functions. The school nurses were also asked the type of school to which they were assigned (elementary, junior high, or high school). Personal experience indicated that this may cause the school nurse functions to vary, although this is not necessarily supported by the literature.

Research questions for this study were developed upon the framework of role theory with relevance to the role of school nurses and their functions, and to the variance of these functions by personal and situational variables.

**Assumptions**

The assumptions basic to the pursuit of this study were:

1. School nurses have a role, functionally defined by their behavior and performance of certain activities.

2. School nurses' role perception closely approximates role performance; therefore, a questionnaire testing perception closely approximates actual performance.

**Limitations**

This study operated within the following boundaries or limitations:
1. This study did not examine what other persons think school nurses are doing, or what others think they should be doing.

2. This study did not examine all functions which school nurses perform, but examined selected functions suggested as representing the school nurse role.

3. This study examined what functions school nurses say they perform, but not how often they are performed, and not the manner in which they are performed.

4. This study focused on functions as performed by staff school nurses, not school nurse supervisors, nurses who are employed exclusively as health educators, or school nurse practitioners.

The theoretical framework of this study and the associated research questions were based upon sociological role theory, with the formation of assumptions and limitations. The research design will be presented in Chapter 3.
CHAPTER 3

RESEARCH DESIGN

A descriptive field survey formed the research design of this study. Approval to conduct this study was obtained from the Human Subjects Committee of The University of Arizona (Appendix A) and the Research Department of the Tucson Public Schools, District #1, Tucson, Arizona (Appendix B). This chapter describes the sample and setting, operational definitions, the development of the questionnaire, and the method of administration for collection of data.

Sample and Setting

School nurses employed in staff positions by the Tucson Public Schools comprised the sample for this study. This sample consisted of one half-time and 41 full-time nurses covering 89 schools in Arizona's largest school district. These schools included elementary, junior high, and high schools. The school nurses varied considerably in all the personal and situational variables being tested.

None of these school nurses were school nurse practitioners, although one school nurse had been on leave of absence to attend the School Nurse Practitioner Program in Denver, Colorado, and was to return to Tucson District #1
under the special education program. This nurse was not included in the sample, and neither were nurses hired exclusively as health educators. The school nurse supervisor was utilized as an expert in developing the research tool, but was not included in the actual sample.

Fortunately, this school district, being the largest in Arizona, offered a rather large sample to study. However, because of the location of this school district within a metropolitan area, and the close proximity of a university with both a college of nursing and a medical school, a bias may have been introduced into the sample. This group of school nurses may have a higher degree of availability to continuing education, formal degree-oriented education, and learning experiences from other community resources than school nurses in other geographic locations.

Operational Definitions

For the purposes of this study the following terms are defined.

Categories of Functions

1. Health appraisal: Nursing processes and diagnoses based upon professional judgments and knowledge.

2. Health intervention: Nursing actions based upon the health appraisal or upon accepted standards of nursing performance.
3. Health education: Collection, evaluation, and dissemination of information regarding health and health teaching.

4. Management responsibility: Administration, supervision, evaluation, research.

5. Professional growth: Actions designed for increased expertise as a school nurse and fulfillment of responsibilities to the profession; involvement with the profession.

Variables

1. Personal variables: Characteristics of the school nurse, including age, years of school nursing experience, type of previous work experience, basic education, continuing education, and highest level of education.

2. Situational variables: Factors within the work environment, such as type of school assignment and presence or absence of a health clerk.

Role

1. School nurse role: Functions school nurses perform as a part of their job.

**Questionnaire Development**

This study was carried out by use of an investigator-constructed questionnaire (Appendix F) designed to identify
functions of school nurses. The questionnaire functions were based upon Standards for School Nurse Services (1970), Role of the School Nurse in Massachusetts (1973), and reading and personal experiences as a school nurse. The functions were developed under five categories of school nursing activities: health appraisal, health intervention, health education, management responsibility, and professional growth. For ease in administration, some functions were grouped together under one questionnaire number when this seemed appropriate and logical (Appendix F). All functions were compared with the description of functions of the nurses in the sample (Appendix C) to ascertain that they did not openly conflict with the descriptions of functions under which the school nurses were operating.

To establish concensus validity for the functions, they were written as grouped on 3 x 5 cards and given to three independent experts for classification under the five categories of school nurse functions. The experts included a faculty member at The University of Arizona with previous experience as a school nurse in Tucson District #1, the school nurse supervisor of Tucson District #1, and the school nurse supervisor of another neighboring school district.

As a result of the validation process, a total of 115 functions grouped into 44 questionnaire numbers (Appendix F) were validated by the experts. Six functions
were eliminated. Two functions, previously grouped into one number, were divided and placed in two different categories with agreement of all three experts. Three functions were retained in the questionnaire with agreement of two of three experts, but all other functions had agreement of all three experts.

The questionnaire was headed by a sheet to collect data on the control variables being studied, and to give instructions for completing the questionnaire (Appendix F). The remainder of the questionnaire was based upon a grid format to facilitate the respondents' answers. Each school nurse function was followed by four columns to gather responses to four questions: (1) "Do you perform?", (2) "Does anyone else perform?", (3) "If so, whom?", and (4) "Appropriate for school nurses?" (Appendix F). Four areas of information (1) performance by school nurses, (2) performance by others, (3) categorization of others, and (4) appropriateness for school nurse performance, could then be gathered about the five categories of school nurse functions. To minimize possible bias, the five categories, were not named and the functions were rearranged within the format of the questionnaire (Appendix F and Appendix G). In this way, the category being tested was not apparent to the respondent.

The questionnaire was pretested on a group of three substitute school nurses in Tucson District #1, to check for
clarity and ease in both administering and responding. All three nurses in the pretest group agreed that the questionnaire was clear and easily understandable, and completed the questionnaire without difficulty in 30 to 45 minutes. On this basis, the questionnaire was administered to the sample group without further modifications.

Method of Administration

The questionnaire was given to the school nurses during the three February area staff meetings after being placed on the agenda by the three area leaders described earlier. These monthly meetings are mandatory for the school nurses to attend, so the sample population was easily accessible and available.

A verbal presentation was given which included the following information:

1. The purpose of this study was to see which functions of school nursing
   a. are being consistently performed by school nurses,
   b. are unique to school nurses, and
   c. are seen by school nurses as being appropriate for them to perform.

2. The anonymity and confidentiality of responses would be assured, and subjects would be free not to participate, to leave any item on the questionnaire
unanswered, or to withdraw from the study at any time.

3. The questionnaire would be self-administered and would take 30-45 minutes to complete.

4. An abstract of the results of the completed study would be available to anyone upon request.

5. The investigator would answer questions at any time upon request, either in person or by phone.

Following the explanations, a letter of consent (Appendix D) and the questionnaire (Appendix F) with data and instruction sheet were given to each nurse. Due to the time limit of these meetings, stamped and addressed envelopes were provided so the school nurses could complete the questionnaire at home. The school nurse supervisor agreed to leave during presentation of the questionnaire, in order to lessen the possibility of becoming a biasing influence.

To test for reliability, 14 of the school nurses were randomly selected to re-take the questionnaire in one week and these results were statistically compared with the results of their first questionnaire. The nurses selected to re-take the questionnaire were notified prior to answering the questionnaire the first time.

The findings of this study, and their statistical analysis and interpretation are described in Chapter 4.
CHAPTER 4

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

The statistical analysis of the data included a description of the characteristics of the respondents in the sample, computation and interpretations designed to answer the research questions, and reliability testing of the questionnaire. Two serendipitous findings were also analyzed.

The characteristics of the respondents in the sample were described in terms of the personal and situational variables in the study. The portion of the analysis designed to answer the research questions and to test the questionnaire reliability was handled by use of the five categories of school nurse functions (Appendix G): health appraisal, health intervention, health education, management responsibility and professional growth. Responses to the questions asked about the functions on the questionnaire (Appendix F) gave four areas of information which were considered: performance by school nurses ("Do you perform?") , performance by others ("Does anyone else perform?"), types of others ("If so, whom?") , and appropriateness for school nurse performance ("Appropriate for school nurses?").
Characteristics of the Sample

The sample to whom the questionnaire was administered consisted of school nurses employed by Tucson District #1, Tucson, Arizona. Out of 42 school nurses, 27 or 64 percent responded with completed questionnaires. One questionnaire was received after the data had been placed in the computer, and one questionnaire was apparently lost in the mail. Tables 1 through 7 present frequency distribution of the characteristics of the respondents in the sample, which were used as personal and situational variables in this study.

Personal Variables

The personal variables considered were age, years of school nursing experience, type of previous work experience, basic level of education, continuing education, and highest level of education held.

Table 1 showed that 21 of the respondents' ages were distributed fairly evenly, while 6 did not list their age. The age of the respondents varied from 33 years to 63 years with a range of 30 years. The mean age of those listed was 45.7 years.

Years of school nursing experience as in Table 2 showed a range of 29 years experience. Nine respondents had the minimum of 1 year and 2 respondents had the maximum of 30 years experience. The years of school nursing experience
Table 1. Distribution of School Nurses by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>30-35</th>
<th>36-40</th>
<th>41-45</th>
<th>46-50</th>
<th>51-55</th>
<th>56-60</th>
<th>61-65</th>
<th>No Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>Per Cent</td>
<td>14.8</td>
<td>14.8</td>
<td>7.4</td>
<td>18.5</td>
<td>11.1</td>
<td>0</td>
<td>11.1</td>
<td>22.2</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Table 2. Distribution of School Nurses by Years of School Nursing Experience

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>1-5</th>
<th>6-10</th>
<th>11-15</th>
<th>16-20</th>
<th>21-25</th>
<th>26-30</th>
<th>No Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>9</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>Per Cent</td>
<td>33.3</td>
<td>18.5</td>
<td>11.1</td>
<td>18.5</td>
<td>7.4</td>
<td>7.4</td>
<td>3.7</td>
<td>99.9</td>
</tr>
</tbody>
</table>
were weighted toward the lesser end of the distribution. The 1 to 10 year interval contained 51.8 per cent of the respondents. The average years of school nursing experience of the respondents was 11.2 years.

Type of previous work experience as shown in Table 3 indicated that less than one-third or 8 had previous experience in community health. Less than two-thirds or 17 had other types of work experience. The community health work was either public health or visiting nurse experience. There was a variety of other types of work experience including hospital positions, clinic and private duty work, and teaching positions in hospitals and schools of nursing.

Educational background of the respondents is shown in Tables 4 through 6. Although the most common type of basic nursing education was the diploma program with 59.3 per cent, the most frequent type of highest educational level was the bachelor's degree with 48.2 per cent. Three respondents or 11.1 per cent held a master's degree as additional education, although two of these master's degrees were in education, rather than nursing. Many respondents reported additional credits toward a higher degree, with only one school nurse reporting no additional credits or degree. These figures on the educational background of the respondents showed a large emphasis on degree-oriented formal education and probably demonstrated the accessibility
### Table 3. Distribution of School Nurses by Type of Previous Work Experience

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Community Health</th>
<th>Other</th>
<th>No Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1</td>
<td>8</td>
<td>17</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>Per Cent</td>
<td>3.7</td>
<td>29.6</td>
<td>63.0</td>
<td>3.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 4. Distribution of School Nurses by Basic Education

<table>
<thead>
<tr>
<th></th>
<th>Associate Degree</th>
<th>Diploma</th>
<th>Bachelor's Degree</th>
<th>No Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1</td>
<td>16</td>
<td>9</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>Per Cent</td>
<td>3.7</td>
<td>59.3</td>
<td>33.3</td>
<td>3.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 5. Distribution of School Nurses by Continuing Education

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Additional Credits</th>
<th>Bachelor's Degree</th>
<th>Master's Degree</th>
<th>No Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1</td>
<td>17</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>Per Cent</td>
<td>3.7</td>
<td>63.0</td>
<td>14.8</td>
<td>11.1</td>
<td>7.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 6. Distribution of School Nurses by Highest Level of Education

<table>
<thead>
<tr>
<th></th>
<th>Associate Degree</th>
<th>Diploma</th>
<th>Bachelor's Degree</th>
<th>Master's Degree</th>
<th>No Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1</td>
<td>10</td>
<td>13</td>
<td>3</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>Per Cent</td>
<td>3.7</td>
<td>37.0</td>
<td>48.2</td>
<td>11.1</td>
<td>0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
of such education for school nurses in this geographic locality, or setting.

Situational Variables

The situational variables describing the respondents in the sample, as shown in Table 7, were type of school assignment (elementary, junior high, or high school) and presence or absence of health clerks. Sixty-two schools, or 69.7 per cent, out of a total of 89 schools within Tucson District #1 were represented. Some nurses were assigned to more than one type of school or several schools of the same type, and some had health clerks at one school, but not at another school. However, Table 7 shows that all the situational variables were well represented among the 27 respondents in the sample.

Study of Research Questions

The research questions answered by this study focused on the school nurse role and the performance of the five categories of school nurse functions. The research questions looked at (1) uniqueness versus duplication of the school nurse functional role, (2) variance in performance of identified functions according to personal and situational factors, and (3) consistency of school nurse roles shown by patterns or ranges of distribution, and existence of sub-roles or role conflict.
<table>
<thead>
<tr>
<th>Type of School Assignment</th>
<th>Elementary</th>
<th>Junior High</th>
<th>High School</th>
<th>Health Clerks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes  No  Total</td>
<td>Yes  No  Total</td>
<td>Yes  No  Total</td>
<td>Yes  No  Total</td>
</tr>
<tr>
<td>Number</td>
<td>19  8  27</td>
<td>10  17  27</td>
<td>8  19  27</td>
<td>11  16  27</td>
</tr>
<tr>
<td>Per Cent</td>
<td>70.4  29.6 100.0</td>
<td>37.0  63.0 100.0</td>
<td>29.6  70.4 100.0</td>
<td>40.7  59.3 100.0</td>
</tr>
</tbody>
</table>
Limitations of the Data

Several limitations of the data need to be discussed. They were: (1) the occurrence of multiple roles in the area of information regarding performance by school nurses; (2) the somewhat incomplete and inconsistent responses to two other areas of information, performance by others, and types of others; and (3) the basis for considering responses as positive or negative in the data analysis.

Some school nurses indicated by their responses that their roles varied between assignments, or situational variables of type of school and presence/absence of a health clerk. In order to reflect these variables in the study of the research questions, these responses were regarded as separate roles and the data were analyzed according to performance within school nurse roles. Therefore, some school nurses were represented two or three times in these data. The 27 school nurses who responded identified 47 school nurse roles (Table 8). This included 10 single roles, 14 dual roles, and 3 triple roles.

The responses to the questions "Do you perform?" and "Appropriate for school nurses?" were filled out more consistently and completely than the responses for the questions, "Does anyone else perform?" and "If so, whom?" Therefore, areas of information relating to performance by school nurses (or performance within school nurse roles) and
Table 8. School Nurse Roles According to Situational Variables

<table>
<thead>
<tr>
<th>Roles</th>
<th>Situational Variables</th>
<th>Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>3 Elementary without Health Clerk</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1 Elementary with Health Clerk</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6 High School without Health Clerk</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>Total 10</td>
</tr>
<tr>
<td>Dual</td>
<td>10 Junior High, plus Elementary School without Health Clerk</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2 Junior High, plus High School without Health Clerk</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2 High School, plus Elementary without Health Clerk</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8 Elementary with Health Clerk, plus Elementary without Health Clerk</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>6 Junior High without Health Clerk, plus Elementary with Health Clerk</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>Total 14</td>
</tr>
<tr>
<td>Triple</td>
<td>9 Junior High without Health Clerk, plus Elementary with Health Clerk</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>Total 27</td>
</tr>
</tbody>
</table>
appropriateness for school nurse performance were more complete than the areas of performance by others and types of others. Several explanations are possible: (1) the school nurses were not as familiar with performance by others and types of others and these questions were more difficult to answer and therefore, more often unanswered, or (2) the questionnaire was lengthy and so questions were unanswered regarding areas of information which were viewed as less important or too time-consuming.

The analysis of responses was done on the basis of positive "yes" checks, symbols, or comments. Unanswered or no responses were considered negative responses along with "no" checks, symbols, or comments. Unanswered or no responses were more frequent under the questions, "Does anyone else perform?" and "If so, whom?" Therefore, the areas of information for performance by others and types of others had more responses considered negative because of unanswered or no responses than the areas of information for performance by school nurses (or performance within school nurses roles) and appropriateness for school nurse performance.

Uniqueness Versus Duplication

Three areas of information from the questionnaire were considered in studying the following research question: Is the functional role of the school nurse unique to them,
or is it (or parts of it) duplicated by others? The three areas of information were (1) performance within school nurse roles, (2) performance by others, and (3) types of others. In the portion of the statistical analysis dealing with uniqueness, performance within school nurse roles and performance by others were used to compare the distribution and the mean within each category of functions: health appraisal, health intervention, health education, management responsibility, and professional growth. Duplication of performance was examined by classifying types of others (Appendix H) and looking at frequencies and percentages within each classification.

In studying the performance of functions for uniqueness, Table 9 shows the distribution of positive responses had a fairly wide range for both performance within school nurse roles and performance by others. However, the school nurses perceived that they performed more of the functions than others at both the high and low ends of the range in every category.

In examining the mean as shown in Table 9, the highest average per cent (82.0) of functions performed within school nurse roles was in the category of health intervention. This category had an average per cent of performance by others of only 21.4 per cent, or 60.6 percentage points lower than the performance within school nurse roles. Management responsibility had a mean per cent
Table 9. Frequency of Performance of School Nurse Functions According to Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Functions</th>
<th>Performance</th>
<th>Distribution</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Health Appraisal</td>
<td>35</td>
<td>School Nurse Roles</td>
<td>31</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Intervention</td>
<td>28</td>
<td>School Nurse Roles</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Education</td>
<td>19</td>
<td>School Nurse Roles</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management Responsibility</td>
<td>24</td>
<td>School Nurse Roles</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Growth</td>
<td>9</td>
<td>School Nurse Roles</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
of performance within school nurse roles of only 50.4 per cent and an average per cent of performance by others of 18.3 per cent. This spread of 32.1 percentage points represented the smallest difference between performance within school nurse roles and performance by others. Health appraisal showed a mean per cent of performance by others of 24 per cent, the largest amount of duplication reported. However, this category of functions also had a rather high mean per cent of performance within school nurse roles (66.6) giving a difference of 42.6 per cent. The remaining two categories showed: health education with performance within school nurse roles 60.0 per cent, performance by others 13.2 per cent, difference 46.8 per cent, and professional growth with performance within school nurse roles 53.3 per cent, performance by others 12.2 per cent, difference 41.1 per cent.

Duplication of school nurse functions was more specifically examined by looking at the types of others performing school nurse functions. This area of information was one which was not as complete as other areas of information. However, despite incompleteness, a surprise finding was the large number of terms listed to describe performance by others. Sixty-seven terms in all were employed, although some overlap existed and not all terms were mutually exclusive. The number of terms used by each school nurse varied from 0 to 17, the median being 5 and the mean 7.
Table 10 summarizes the types of terms used to describe performance by others. Responses were counted and classified (Appendix H) according to whether university education was required to fill the position, either professional or non-professional, and according to whether payment was received for performing the function, either employed or volunteer. Terms denoting an employed professional appeared most often, a total of 46 out of 67 times. This represented 68.7 per cent of the terms, and was the largest classification of others duplicating the school nurse functions.

Table 10. Classification of Types of Others Performing School Nurse Functions

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional, employed</td>
<td>46</td>
<td>68.7</td>
</tr>
<tr>
<td>Professional, volunteer</td>
<td>2</td>
<td>3.0</td>
</tr>
<tr>
<td>Non-professional, volunteer</td>
<td>12</td>
<td>17.9</td>
</tr>
<tr>
<td>Non-professional, volunteer</td>
<td>7</td>
<td>10.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
Interpretation. The findings regarding both uniqueness and duplication of the school nurse functional role require some interpretation. An examination of the mean of functions performed by those in school nurse roles and functions performed by others reveals a difference in the mean per cent of performance. This difference represents the amount of uniqueness present in a category of functions. The mean per cent performed by others represents the amount of duplication present. This suggests that health intervention was the functional category perceived by school nurses to be the most unique to their role. By this same reasoning, management responsibility was shown to be the least unique to school nurse roles, although health appraisal showed the largest mean per cent of duplication.

The amount of duplication was suspected to be underrepresented because (1) the questions relating to this area of information were not always answered and (2) it is suspected or known that some functions are consistently performed by others, but were not always listed by the respondents. This is supported by subjective data from other sources and is suspected to be especially true of the classification of professional, employed, the type of term listed most often. For example, in an interview the school nurse supervisor revealed that she performed some of the questionnaire functions, but she was not listed by many of school nurses. It appeared that most respondents listed the
persons with whom they had most contact in their setting. Therefore, the responses to this area of information gave an indication of the duplication of school nurse functions, but may not reflect the true extent of its occurrence.

Variance in Performance

Does the performance of identified functions vary according to certain personal and situational factors? This research question was answered by looking at the area of information regarding performance by school nurses in relationship to (1) the five categories of school nurse functions: health appraisal, health intervention, health education, management responsibility, and professional growth and (2) the two types of variables: personal (age, years of school nursing experience, type of previous work experience, basic level of education, continuing education, highest level of education) and situational (type of school assignment, presence/absence of a health clerk).

The analysis of the data for variance in performance was done in several ways. A gross overview was carried out by determination of the significance of the F-ratio for each of the personal and situational variables in all five categories. Those variables found to be significant were examined in more detail, the significant personal variables by use of the Pearson correlation coefficients and the significant situational variable by discussion of the mean.
Table 11 shows the F-ratio, with a level of significance set at .05, for all personal and situational variables within all five categories. The personal variable of age was significant in four categories: health appraisal, health education, management responsibility and professional growth. Years of school nursing experience was also significant in four out of five categories, as follows: health appraisal, health intervention, health education, and professional growth. Age was not a significant variable in the category of health intervention while years of school nursing experience was not significant in management responsibility. Previous work experience, community health versus other type of work, was not significant in any category.

Table 11 shows that the education variables were significant in three categories. Basic education was significant in management responsibility and professional growth, while continuing education was significant in health intervention and professional growth. Highest level of education was significant in the categories of health intervention, management responsibility and professional growth. None of the three education variables were significant at the .05 level in either health appraisal or health education.

An examination of the situational variables revealed that the presence/absence of a health clerk was significant
Table 11. School Nurse Performance of Functions According to Personal and Situational Variables Using the F-Ratio

<table>
<thead>
<tr>
<th>Variables</th>
<th>Health Appraisal</th>
<th>Health Intervention</th>
<th>Health Education</th>
<th>Management Responsibility</th>
<th>Professional Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>7.01*</td>
<td>1.63</td>
<td>7.05*</td>
<td>2.28*</td>
<td>14.67*</td>
</tr>
<tr>
<td></td>
<td>s=.00</td>
<td>s=.15</td>
<td>s=.00</td>
<td>s=.04</td>
<td>s=.00</td>
</tr>
<tr>
<td>Years of School Nursing</td>
<td>7.67*</td>
<td>2.00*</td>
<td>2.68*</td>
<td>1.66</td>
<td>8.16*</td>
</tr>
<tr>
<td></td>
<td>s=.00</td>
<td>s=.05</td>
<td>s=.01</td>
<td>s=.11</td>
<td>s=.00</td>
</tr>
<tr>
<td>Previous Work Experience</td>
<td>.30</td>
<td>.29</td>
<td>1.20</td>
<td>.96</td>
<td>.04</td>
</tr>
<tr>
<td></td>
<td>s=.74</td>
<td>s=.75</td>
<td>s=.31</td>
<td>s=.39</td>
<td>s=.96</td>
</tr>
<tr>
<td>Basic Education</td>
<td>1.88</td>
<td>1.20</td>
<td>2.00</td>
<td>3.76*</td>
<td>4.93*</td>
</tr>
<tr>
<td></td>
<td>s=.16</td>
<td>s=.31</td>
<td>s=.15</td>
<td>s=.03</td>
<td>s=.01</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>1.30</td>
<td>7.70*</td>
<td>1.87</td>
<td>1.56</td>
<td>4.15*</td>
</tr>
<tr>
<td></td>
<td>s=.29</td>
<td>s=.00</td>
<td>s=.15</td>
<td>s=.22</td>
<td>s=.01</td>
</tr>
<tr>
<td>Highest Level of Education</td>
<td>2.67</td>
<td>7.58*</td>
<td>1.53</td>
<td>3.76*</td>
<td>3.35*</td>
</tr>
<tr>
<td></td>
<td>s=.06</td>
<td>s=.00</td>
<td>s=.22</td>
<td>s=.02</td>
<td>s=.03</td>
</tr>
<tr>
<td><strong>Situational</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>.70</td>
<td>.05</td>
<td>.90</td>
<td>.59</td>
<td>1.39</td>
</tr>
<tr>
<td></td>
<td>s=.41</td>
<td>s=.82</td>
<td>s=.34</td>
<td>s=.45</td>
<td>s=.26</td>
</tr>
<tr>
<td>Junior High</td>
<td>.34</td>
<td>.34</td>
<td>.14</td>
<td>.55</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>s=.56</td>
<td>s=.56</td>
<td>s=.71</td>
<td>s=.46</td>
<td>s=.43</td>
</tr>
</tbody>
</table>
Table 11.—Continued

<table>
<thead>
<tr>
<th>Variables</th>
<th>Health Appraisal</th>
<th>Health Intervention</th>
<th>Health Education</th>
<th>Management Responsibility</th>
<th>Professional Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>.18</td>
<td>.98</td>
<td>.66</td>
<td>.02</td>
<td>.38</td>
</tr>
<tr>
<td></td>
<td>s=.67</td>
<td>s=.33</td>
<td>s=.42</td>
<td>s=.88</td>
<td>s=.54</td>
</tr>
<tr>
<td>Health Clerks</td>
<td>.17</td>
<td>4.21*</td>
<td>1.87</td>
<td>7.71*</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>s=.38</td>
<td>s=.05</td>
<td>s=.18</td>
<td>s=.01</td>
<td>s=.92</td>
</tr>
</tbody>
</table>

*The acceptable level of significance for the F-ratio was set at $p < .05$. 

$s =$ The significance level of the F-ratio.
at the .05 level in two out of five categories, health intervention and management responsibility. However, presence/absence of a health clerk was not significant in health appraisal, health education, and professional growth. The situational variable of type of school assignment (elementary, junior high, or high school) was not significant in any category.

Based upon these findings, the personal variables of age, years of school nursing, basic education, continuing education, and highest level of education, and the situational variable of presence/absence of a health clerk were analyzed in more detail. Previous work experience and type of school assignment were not significant in any category and, therefore, were not examined further.

In examining the five significant personal variables, the Pearson correlation coefficient was used at a level of significance of .10, as shown in Table 12. This statistical test shows both the strength and direction of a correlation. The Pearson correlation coefficient is useful for continuous variables and can also be used for ordinal variables, according to Bohrnstedt and Carter (1971). In this study, both age and years of school nursing experience were continuous variables. The three personal variables relating to education consisted of ordinal categories. Basic level of education was represented by associate degree, diploma and bachelor's degree preparation,
### Table 12. Performance of Functions Within School Nurse Roles According to Selected Personal Variables Using Pearson Correlation Coefficient (r)

<table>
<thead>
<tr>
<th>Personal Variables</th>
<th>Health Appraisal</th>
<th>Health Intervention</th>
<th>Health Education</th>
<th>Management Responsibility</th>
<th>Professional Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.30*</td>
<td>-.03</td>
<td>-.23*</td>
<td>-.39*</td>
<td>-.71*</td>
</tr>
<tr>
<td>Years of School Nursing</td>
<td>-.59*</td>
<td>-.21*</td>
<td>-.34*</td>
<td>-.28*</td>
<td>-.43*</td>
</tr>
<tr>
<td>Basic Education</td>
<td>-.08</td>
<td>-.00</td>
<td>-.06</td>
<td>-.05</td>
<td>-.16*</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>.12*</td>
<td>-.17*</td>
<td>-.07</td>
<td>-.20*</td>
<td>-.11*</td>
</tr>
<tr>
<td>Highest Level of Education</td>
<td>.05</td>
<td>-.26*</td>
<td>-.11*</td>
<td>-.26*</td>
<td>-.12*</td>
</tr>
</tbody>
</table>

*p < .10. The acceptable level of significance for the Pearson correlation coefficient was set at .10.
while continuing education was divided into additional formal credits, bachelor's degree, and master's degree. Highest level of education included associate degree, diploma, bachelor's degree, and master's degree.

As shown in Table 12, health appraisal had a significant negative relationship to two of the personal variables: age \( (r = -0.30) \) and years of school nursing \( (r = -0.59) \). The category of health appraisal had the only significant positive relationship which occurred, a weak correlation with continuing education with a Pearson correlation coefficient of 0.12.

The categories of health intervention and health education were each negatively influenced at a significant level by three of the personal variables. Health intervention had a significant negative relationship with years of school nursing \( (r = -0.21) \), continuing education \( (r = -0.17) \), and highest level of education \( (r = -0.26) \), while health education had significant negative correlations with age \( (r = -0.23) \), years of school nursing \( (r = -0.34) \) and highest level of education \( (r = -0.11) \).

Management responsibility (Table 12) showed a significant negative relationship to four of the personal variables. They were: age \( (r = -0.39) \), years of school nursing \( (r = -0.28) \), continuing education \( (r = -0.20) \), and highest level of education \( (r = -0.26) \).
Table 12 shows that one category was significantly affected by all of the significant personal variables. Professional growth was negatively and significantly correlated to each of the personal variables, as follows: age ($r = -0.71$), years of school nursing ($r = -0.43$), basic education ($r = -0.16$), continuing education ($r = -0.11$), and highest level of education ($r = -0.12$).

Using the Pearson correlation coefficient, Table 12 showed that all five categories of school nurse functions were significantly affected by three or more of the significant personal variables. These relationships will be discussed in more detail in the following paragraphs.

The highest variation, as shown in Table 12, occurred among the personal variable of age. The younger the school nurse, according to school nurse roles, the more likely she was to state that she performed the listed functions in all five categories. The category of professional growth was most influenced by age with a Pearson correlation coefficient of $-0.71$. The category of health intervention was not influenced by age with a Pearson correlation coefficient below the level of significance. The other three categories grouped more closely in terms of variation according to ages, showing the same significant trend. Health appraisal, health education, and management responsibilities showed Pearson correlation coefficients of $-0.30$, $-0.23$, and $-0.39$ respectively with the age variable.
The variable of years of school nurse experience also had a significant negative influence on the stated performance of functions by school nurses. Therefore, the fewer years of school nursing experience, the more the school nurses tended to perform functions in every category, according to school nurse roles. Years of school nurse experience tended to negatively influence the category of health appraisal most, with a Pearson correlation coefficient of -.59. The other categories followed this trend in the following order: professional growth \((r = -.43)\), health education \((r = -.34)\), management responsibility \((r = -.28)\), and health intervention \((r = -.21)\).

In examining the three personal variables relating to education, Table 12 shows the category of health appraisal weakly, but positively correlated with continuing education \((r = .12, \ p < .05)\). Therefore, the higher the level of continuing education (formal credits, bachelor's degree, master's degree) the more health appraisal functions were stated to be performed according to school nurse roles, although this relationship was weak.

However, continuing education more strongly related to three other categories in a significantly negative correlation as follows: health intervention \((r = -.17)\), management responsibility \((r = -.20)\), and professional growth \((r = -.11)\). Therefore, the more continuing education
obtained according to school nurse roles, the less likely the performance of functions in those three categories.

Highest level of education (associate degree, diploma, bachelor's degree, master's degree) negatively related to four of these categories at a significant level, as follows: health intervention \( r = -0.26 \), health education \( r = -0.11 \), management responsibility \( r = -0.26 \), and professional growth \( r = -0.12 \). That is, the more advanced the highest level of educational preparation according to school nurse roles, the less likely the performance of functions in the stated four categories.

Basic education was significantly correlated to only one category, professional growth, with a Pearson correlation coefficient of -0.16. Therefore, the higher the level of basic education, the less likely functions were performed according to school nurse roles, although this trend was significant in only the category of professional growth.

Only one situational variable, presence/absence of a health clerk, was significant and only within two categories: health intervention and management responsibility (refer to Table 11). This variable was examined further by looking at the mean number of functions performed in each category, as shown in Table 13. The category of management responsibility had the largest difference in mean number of functions performed showing 15 with health clerk, 10.78 without health clerk, and a difference of 4.22. Health
Table 13. Performance of Functions Within School Nurse Roles According to Situational Variable: Presence/Absence of Health Clerk

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Functions</th>
<th>Mean Number of Functions Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>With Health Clerk</td>
</tr>
<tr>
<td>Health Appraisal</td>
<td>35</td>
<td>24.27</td>
</tr>
<tr>
<td>Health Intervention</td>
<td>28</td>
<td>24.80</td>
</tr>
<tr>
<td>Health Education</td>
<td>19</td>
<td>12.40</td>
</tr>
<tr>
<td>Management Responsibilities</td>
<td>24</td>
<td>15.00</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>9</td>
<td>4.87</td>
</tr>
</tbody>
</table>

intervention had a smaller difference of mean functions performed showing 24.80 with health clerk, 22.25 without health clerk, and a difference of 2.55. Table 13 shows that the categories of health appraisal, health education, and professional growth follow this trend, but the F-ratio in these instances was not significant (refer to Table 11).

Interpretation. An analysis of the major variables of this study in relation to the performance of functions in each category showed that two variables had no significant
effect on the performance of functions. They were: the personal variable of previous work experience and the situational variable of type of school assignment.

Several other personal and situational variables did cause the stated performance of functions to vary. They were: age, years of school nursing experience, basic level of education, continuing education, highest level of education (personal variables) and presence/absence of a health clerk (situational variable). These correlations were considered significant at the .10 level, although some bias may have been introduced, causing the correlation to be artificially high, by the process of counting unanswered questions as negative answers and conducting the statistical analysis by use of school nurse roles, rather than school nurse respondents.

Age and years of school nursing experience showed the highest negative correlations to performance of school nurse functions. That is, the younger and less experienced a school nurse, the more likely she is to perform functions in every category. Years of school nursing experience seem to be a reflection of age, since it is a logical generalization that the younger school nurses would not tend to have as many years of school nursing experience.

In general, the education variables of basic education, continuing education, and highest level of education seemed to have a negative influence on performance
of school nurse functions. That is, the higher the level of education and the more continuing education achieved by the respondents, the less likely performance of functions in the categories of health intervention, health education, management responsibility and professional growth. The exception to this trend was the category of health appraisal which showed, in a weak correlation, that the more continuing education which was indicated the more likely health appraisal functions were performed. That is, additional formal training may be necessary to perform these functions and may be characteristic of those school nurses who do.

Age also appeared to be an underlying factor in the generally negative correlation between education variables to performance. Table 14 shows the three education variables broken down into their ordinal categories and computed according to mean age of those in school nurse roles. In general, the lower the educational level the lower the age. This is especially true of the extremes at either end of the educational spectrum, that is, additional credits and associate degree versus master's degree.

It also seems possible that this relationship may be a condition of the questionnaire which was designed to indirectly reflect emerging, expanded functions of the school nurse, which are more likely to be included in the more recent educational preparation of a younger school nurse. It should also be noted that of the three master's
<table>
<thead>
<tr>
<th>Variable</th>
<th>Additional Credits</th>
<th>Associate Degree</th>
<th>Diploma</th>
<th>Bachelor's Degree</th>
<th>Master's Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Education</td>
<td>33.00</td>
<td>47.55</td>
<td>41.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuing Education</td>
<td>42.36</td>
<td></td>
<td>46.33</td>
<td>54.00</td>
<td></td>
</tr>
<tr>
<td>Highest Level of Education</td>
<td>33.00</td>
<td>44.40</td>
<td>43.18</td>
<td>54.00</td>
<td></td>
</tr>
</tbody>
</table>
degrees, one was earned 35 years ago and the other two were in the field of education rather than nursing.

The presence of a health clerk, an innovation designed to free school nurses to perform new responsibilities, seemed to show a trend toward increased performance of school nurse functions. All categories showed a larger mean number of functions performed by those in school nurse roles with the added presence of a health clerk. In two categories, health intervention and management responsibility, this difference was greatest. The relatively large increase in management responsibility probably occurred because the presence of a health clerk requires a school nurse to assume supervision of health clerk duties.

Role Consistency Versus Role Conflict

Three areas of information regarding school nurse functions were considered in studying the following research question: Do these functions fall into a pattern, or range of distribution, thus showing consistency of roles? Do any of these functions indicate the existence of sub-roles or role conflict? The three areas of information used were (1) performance within school nurse roles, (2) performance by others, and (3) appropriateness for school nurse performance. This portion of the analysis consisted mainly of generalizations made from the data which indicated consistencies and patterns within school nurse functions,
according to the five categories: health appraisal, health intervention, health education, management responsibility, and professional growth. Since this study generated many relationships, only the most significant were selected for presentation. The possible existence of sub-roles and role conflict were examined more specifically. Two statistical techniques, the Pearson correlation coefficient and the factor analysis, were utilized in answering this research question.

Pearson correlation coefficients were used at a level of significance of .10 to explore the relationships between three areas of information: performance within school nurse roles, performance by others and appropriateness for school nurse performance. Table 15 shows that, in general, the more that those in school nurse roles tended to perform functions in any category, the more they tended to say that others also performed functions in all categories, and the more they tended to say functions were appropriate in all categories.

This generalization was especially true for performance of health appraisal functions within school nurse roles when compared with the two other areas of information, performance by others and appropriateness for school nurse performance (Table 15). A moderate to strong correlation between performance of health appraisal functions within school nurse roles and performance of health appraisal
Table 15. Three Areas of Information Within Five Categories of Functions Using Pearson Correlation Coefficient (r)

<table>
<thead>
<tr>
<th>Performance Within School Nurse Roles</th>
<th>Performance by Others</th>
<th>Appropriate for School Nurse Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health Appraisal</td>
<td>Health Intervention</td>
</tr>
<tr>
<td>Health Appraisal</td>
<td>.52*</td>
<td>.32*</td>
</tr>
<tr>
<td>Health Intervention</td>
<td>.13*</td>
<td>-.08</td>
</tr>
<tr>
<td>Health Education</td>
<td>.09</td>
<td>.04</td>
</tr>
<tr>
<td>Management Responsibility</td>
<td>-.10*</td>
<td>-.13*</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>-.00</td>
<td>.23*</td>
</tr>
</tbody>
</table>

*P < .10. The acceptable level of significance for the Pearson correlation coefficient was set at .10.
functions by others was demonstrated by Pearson correlation coefficients ranging from .32 to .52. The relationship between performance of health appraisal functions within school nurse roles and appropriateness for school nurse performance showed a very high and even stronger correlation, with Pearson correlation coefficients ranging from .68 to .77.

The single exception to this generalization, at a level of significance, occurred within the category of management responsibility functions. The more that those in school nurse roles performed management responsibility functions the less likely they were to say that others performed health appraisal functions ($r = -.10, p < .10$) and health intervention functions ($r = -.13, p < .10$), as shown in Table 15.

To ascertain the possible existence of role conflict, performance within school nurse roles was compared to appropriateness for school nurse performance within each category. The rectangular box in Table 15 shows the Pearson correlation coefficients occurring at a significant level of positive correlation. Therefore, the more those within school nurse roles performed functions the more likely they were viewed as appropriate for school nurse performance. The category of health appraisal had the highest level of correlation with a Pearson correlation coefficient of .76.
(P ≤ .10). The four other categories had Pearson correlation coefficients ranging from .30 to .36 (P ≤ .10).

A factor analysis was done to further reduce the large amount of data in this study into meaningful relationships. It was found that four factors could account for 86 per cent of the computerized information. Table 16 shows the four factors in a varimax rotated matrix after rotation with a Kaiser normalization procedure. The highest correlations within the factor analysis were examined.

Factor 1 (Table 16) pulled out high correlations in every category for the area of information relating to performance by others. Therefore, it can be generalized that the more those in school nurse roles tended to see others performing in one category, the more they tended to see others performing in all categories.

Factor 2, as shown in Table 16, isolated the relationship between categories regarding appropriateness for performance by school nurses. The high correlations associated with this factor led to the generalization that the more those in school nurse roles tended to see functions as appropriate in one category, the more they tended to see functions as appropriate for school nurses in all categories. The performance of health appraisal functions within school nurse roles was also associated with factor 2 at a lower level of correlation.
Table 16. Varimax Rotated Factor Matrix After Rotation with Kaiser Normalization

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Appraisal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance within</td>
<td>.28</td>
<td>.66a</td>
<td>.55a</td>
<td>.20</td>
</tr>
<tr>
<td>School Nurse Roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance by Others</td>
<td>.77a</td>
<td>.41</td>
<td>.16</td>
<td>-.34</td>
</tr>
<tr>
<td>Appropriateness for</td>
<td>.24</td>
<td>.93a</td>
<td>.12</td>
<td>.06</td>
</tr>
<tr>
<td>Performance by School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health Intervention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance within</td>
<td>-.12</td>
<td>.15</td>
<td>.93a</td>
<td>-.13</td>
</tr>
<tr>
<td>School Nurse Roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance by Others</td>
<td>.79a</td>
<td>.25</td>
<td>-.10</td>
<td>-.02</td>
</tr>
<tr>
<td>Appropriateness for</td>
<td>.22</td>
<td>.88a</td>
<td>.19</td>
<td>-.01</td>
</tr>
<tr>
<td>Performance by School</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nurses</td>
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<td></td>
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<td></td>
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<tr>
<td><strong>Health Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance within</td>
<td>.09</td>
<td>.15</td>
<td>.76a</td>
<td>.46</td>
</tr>
<tr>
<td>School Nurse Roles</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Performance by Others</td>
<td>.80a</td>
<td>.22</td>
<td>.11</td>
<td>.18</td>
</tr>
<tr>
<td>Appropriateness for</td>
<td>.40</td>
<td>.87a</td>
<td>.02</td>
<td>.13</td>
</tr>
<tr>
<td>Performance by School</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nurses</td>
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<tr>
<td><strong>Management Responsibility</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance within</td>
<td>-.03</td>
<td>.05</td>
<td>.66a</td>
<td>.62a</td>
</tr>
<tr>
<td>School Nurse Roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance by Others</td>
<td>.87a</td>
<td>.23</td>
<td>.05</td>
<td>.25</td>
</tr>
<tr>
<td>Appropriateness for</td>
<td>.18</td>
<td>.85a</td>
<td>.11</td>
<td>.39</td>
</tr>
<tr>
<td>Performance by School</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nurses</td>
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<tr>
<td><strong>Professional Growth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance within</td>
<td>.15</td>
<td>.26</td>
<td>.11</td>
<td>.88a</td>
</tr>
<tr>
<td>School Nurse Roles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance by Others</td>
<td>.84a</td>
<td>.17</td>
<td>-.11</td>
<td>.04</td>
</tr>
<tr>
<td>Appropriateness for</td>
<td>.26</td>
<td>.94a</td>
<td>.04</td>
<td>.07</td>
</tr>
<tr>
<td>Performance by School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td></td>
<td></td>
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</tbody>
</table>

*aThe highest correlations were selected for examination.*
Table 16 shows factors 3 and 4 related to the area of information, performance within school nurse roles, and indicated the presence of two sub-roles. Factor 3 showed a significant relationship between the categories of health appraisal, health intervention, health education and management responsibility. Therefore, some of those within school nurse roles tended to perform functions in these four categories, comprising one sub-role. Factor 4 showed a relationship between performance of management responsibility and professional growth functions. That is, some of those within school nurse roles who tended to perform functions in one category tended to also perform functions in the other category, demonstrating a second sub-role.

Interpretation. The generalizations made with both the Pearson correlation coefficient and the factor analysis indicated definite patterns and a high degree of consistency of school nurse roles. The significant relationships presented were mostly positive correlations. The single significant exception was the negative correlation between performance of management responsibility functions within school nurse roles and the performance of health intervention and health appraisal functions by others. This isolated instance appeared to be a stray or random element in the general pattern, but could not be fully interpreted without further study.
No evidence of role conflict was found. Two sub-roles were "factored-out" for performance of functions within school nurse roles.

Some bias may have been present because of the use of school nurse roles and the counting of unanswered or no responses as negative responses. However, the strength of the correlations on the factor analysis seemed to indicate that similar patterns could be elicited using a smaller questionnaire with fewer functions.

Serendipitous Findings

Two serendipitous findings were discovered in this study. One resulted from comments made by some school nurse respondents on their questionnaires, while a second was related to findings in the analysis of data.

An unexpected type of comment on the questionnaire (Appendix F) resulted in one serendipitous finding. Some respondents, after checking the appropriate answer under "Do you perform?" or "Appropriate for school nurses?," explained their response with time-related comments such as "Who has time?," "no time," or "if time allows." Eleven out of 27 school nurses, or 41 per cent of the respondents, gave this type of comment a total of 33 times for 23 various school nurse functions on the questionnaire.

Table 17 shows the frequency of time-related comments according to the category of school nurse functions.
Table 17. Frequency of Time-Related Comments According to Category of School Nurse Functions

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Appraisal</td>
<td>11</td>
<td>33.3</td>
</tr>
<tr>
<td>Health Intervention</td>
<td>7</td>
<td>21.2</td>
</tr>
<tr>
<td>Health Education</td>
<td>10</td>
<td>30.3</td>
</tr>
<tr>
<td>Management Responsibility</td>
<td>3</td>
<td>9.1</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The category of health appraisal and health education received the most time-related comments with percentages of 33.3 (11 comments) and 30.3 (10 comments), respectively. The smallest frequencies of time-related comments were in the categories of professional growth (2 comments) and management responsibility (3 comments). The category of health intervention had a more central frequency with a percentage of 21.2 for 7 comments.

Several specific school nurse functions on the questionnaire (Appendix F) were marked with time-related comments by more than one school nurse. Functions relating to home visits, under categories of health appraisal and health intervention (Numbers 9 and 10) were noted by
time-related comments 12 times. Various functions related to screening programs in the health appraisal category (Number 5) were noted by time-related comments a total of 4 times. Health education functions pertaining to in-service education for school personnel and health education materials for classroom use (Numbers 23 and 29) received time-related comments 3 and 2 times, respectively.

**Interpretation.** The percentage of school nurse respondents (41 per cent) listing time-related comments seems significantly high, especially since this type of comment was completely unsolicited and not suggested by the questionnaire. The functions which were marked most frequently with this type of comment were generally functions which take the school nurse away from her office, or require substantial amounts of time and/or preparation. This suggests three possible interpretations:

1. The school nurses are pressured by time restrictions on their activities and are less likely to perform or see as appropriate those which are not mandatory and which require substantial amounts of time and/or preparation.

2. The school nurses are pressured by time restrictions on their activities and therefore prioritize their functions, rating the functions with time-related comments relatively low.
3. The school nurses, or others to whom they are responsible, attach a low priority to those functions which remove the school nurse from her office with time restrictions a secondary factor.

Another serendipitous finding related to the category of health appraisal. In the analysis of data, health appraisal functions sometimes failed to follow the patterns established by other categories. These occasional findings were summarized as follows:

1. Health appraisal functions, although not the least unique to school nurse roles, did show the largest mean per cent of duplication by others (see Table 9).

2. When considering the effect of the variables upon performance of school nurse functions, the only significant, although weak, positive relationship occurred between the variable of continuing education and health appraisal functions (see Table 12).

3. In comparing the relationship between the performance by school nurses and appropriateness for school nurse performance, the category of health appraisal showed the highest correlation with a Pearson correlation coefficient of .76 (see Table 15).

4. The factor analysis showed performance of health appraisal functions associated with appropriateness
for school nurse performance, in addition to an association with one sub-role (see Table 16).

5. Health appraisal functions received the most time-related comments from the respondents (see Table 17).

**Interpretation.** Performance of health appraisal functions within school nurse roles was related to performance of three other categories of school nurse functions, comprising one sub-role, and the presence of continuing education and the availability of time. A relationship also existed between the performance of health appraisal functions and their stated appropriateness for school nurse performance. The data from this study were judged to be inadequate to further explain these findings, but did suggest an area for further study.

**Questionnaire Reliability**

The reliability of the questionnaire was determined by a test-retest technique. A table of random numbers was used to select 14 school nurses from the total sample to retake the questionnaire within one to two weeks. Seven school nurses responded by returning the retest. An additional retest was returned too late for entry into the computer. The 7 retests represented one-third of the 27 original school nurse respondents. The retests represented 12 school nurse roles or 25.53 per cent of the 47 school nurse roles in this study.
The responses to the retest questionnaire were statistically compared to the original responses within each school nurse role. Percentage of agreement was computed for each of the four questions regarding each of the 115 specific functions. For ease in handling, the percent of agreement was averaged (Table 18) for each of the five categories: health appraisal, health intervention, health education, management responsibility, and professional growth, and each of the four areas of information: performance within school nurse roles, performance by others, type of others, and appropriateness for school nurse performance. Additional information regarding the reliability of each specific function is available by request from the researcher.

Table 18 shows that the questionnaire as a whole had fairly high reliability with a mean per cent of agreement of 76.97 per cent. The five categories of school nurse functions also had fairly high and close mean per cents of agreement with a narrow range of percentages form 73.59 to 79.40.

An examination of the four areas of information as shown in Table 18 revealed more disparity. Appropriateness for school nurse performance and performance within school nurse roles had the highest mean per cent of agreement with values of 87.04 per cent and 81.23 per cent, respectively. The two other areas of information had less mean per cent
Table 18.  Questionnaire Reliability: Mean Per Cent Agreement According to Five Categories of School Nurse Functions and Four Areas of Information

<table>
<thead>
<tr>
<th>Category of Functions</th>
<th>Performance Within School Nurse Roles</th>
<th>Performance by Others</th>
<th>Appropriateness for School Nurse Performance</th>
<th>Total Mean Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Appraisal</td>
<td>81.43</td>
<td>66.44</td>
<td>74.55</td>
<td>93.10</td>
</tr>
<tr>
<td>Health Intervention</td>
<td>78.57</td>
<td>61.61</td>
<td>71.13</td>
<td>83.04</td>
</tr>
<tr>
<td>Health Education</td>
<td>79.82</td>
<td>67.11</td>
<td>83.33</td>
<td>85.53</td>
</tr>
<tr>
<td>Management Responsibility</td>
<td>77.43</td>
<td>68.40</td>
<td>71.87</td>
<td>78.47</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>88.89</td>
<td>66.67</td>
<td>75.00</td>
<td>87.04</td>
</tr>
<tr>
<td>Total Mean Per Cent</td>
<td>81.23</td>
<td>66.05</td>
<td>75.00</td>
<td>87.04</td>
</tr>
</tbody>
</table>

Questionnaire Total Mean Per Cent 76.97
agreement as follows: performance by others 66.05 mean percent, type of others 75.00 mean percent. Thus, the areas of information relating to performance by school nurses (or performance within school nurse roles) and appropriateness for performance by school nurses had quite good reliability. However, the other two areas, especially performance by others needed to be interpreted with more caution.

This chapter focused on an analysis and interpretation of the data related to the research questions. It also included a description of the characteristics of the sample, a presentation of two serendipitous findings and an analysis of the reliability testing of the questionnaire. Chapter 5 will include a summary of the findings in relationship to the theoretical framework and review of the literature, and recommendations for future study.
CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This descriptive field survey focused on the school nurse role and the functions performed within that role. Chapter 5 summarizes and concludes the study and its findings in relation to the theoretical framework and the review of the literature, and provides recommendations for future study.

This study developed from the ambiguity and confusion surrounding the school nurse role, and the lack of research to document growth of the school nurse from a traditional to an expanded and extended performance of health-related functions. As the schools continue to become the target for preventive health programs, the school nurse will need to become cognizant of her appropriate role, its definition, and its value.

This study answered three research questions:

1. Is the functional role of the school nurse unique to them, or is it (or parts of it) duplicated by others?

2. Does the performance of identified functions vary according to certain personal and situational factors?
3. Do these functions fall into a pattern, or range of distribution, thus showing consistency of roles? Do any of these functions indicate the existence of sub-roles or role conflict?

This study was formulated upon a framework of sociological role theory. The school nurse role consists of the functions the school nurse performs within the social location of her school assignment, according to her expectations and those of others. Ranges or distributions of performance of functions usually fall into patterns, and may vary according to personal characteristics of the school nurse and according to factors within the school environment.

The variables considered in this study were selected from the review of the literature. They were: age, years of school nursing experience, type of previous work experience, basic education, continuing education, highest level of education (personal variables), and type of school assignment and presence/absence of a health clerk (situational variables).

The sample population for this study consisted of the school nurses employed by Tucson District #1, Tucson, Arizona, who were given an investigator-designed, self-administered questionnaire. Twenty-seven of 42, or 64 per
cent of the school nurses returned the questionnaire and their responses provided the data for this study.

The questionnaire (Appendix F) consisted of 115 separate functions grouped into 44 questionnaire numbers and five categories of school nurse functions (Appendix G): health appraisal, health intervention, health education, management responsibility, and professional growth. Consensus validity for the functions and their categories was achieved by use of a sorting technique utilizing three school nurse experts.

Four questions were asked about each function on the questionnaire to obtain four areas of information relating to the research questions. They were: performance by school nurses, or performance within school nurse roles ("Do you perform?"); performance by others ("Does anyone else perform?"); types of others ("If so, whom?"); and appropriateness for school nurse performance ("Appropriate for school nurses?").

A questionnaire pretest was conducted using three substitute school nurses to check for ease in both administering and responding. Reliability of the questionnaire was evaluated by use of a test-retest technique in which seven school nurses, from a random selection, completed the questionnaire a second time. The questionnaire as a whole had a mean agreement of responses of 76.97 per cent.
Summary and Conclusions

The data obtained from the questionnaire were analyzed by a variety of statistical techniques including frequencies, means and ranges, F-ratios, Pearson correlation coefficients, and a factor analysis. These findings and their conclusions were summarized in the following paragraphs according to (1) uniqueness versus duplication, (2) variance in performance, and (3) role consistency versus role conflict. Two additional serendipitous findings were also discussed.

Uniqueness Versus Duplication

This aspect of the school nurse role was examined by using frequencies, means, and ranges. Mean per cent of performance within the five categories of school nurse functions ranged from 50 per cent to 82 per cent, thus showing that school nurses perceive themselves as performing a broad variety of functions. This is consistent with the review of the literature. Role of the School Nurse in Massachusetts (1973:4) described school nursing as "... a dynamic discipline embracing a variety of functions...." Similarly, the Denver study reported by Barbour et al. (1970:547) described school nurses as wearing "many hats."

In examining this area more specifically, the data showed that the category of health intervention had the highest mean per cent of performance within school nurse
roles (82 per cent). This category also had the largest difference between performance by others (60.6 mean per cent), causing these functions to be the most unique to the school nurse role. Conversely, management responsibility functions had the least uniqueness to the school nurse role, with the smallest difference between performance within school nurse roles and performance by others (18.3 mean per cent). Health appraisal functions, while not the least unique to the school nurse role, did show the highest amount of duplication by others (24.0 mean per cent).

A surprise finding in this study was the large number of terms used to describe others who also perform school nurse functions. However, this is consistent with the study reported by Berg et al. (1973:317) where a major finding was the reported sharing of many functions between school nurses and others. The 67 terms listed in the present study included professionals and non-professionals, employees and volunteers, as shown in Appendix H, with employed professionals being mentioned most often.

Variance in Performance

The effects of several personal and situational variables upon the performance of school nurse functions were studied using the F-ratio, Pearson correlation coefficients, and mean frequencies. One of the personal variables, previous work experience, did not shown any
significant relationship to the performance of school nurse functions with the F-ratio. This finding did not support the opinion that community health, or public health experience affects the performance of school nurses, and suggests that school nurses in this sample carried out their role according to other influences.

Using the Pearson correlation coefficient, five of the personal variables showed a negative relationship to the performance of school nurse functions. In general, the younger (age) the school nurse with the less years of school nursing (experience) and the less formal education (basic education, continuing education, and highest level of education) the more likely she was to perform functions in every category. These relationships were believed to be largely a function of age since the younger school nurses had less school nursing experience and less formal education. This finding was a contradiction to Barbour et al. (1970:548) who reported in their study that age had no effect on the feelings and opinions of school nurses regarding an expanded role.

The exception to this trend was a weak, but positive, relationship between continuing education and health appraisal functions showing that the more continuing education was listed by the respondents, the more they tended to perform health appraisal functions. It seemed that additional formal education may be necessary, and is possessed
by the school nurses who performed the health appraisal functions on the questionnaire.

The generally negative correlation between performance of school nurse functions and education was a contradiction of most authors such as Coakley and Parker (1965:86), Kepler (1973:27), and the A.N.A. as reported by Saltarelli and Ventura (1973:20) who emphasize the importance of formal education to school nurses. This relationship may have been partly a function of the questionnaire since it was designed to indirectly reflect expanded, emerging functions that would be more likely to be included in the more recent education of young school nurses.

Of the situational variables, school assignments (elementary, junior high, and high school) by themselves did not cause performance of functions to vary. This finding is similar to the study described by Barbour et al. (1970:548) where school nurses' opinions about their role did not vary according to type of school assigned. However, if a school had a health clerk, this variable tended to cause an increase in mean frequency of functions performed by school nurses, especially in the categories of management responsibility and health intervention. This trend suggests that school nurses who have health clerks are assuming more management responsibilities and being freed to perform an increased number of other functions, such as health intervention.
Role Consistency Versus Role Conflict

This study looked at the school nurse role for evidence of patterns and ranges of distribution which would indicate consistencies and sub-roles or role conflict in the performance of school nurse functions. Using Pearson correlation coefficients and a factor analysis, several generalizations were made which indicated definite patterns and a high degree of consistency within school nurse roles.

The more school nurses tended to perform functions from the questionnaire, the more they tended to see others performing them and the more they viewed them as being appropriate for school nurse performance. A second generalization was that the more school nurses saw others performing functions in one category the more they saw others performing functions in other categories. Similarly, the more school nurses tended to see functions as appropriate in one category, the more they tended to see functions as appropriate in other categories.

A specific comparison between performance by school nurses and appropriateness for school nurse performance showed no evidence of role conflict. This finding was consistent with the review of the literature. Marriner (1971:420) stated "that the higher the priority the school nurse rated an activity, the more likely she was to carry out that function." Similarly, Berg et al. (1973:317) described "marked agreement between health-related tasks assessed as
appropriate nursing functions and those being performed by a majority of nurses."

Two sub-roles were identified in performance of school nurse functions, as demonstrated by a factor analysis. Performance of health appraisal, health intervention, health education, and management responsibility functions made up one sub-role, while performance of management responsibility and professional growth functions comprised another. That is, some school nurses tended to perform functions in the first sub-role, while other school nurses tended to perform functions within the second sub-role.

Serendipitous Findings

Two serendipitous findings of special interest were found. One finding pertained to the frequency of time-related comments on the questionnaire. Comments suggesting lack of time to perform certain functions were noted by 41 per cent of the school nurse respondents and were most frequent in the category of health appraisal. They were also noted most often with functions which would take the nurse away from her office or require substantial amounts of time and/or preparation. This finding suggests the school nurse prioritizes the performance of her functions according to the time and/or preparation required and the demands of her office, and according to her expectations and those of others regarding time spent away from her office.
Another serendipitous finding related to the category of health appraisal. The functions in this category occasionally contradicted or did not relate to the patterns occurring within the other categories. Health appraisal showed the only positive correlation between performance within school nurse roles and any variable. The category of health appraisal was closely associated with two factors in the factor analysis: (1) performance within one sub-role and (2) appropriateness for school nurse performance. Health appraisal functions were also characterized by the highest per cent of duplication by others, the highest correlation occurring between performance by and appropriateness for school nurses, and the highest frequency of time-related comments. The data were inadequate to explain these findings satisfactorily, but did suggest this area for future study.

The purpose of this study was to examine the characteristics of the school nurse role and the performance of selected functions performed by school nurses in carrying out that role. An extremely large amount of information was collected and condensed in an effort to provide some definition to this ambiguous, and largely ignored, area of nursing research. The most meaningful relationships as they pertained to the research questions were presented, and some areas of the school nurse role needing further clarification and study were identified.
Recommendations

Based upon the findings of this study, the following recommendations are made.

1. Ask additional research questions, including:
   a. Does the perception of others, such as teachers, principals, or parents, vary regarding the school nurse role, and does this perception supplement, detract, or conflict with the school nurse's own perception of her role?
   b. Do school nurse functions change over a period of time, indicating and predicting the future of the school nurse role?
   c. Does the frequency of performance of school nurse functions vary according to personal and situational factors?

2. Restructure certain elements of the research design, including:
   a. Repeat this study in several years with the same sample to ascertain changes over time, and/or repeat the study with other sample populations of school nurses for comparison studies.
   b. To simplify administration and data analysis, use a separate questionnaire for each school nurse assignment to achieve discrimination between assignments and yet avoid the use of symbols (E1, E2, J, etc.) in completing; use a
stratified random sample (elementary, junior high, high school) to avoid having some school nurses fill out many questionnaires and yet insure adequate representation of all types of assignments.

c. Investigate duplication of school nurse functions by others in more depth, and as a separate research study.

d. Conduct a task analysis study of school nurse functions to answer the research questions of this study, and to determine frequency of performance.

e. Repeat the study with the questionnaire functions and qualify performance with term of frequency on a Likert scale (always, often, sometimes, seldom, never).

f. Repeat the study with the questionnaire functions, and substitute the term importance for the term appropriateness; ask that each function be rated according to relative importance on a scale of 1 to 5.

g. Conduct a separate study of the category of health appraisal functions.

h. Conduct correlation studies between the various variables.

3. Refine the questionnaire and data sheet, including:
a. Ask for birth date on the data sheet, and calculate age from that information to encourage listing of that information.

b. Condense the size of the questionnaire by eliminating items which have the lowest statistically determined reliability.

c. Randomly select school nurses for reliability retest from those returning the first questionnaire, not from the entire sample, in order to insure that those included in the retest will have participated initially; inform the school nurses at the first administration of the questionnaire that some will be chosen for the retest and that those persons will be informed when the random selection is made.
APPENDIX A

HUMAN SUBJECTS APPROVAL

January 13, 1976

MEMORANDUM TO: A. Richard Kassander, Jr., Ph.D.
Vice President for Research

FROM: Milan Novak, M.D., Ph.D., Chairman
Human Subjects Committee

RE: Kathleen H. Switzer, "A Study of Expanded Role Functions of School Nurses"

Enclosed is a thesis project from the School of Nursing. The investigator is interested in studying the expanded role functions of school nurses and plans to administer a questionnaire to nurses employed by Tucson Public School District #1. Confidentiality has been assured and there are basically no risks inherent in the project. I recommend approval without submission to the entire Human Subjects Committee.

Ms. Switzer's address is 5742 I Street, Tucson, Arizona, 85708.

tk

Enclosure

Administratively Approved:

/s/
A. Richard Kassander, Jr.
Vice President for Research
APPENDIX B

RESEARCH DEPARTMENT APPROVAL

Tucson Public Schools
Research Department

Approval for Research Project
Within District One

28 January 1976

To______Sue Sobolewski___________________________________
Research Project____Role Functions of School Nurses______
Researcher_____Kathleen H. Switzer__________________
Affiliation____University of Arizona, School of Nursing

This research project has approval from the Research Department.

If we can be of further assistance, please call 6138.

__________/s/_______
Barbara S. Prentice
Director of Research

__________/s/_________________
Esther J. Milne
Coordinator, Elementary Research
School Nurses

1. Direct and supervise work of Health Aides and/or volunteers in assigned schools.

2. Interpret role of Health Aides, Nurses, and School Doctors to teachers, school personnel, and parents. Explain First Aid and Emergency procedures.

3. Help teachers to identify and understand health problems of children.

4. Assist with health teaching particularly intermediate and Junior High grades.

5. Work cooperatively with all members of student services staff to achieve optimum health for each child.

6. Maintain rapport with family doctors and all community agencies offering services to school children.

7. Alert school staffs to the legal implications in specific areas of the school program; i.e., Playground Safety, Animal Bites, Head Injuries, Medications, sending children home unattended, et al.
8. Initiate follow-up of problems discovered through screening procedures. Confer with parents about remedial problems.

9. Arrange parent conferences to discuss children with Special Health problems.

*10. Maintain adequate medical supplies and health forms in each school.

11. Assist with Kgn Round-up; explain Immunization Law, Health Department regulations and emergency information forms to Kgn parents and to families new to the district.

*12. Fill out monthly immunization forms and communicable disease records and send to health office each month. Keep copies in school files. File Daily Register reports by month.

*13. Complete annual inventory and send to Health Office in February. Clean up Health Office and store supplies at the end of the school year.

*14. List, in triplicate, 6th & 8th grade children with health problems at the end of the school year. Send 1 copy to Junior High or High School nurse, 1 to Assistant Principal and 1 to Health Office.

15. Try to make every health activity an educational experience for the child, the parents, and the teacher.
16. Give first aid for accidents and emergency illness which occur at assigned school.

17. Have individual conference with students who have physical, social, or emotional problems.

*These tasks may be performed by Aides but must be checked by nurse.
APPENDIX D

SUBJECT'S CONSENT

Project Title: A Study of Role Functions of School Nurses

I am conducting a study to see which functions of school nursing (1) are being consistently performed by school nurses, (2) are unique to school nurses, and (3) are seen by school nurses as being appropriate for them to perform.

In order to obtain this information, I am giving a questionnaire which includes 44 questions with 113 separate items. Following each item are spaces for check-marks, possible one-word answers, and your comments. You will also be asked to supply some biographical data regarding yourself and your job situation. It will take approximately 30 to 45 minutes to complete the 6-page questionnaire and data section.

Ten of the participating persons will be chosen by random selection, and will be requested to complete the questionnaire again in approximately one week, and to sign the consent form again. The purpose of this is to obtain information about the reliability of the questionnaire. If you have been selected to take the questionnaire again, you will be notified prior to taking the questionnaire the first time.

Your participation in this study is voluntary. You are free not to participate, or to leave any item on the questionnaire unanswered. You may withdraw from the study at any time. If you choose to participate, I will be available to answer any questions you may have about the study.

All the information you give will remain confidential and will be handled only by the investigator. The questionnaire will be numbered for identification. Your name will not appear on the questionnaire you complete or in any of the reports of the study.

Data analysis will be carried out on coded data by a computer. The data will be used only for research or
educational purposes, but may be published in a professional book or journal. No names or initials will be used. Only group data will be used.

There is no cost to you for participation, nor is there any monetary payment. One of the anticipated benefits of this study will be to demonstrate the uniqueness of nurse functions in a school setting, as described by the sample population. There are no known risks.

If you understand what is involved and you consent to participate in this study, please sign your name below.

I have read the above Subject's Consent. The nature, demands, and benefits of the project have been explained to me. I understand that I may ask questions and that I am free to withdraw from the project at any time.

Subject's Signature ____________________________ Date_______

Investigator's Signature ________________________ Date_______

I wish to have an abstract of the results of the completed study ____ Yes   ____ No
APPENDIX E

DATA AND INSTRUCTION SHEET

Identification number ____________________

School Nurse Questionnaire

Please fill in the following information regarding yourself and your present job assignment.

Age (state):

Basic formal education:  AD _____ Date _____
                      Diploma _____ Date _____
                      BS. _____ Date _____

Additional degree:  List ________ Date _____

Additional formal credits (approximate number):
                        1965 to 1969 _____
                        1970 to 1975 _____

How many years in full-time school nursing? _____

What type of work before entering school nursing? _____

Assignment (check):  high school _____
                        junior high _____
                        elementary _____

How many elementary schools? _____
Which have health clerks? _____ (Please use symbols to indicate, such as E1, E2, etc.)

Instructions

In this questionnaire, you are asked three basic questions for each function:

1. "Do you perform" this function?
2. "Does anyone else perform" this function?
3. Do you think this function is "appropriate for school nurses" to perform?

Simply answer these three questions by checking the box for yes (Y) or no (N).

If someone else performs this function, you are also asked to list the person(s) in the space provided under "If so, whom?"

There is an additional space provided for your comments if you desire, but these are not necessary.

If you have several elementary schools, or both elementary schools and junior high schools, and if your functions and answers vary from school to school, please indicate to which school your answer refers by the use of symbols (El, E2, etc. or J for junior high).

If your functions do not vary between schools, you do not need to use these symbols.

I will be available to answer any questions you may have about this questionnaire. If you wish to reach me at home, my phone number is 790-9400.
APPENDIX F

SCHOOL NURSE QUESTIONNAIRE
<table>
<thead>
<tr>
<th>Do you perform?</th>
<th>Does anyone else perform?</th>
<th>If so, whom?</th>
<th>Appropriate for school nurses?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>List</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

1. Assess the physical health status of pupils by use of medical & immunization histories, medical reports and recommendations:
   a. obtain___________________________________________
   b. record_______■  ______
   c. evaluate________ '  '________

2. Maintain health records by:
   a. planning & implementing routine up-dating______
   b. preparing written summaries & evaluations on special health problems_______________

3. Periodically review the health status of individual pupils by:
   a. formal case conferences__________________________
   b. informal conferences____________________________

4. Recommend changes in the classroom or in the pupil's educational program on the basis of health findings________________________
5. Conduct screening for health defects & health problems:
   a. formally
      1. nearsightedness
      2. farsightedness
      3. depth perception
      4. binocular vision
      5. color vision
      6. hearing
      7. scoliosis
      8. TBC
   b. informally

6. Assist teachers with specific health units preceding screening programs by:
   a. planning & providing materials
   b. classroom presentation

7. Inform & interpret results of screening programs to:
   a. pupils
   b. parents & families
   c. school staff
   d. community
<table>
<thead>
<tr>
<th>Do you anyone else perform?</th>
<th>If so, whom?</th>
<th>Appropriate for school nurses?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

8. Refer pupils with identified health problems to:
   a. school resources
   b. private resources
   c. community resources

9. Make home visits for the purpose of:
   a. suggesting specific health recommendations
   b. making & following-up referrals

10. Make home visits for the purpose of:
    a. obtaining health histories and health data
    b. assessing home environment

11. Implement & enforce communicable disease policies by:
    a. exclusion
    b. readmission
    c. classroom inspection when necessary
    d. reporting to appropriate person or agency if necessary
    e. conducting immunization programs
<table>
<thead>
<tr>
<th></th>
<th>Does anyone else perform?</th>
<th>If so, whom?</th>
<th>Appropriate for school nurses?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Conduct epidemiologic studies or research of school health problems</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>13</td>
<td>Help maintain health &amp; safety within the school environment by:</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>a. periodic inspection of the school plant</td>
<td></td>
<td></td>
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<td></td>
<td>b. recommending necessary modifications</td>
<td></td>
<td></td>
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<td></td>
<td>c. reporting accidents to appropriate personnel</td>
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<td></td>
<td>d. alert school teachers and administrators to health trends &amp; problems</td>
<td></td>
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<tr>
<td>14</td>
<td>Provide professional emergency care in cases of major injury or serious illness</td>
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<tr>
<td>15</td>
<td>Plan for the administration of routine first aid by supervising other school personnel</td>
<td></td>
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<tr>
<td>16</td>
<td>Plan for routine first aid by instructing other school personnel in:</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>a. formal presentations &amp; sessions</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>b. informal conferences</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Does you perform?</td>
<td>Does anyone else perform?</td>
<td>If so, whom?</td>
<td>Appropriate for school nurses?</td>
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<tr>
<td>17</td>
<td>Administrate school health office and programs by utilizing:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. health paraprofessionals (health clerks)</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>b. pupil helpers</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td></td>
<td>c. volunteers</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td>18</td>
<td>Assume responsibility for health paraprofessionals (health clerks) by:</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>a. orientation</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td></td>
<td>b. supervision</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td></td>
<td>c. evaluation</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td>19</td>
<td>Help determine criteria for use of health paraprofessionals regarding:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>a. qualifications</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td></td>
<td>b. job functions</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td>20</td>
<td>Assess the physical health status of pupils by use of various physical examination skills:</td>
<td></td>
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<tr>
<td></td>
<td>a. observation &amp; inspection</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td></td>
<td>b. auscultation</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td></td>
<td>c. palpation</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td></td>
<td>d. percussion</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td></td>
<td>e. instrumentation</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>1. otoscope</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td></td>
<td>2. ophthalmoscope</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Do you perform?</td>
<td>Does anyone else perform?</td>
<td>If so, whom?</td>
<td>Appropriate for school nurses?</td>
<td>Comments</td>
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<tr>
<td>Y</td>
<td>Y</td>
<td>List</td>
<td>Y</td>
<td>N</td>
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</tbody>
</table>

3. stethoscope

4. sphygmomanometer

21. Assess individual pupil's behavior as necessary by:
   a. classroom observation
   b. teacher conferences
   c. parent conferences
   d. informal observation within the school environment

22. Perform health education for parents by:
   a. formal sessions & presentations
   b. informal conferences

23. Perform in-service education for school personnel, regarding health problems:
   a. formal sessions and presentations
   b. informally

24. Assess growth and development of pupils by:
   a. obtaining growth & development history
   b. use of specific growth & development tools
<table>
<thead>
<tr>
<th>Does anyone else perform?</th>
<th>If so, whom?</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
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</tbody>
</table>

25. Appraise pupils of medication by:
   a. periodic observation
   b. conferences with:
      1. pupil
      2. parents & families
      3. teachers & school staff
      4. physicians

26. Conduct counseling sessions:
   a. informally, spontaneously
   b. formal sessions
   c. with individuals
   d. in groups
   e. as a team with other school personnel

27. Use counseling as a method for promoting understanding and solution of problems of:
   a. pupils
   b. parents & families
   c. school staff
<table>
<thead>
<tr>
<th></th>
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<th>Appropriate for school nurses?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
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</tbody>
</table>

28. Conduct counseling to assist with solving:
   a. medical problems
   b. emotional problems
   c. social adjustment problems
   d. educational problems

29. Search out, evaluate, and compile a file of health education materials for classroom use:

30. Assist teachers with health units on topics of special interest by:
   a. planning and providing materials
   b. classroom presentation

31. Join and participate in professional organizations

32. Keep abreast of current health knowledge and trends by:
   a. have available or subscribe to professional literature
   b. attend workshops outside the school setting
   c. attend in-service education
33. Encourage the incorporation of relevant health education instruction by serving on curriculum development committees

34. Assist in planning for the needs of the school health program regarding:
   a. budget
   b. ordering supplies
   c. recommending purchase of new equipment

35. Inform pupils regarding career opportunities in the health professions

36. Participate in school health program evaluation by:
   a. planning procedures to compile adequate health records, reports, & statistical information
   b. analyze school health records, reports, & statistical information
   c. determine perception of various components of the school health program by:
<table>
<thead>
<tr>
<th>Does anyone else perform?</th>
<th>Do you perform?</th>
<th>If so, whom?</th>
<th>Appropriate for school nurses?</th>
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<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>List</td>
</tr>
</tbody>
</table>

1. pupils
2. parents & families
3. school staff
4. community

37. Participate in local community health planning committee activities

38. Assist in the development and revision of school or district health policies and recommendations

39. Work with community agencies in development of new health programs as needed

40. Conduct "team meetings" on a regular basis between the community health professionals and the school

41. Contribute to school nursing through:
   a. writing articles for professional journals
   b. speaking at professional meetings
   c. serving on professional committees

42. Conduct self-evaluation, using an evaluation instrument.
<table>
<thead>
<tr>
<th>No.</th>
<th>Task Description</th>
<th>Y</th>
<th>N</th>
<th>Y</th>
<th>N</th>
<th>List</th>
<th>Y</th>
<th>N</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>43.</td>
<td>Work with the librarian or instructional media consultant in selection &amp; purchase of appropriate pupil &amp; teacher health resource materials:</td>
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<td>44.</td>
<td>Assist in community health education through the use of mass media (newspapers, TV, radio, distribution of pamphlets, etc.):</td>
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</table>
APPENDIX G

QUESTIONNAIRE NUMBERS ACCORDING TO CATEGORIES OF SCHOOL NURSE FUNCTIONS

Category: Health Appraisal
Numbers: 1, 3, 5, 10, 20, 21, 24, 25

Category: Health Intervention
Numbers: 4, 8, 9, 11, 13, 14, 26, 27, 28

Category: Health Education
Numbers: 6, 7, 16, 22, 23, 29, 30, 33, 35, 43, 44

Category: Management Responsibility
Numbers: 2, 12, 15, 17, 18, 19, 34, 36, 38, 39, 40

Category: Professional Growth
Numbers: 31, 32, 37, 41, 42
APPENDIX H

CLASSIFICATION OF PERFORMANCE BY OTHERS

I. Professional, employed

School, staff
Administrators, principal, vice-principal, assistant principal
Dean
Personnel supervisor
Librarian, head librarian
Special services, student services
Social worker
Psychologist
Speech therapist
Counselor, career guidance counselor
Health and nutrition project worker
Physical therapist
Mental health therapist
Teachers, health teachers, adaptive education teachers, learning disability teachers, driver education teachers
Trainer
Medical people, doctors
School health department director, school doctor, Dr. Belt
Health office
Supervisor, nurse supervisor, director of nurses
Supervisor of health clerks
Other nurses, nurses' committee, R.N., nursing staff
Pediatric nurse practitioner
Outside agencies
University of Arizona
Public health agency, public health department, public health nurses

II. Professional, volunteer

University of Arizona anthropology team
Outside speakers
III. Non-professional, employed

Health clerk, health aide
Students, health career students
Secretary
Registrar
Red Cross course, Red Cross instructor
Tucson Fire Department
Home visitor
Custodian
Monitor

IV. Non-professional, volunteer

Outside speakers
Students, trained students, coop. class
Parents, mother
Lion's Club volunteers
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