INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.
Factors associated with professional role socialization of nurses

Hillery, Sharon Monley, Ph.D.

Iowa State University, 1991
Factors associated with 
professional role socialization of nurses
by
Sharon Monley Hillery

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Department: Professional Studies in Education
Major: Education (Higher Education)

Approved:
Signature was redacted for privacy.
In Charge of Major Work
Signature was redacted for privacy.
For the Major Department
Signature was redacted for privacy.
For the Graduate College

Iowa State University
Ames, Iowa
1991

Copyright © Sharon Monley Hillery, 1991. All rights reserved.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER I. INTRODUCTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Theory</td>
<td>3</td>
</tr>
<tr>
<td>Socialization Theory</td>
<td>7</td>
</tr>
<tr>
<td>Symbolic Interactionism</td>
<td>15</td>
</tr>
<tr>
<td>Need For The Study</td>
<td>21</td>
</tr>
<tr>
<td>Statement Of Purpose</td>
<td>22</td>
</tr>
<tr>
<td>Research Problem</td>
<td>23</td>
</tr>
<tr>
<td>Professional Nurse Role Socialization Model</td>
<td>23</td>
</tr>
<tr>
<td>Definition Of Terms</td>
<td>27</td>
</tr>
<tr>
<td>Limitations</td>
<td>29</td>
</tr>
<tr>
<td>Assumptions</td>
<td>29</td>
</tr>
<tr>
<td>Significance Of The Study</td>
<td>30</td>
</tr>
<tr>
<td>Organization Of The Study</td>
<td>31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 2. REVIEW OF THE LITERATURE</th>
<th>33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical Background</td>
<td>34</td>
</tr>
<tr>
<td>Research Variables</td>
<td>57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 3. RESEARCH DESIGN AND METHODOLOGY</th>
<th>95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects</td>
<td>95</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>96</td>
</tr>
<tr>
<td>Design</td>
<td>105</td>
</tr>
<tr>
<td>Procedure</td>
<td>107</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 4. RESULTS</th>
<th>111</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview Of Statistical Procedures</td>
<td>111</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1. An analytical conceptual sequential
diagram for professional role socialization of nurses 26

Figure 2. Data analysis diagram for professional role socialization of nurses 112

Figure 3. Histogram of subjects' ages 114

Figure 4. Histogram of parents' education 115

Figure 5. Histogram of parents' occupation 116

Figure 6. Histogram of nursing education 116

Figure 7. Histogram of grade point averages in nursing education 117

Figure 8. Number of nursing journals read monthly 118

Figure 9. Revised analytical conceptual sequential
diagram for professional role socialization of nurses 153
LIST OF TABLES

Table 1. Mean scores and standard deviations of perceived influence of reference groups

Table 2. Six variable intercorrelation matrix of perceived influence of reference groups

Table 3. ANOVA: Choice of nursing education as a function of age

Table 4. Chi-square analysis: Nursing education and practice settings

Table 5. ANOVA: Nursing practice setting as a function of grade point average in nursing education

Table 6. Chi-square analysis: Nursing education and nursing position

Table 7. Chi-square analysis: Degree, non-degree and nursing position

Table 8. ANOVA: Nursing position as a function of grade point average in nursing education

Table 9. ANOVA: Perceived influence of physicians as a function of subjects' nursing education

Table 10. Correlation coefficients of grade point average and perceived influence of six reference groups

Table 11. ANOVA: Perceived influence of immediate work group as a function of practice setting
Table 12. ANOVA: Perceived influence of nursing school as a function of practice setting 128
Table 13. ANOVA: Perceived influence of immediate work group as a function of nursing position 129
Table 14. Chi-square analysis: Nursing education and American Nurses Association membership 130
Table 15. Chi-square analysis: Nursing education and professional organization membership 131
Table 16. Chi-square analysis: Nursing education and number of journals read monthly 131
Table 17. Chi-square analysis: Nursing education and enrollment in higher degree education program 132
Table 18. ANOVA: Membership in professional organizations as a function of grade point average in nursing education 132
Table 19. ANOVA: Number of journals read monthly as a function of grade point average in nursing education program 133
Table 20. Chi-square analysis: Practice setting and four professional development activities 133
Table 21. Chi-square analysis: Nursing position and membership in professional nursing organizations 134
Table 22. Chi-square analysis: Nursing position and number of professional nursing journals read monthly

Table 23. ANOVA: Professional role score as a function of nursing education

Table 24. ANOVA: Consumer control as a function of nursing education

Table 25. ANOVA: Critical thinking as a function of nursing education

Table 26. ANOVA: Impatience with change as a function of nursing education

Table 27. ANOVA: Belief in a superordinate purpose as a function of nursing education

Table 28. ANOVA: Professional role as a function of practice setting

Table 29. ANOVA: Professional role as a function of nursing position

Table 30. ANOVA: Professional role score as a function of enrollment in an higher degree program

Table 31. ANOVA: Professional role score as a function of number of journals read monthly
CHAPTER 1. INTRODUCTION

"Minimum preparation for beginning professional nursing practice at the present time should be baccalaureate degree education in nursing (BSN)" (American Nurses' Association, 1965, p. 107). "Minimum preparation for beginning technical nursing practice at the present time should be associate degree education in nursing (ADN)" (ANA, p. 108). These statements embody the official position on nursing education of the American Nurses' Association (ANA).

Although only one state has implemented the ANA position, scores of graduates of ADN and hospital diploma nursing education programs have sought the BSN degree. Between the years 1982 and 1986 there were 204,000 ADN and diploma nurses enrolled in BSN programs (RN Baccalaureate Nursing Education, 1988). An historical review of the evolution of nursing education is provided in Chapter Two. Currently, successful completion of a two year ADN, three year diploma, or four year BSN program qualifies the graduate to take the same National Council of Licensure Examination for Registered Nurses (NCLEX-RN). Inasmuch as graduates of all three types of programs hold the same licensure credential, they are usually employed in similar entry level nursing positions. Yet, research has demonstrated that the three nursing education tracks (ADN, Diploma, and BSN) "comprise distinct socialization processes that lead to different role conceptualizations" (Brief, Aldag, Van Sell & Melone, 1979, p. 162).

Many graduates and educators of ADN and diploma nursing programs, and other groups within and outside the nursing profession question the ANA position. If nurses from the three types of nursing education
programs (ADN, Diploma, and BSN) earn similar scores on the licensure examination, and if they occupy the same nursing positions, what evidence exists that an ADN or diploma nurse is more professional after earning a BSN degree?

One nurse who was completing her BSN degree was asked by a nurse colleague what she had gotten from the additional BSN education. She answered that she had learned new ways of thinking. She said she was able to use methods of scientific inquiry, critical thinking, and problem solving skills. She had changed her attitudes and beliefs about herself, her role as a nurse, and her relationship to others in and out of the nursing context.

The nurse in the scenario above was describing a change resulting from the role socialization process. An integral component of professionalization of any group is role socialization of its members. The purpose of this section of the introduction is to describe the theories of role, of socialization, and of symbolic interactionism which provide the foundation upon which this study is developed.

Borg and Gall (1983) described theory as "a system for explaining a set of phenomena by specifying constructs and laws that relate these constructs to each other" (p. 22). Theory development serves several functions. It makes it possible to describe, predict, control, and explain phenomena. Further, theory guides research by defining the boundaries and limitations of knowledge (Borg & Gall, 1983; Parsons & Shills, 1952). This research is a preliminary examination of the
interrelationships of various phenomena as they interact with professional role socialization of nurses.

The theoretical framework for this dissertation consisted of role theory, socialization theory, and symbolic interactionism. For each of these theories, a definition or description of the theory is discussed. Then for each theory, the variables, scope and methods of research are reviewed.

Role Theory

Definition

Role theory is the system for explaining phenomena that influence how individuals learn social roles for adult performance, particularly occupational, marital, and parental roles (Hurley, 1978). "Role theory represents a collection of concepts and a variety of hypothetical formulations that predict how actors will perform in a given role, or under what circumstances certain types of behaviors can be expected" (Conway, 1978, p. 17). Role theory has been studied by each of the disciplines of anthropology, psychology, and sociology (Hurley, 1978).

Each [discipline] has endeavored from its perspective to delineate some aspect of how the human person develops within his social and cultural milieu. Anthropology, for example, has distinguished itself by focusing upon the broader culture, viewing socialization as an enculturation process in which the learner...absorbs and internalizes the cultural norms and contents transmitted by the society of which he is a member. In contrast, psychology focuses upon the processes of learning and development. Studies of the processes of
identification, motivation, and cognitive, psychosexual, language, and conscience development have reflected psychologists varied theoretical positions on the inherent nature of man.... In contrast to the psychologist's position, sociologists have in large part focused on the agencies of socialization (family, peers, school, institutions) and the processes involved in the acquisition of social skills, including modes of social control, development of the social self, the influences of social structure and value orientation on child-rearing practices, and social roles and role training (Hurley, 1978, p. 29, 30).

Every individual occupies multiple roles, each with specific and sometimes conflicting expectations (Hadley, 1967). Role was defined by Parsons (1951) as being processual, "what the actor does in his relations with others seen in the context of its functional significance for the social system" (p. 25). He further elaborated that role includes a complimentary reciprocity of expectations or standards of behavior for both the role occupant and others within the particular interactional context. A role is made up of the set of norms of a given position (Turner, 1956). Biddle (1979) defined role as observable behaviors performed by one or more persons within a specific context. Biddle's definition specifically excludes the concepts, attitudes, norms, values, sanctions, and reactions of the role occupant or others within the social context. On the other hand, Hinshaw (1978) and Hadley (1967) both incorporated goals, values and beliefs as part of the shared expectations of role occupants within the context of the social structure. Inasmuch as
role relates to behavior, one enacts a role but does not occupy a role (Turner, 1956).

Benne and Bennis (1959) caution that although the various sets of expectations surrounding a particular role may reinforce each other, often times they do not. Unclear, unrealistic, or conflicting expectations may be a source of stress to the role occupant. The expectations surrounding a particular role are not only defined by the role occupant and individuals within the social situation, but by others outside the boundaries of the organization as well (Brief, Sell, Aldag, & Melone, 1979). For the purpose of this study, the definition of role incorporates the attitudes, values, goals, and beliefs as well as the behaviors of the role occupant.

Research

Thomas & Biddle (1966) reviewed the literature from 1923 to 1962 to determine the extent of research in the area of role theory development. They noted that Psychological Abstracts first introduced the categories of role, role playing, and sex role in 1944. Consequently, prior to that time there were no entries listed that specifically related to role. Since 1943 however, there have been increasing role entries. They noted that role concepts that have been studied include "conflict, differentiation, expectancy, prejudice, reversal of role, adjustment, learning, socialization, and assignment" (p. 16). They reported that studies have examined virtually every major position in society.

Thomas & Biddle observed that laboratory experiments of role theory were common while "extensive surveys and experiments in real-life settings
are much less frequent" (p. 16). Questionnaires and subjects' verbal reports are frequently the data gathering methods employed in role research. The author noted that, while these practices introduce bias (as opposed to the more objective methods of observation of behavior), they reflect the methods of inquiry characterizing research in the behavioral sciences. They noted that role playing is another technique employed in role research.

Thomas & Biddle (1966) described two types of variables pertaining to role. The first type is classificatory. Classificatory variables include the role concepts listed above. However, the authors recommend, that for the purposes of interpretation, explanation, and prediction, the second type, ordering variables are indicated. These variables are capable of quantifying phenomenal properties of role. They discussed a range of ordering variables of role theory. Variables include role prescription, evaluation, performance, descriptions, transistors (persons affected by the behavior), and any aspect of role behavior related to its organismic involvement.

They also described environmental constraint imposed on role behavior and the reinforcement or punishment function of the environment. Ordering variables related to role position include: achievement as a condition for position entry, maintenance, and departure; transition from one position to another; clarity of attributes or behaviors that determine position membership; joint membership in more than one position and the degree of similarity of achievement requirements for each; and interpersonal contacts between and among positions.
Role interdependence variables include facilitation versus hindrance, and reward versus cost. The ordering variables related to personal role adaptation are person-role fit, role pressure, and role strain. Ordering variables related to role behavior also include: commonality, or shared role behavior; the extensiveness or repertoire of role behavior; and aggregates of role behavior. Further, the authors stated that although social structure is not a direct variable of role theory, it does affect role and is often examined in role studies.

In summary, the methods, variables and data gathering procedures involved in role theory research were described above. This present research describes exploratory methods employed to study variables related to the professional role socialization of baccalaureate prepared nurses. The questionnaire as described by Thomas & Biddle was used for data gathering.

Socialization Theory

Definition

Role behavior is learned through the process of socialization. Socialization is defined by Biddle (1979) as "changes in behavior or conceptual state of the person that follow from an environmental condition and lead to a greater ability of the person to participate in a social system. It involves two notions, that of learning and that of accommodation" (p. 282).

Some socializing experiences are formal and planned, such as through educational systems. Others are informal and occur accidentally or inadvertently. The learning related to socialization includes the two
dimensions of overt behaviors and covert processes which supposedly underlie the behaviors. However, according to Biddle (1979) a person could learn a role without understanding the behaviors or their functional significance. The role incumbent may not understand the expectations others have of him or her. In fact, he says the role incumbent may not even be aware that he or she is exhibiting particular role behaviors.

Langner and Fetsch (1987) addressed the formal socialization process as being complex and multidimensional, resulting in learned skills, attitudes, and behaviors necessary to function in a role. The individual being socialized develops an identity which conforms to the expectations of the role (Klein & Klein, 1964; Vance, 1979). Socialization is the process whereby persons take on the characteristics of the culture of their group so they can function in it. A large part of socialization is the unconscious effect of interacting with members of the group and assuming their values, behavior, and beliefs (Pavalko, 1971).

The process of socialization begins at birth, when an infant is introduced to expectations about appropriate behavior, to concepts such as gender, and to symbolic communication through language. Although not all socialization is purposeful, the process is never complete, never terminal (Inkeles, 1986). Through socialization, the social group creates a solidarity among its members who share a set of common value patterns. Agreement with, and conformity to these values are regarded as good and are rewarded by the group. A sense of moral responsibility is often attributed to such conforming behavior. Eventually, the culture patterns become fully internalized. The group's value attitudes become part of the
personality system of the individual. They become incorporated as "need-dispositions of the personality" (Parsons, 1951, p. 42). Thus, through internalization, the institutionalized values become genuine motivators for the individual to fulfill role expectations.

Each role an individual assumes must fit into his or her total system of role expectations. Different roles are interdependent within an individual's system of needs, desires, and motivations. A personality is more than the sum of these roles, however. Each person has an internal, nonsocial, creative orientation. The unique distribution of these factors causes each role occupant to exercise his or her role behaviors in an individualized manner (Parsons, 1951).

Rarely is any social group completely successful in socializing all of its members. There are many situations where some dysfunctional individuals demonstrate deviant behavior which does not conform to the standards of the group. In this case, members of the group exercise control by withholding rewards or applying punishment to influence the role occupant to bring his behavior into compliance with the group (Parson, 1951). The use of sanctions, a system of reward and punishment, is an integral part of the socialization process. The effectiveness of sanctions depends upon the responsiveness of the individual to the pressure (Inkeles, 1968). Individuals differ in their disposition to conform to expectations of others or be alienated from them. Parsons (1951) calls this the "conformity-alienation" dimension of personality (p. 32).
Inkeles (1968) cautioned that although society makes demands in socializing individuals to conform to certain commonly accepted norms and expectations, there is a range of acceptable discrepancy between values and behavior. He distinguished between the ideal which is held up to society; the qualities it actually inculcates; those it favors or rewards; those which are in fact truly adaptive; and those which are the statistical norm quite apart from any ideal or requirement, or even utility (p. 89).

Society sets up elaborate systems to reinforce its expectations. These include public and ceremonious recognition of model behavior which reinforces responsibilities and obligations, formal rules governing conduct, and institutions to support and strengthen sanctions.

The process of socialization affects individuals throughout their entire life span. Socialization is clearly an interactive process. It is also a reciprocal process in which both the individual being socialized and those doing the socializing are mutually influenced (Hurley, 1978).

Research

The variables, perspectives, methods, and data collection procedures of socialization research are described below. Goslin (1969) presented an extensive review of research in the areas of socialization. He published this review in an edited book, in which he included contributions from psychologists, sociologists and anthropologists, each reporting from the unique frame of reference of the author's discipline. He noted that, psychology focuses socialization studies on "the development of individual characteristics relevant to social behavior as well as on the basic
processes through which these behavioral tendencies are learned" (p. 1). Sociologists, traditionally concentrate on "characteristics of specific groups or institutions in which socialization occurs and on the common social skills acquired by individuals in varying contexts" (p. 1). Lastly, the anthropologist reviews socialization "from the standpoint of the broader culture which helps to determine the overall boundaries of socialization experiences" (p. 1).

Goslin (1969) identified five theoretical issues affected by differences in disciplinary approach. These are

(1) the relative influence of early as opposed to later experiences on behavior; (2) the relative emphasis to be placed on individual drives, motives, and needs as energizers of behavior as opposed to the influence of the social apparatus (group, institution, culture as a whole); (3) the relative emphasis to be placed on process as opposed to content as a basis for predicting and understanding social behavior; (4) the extent to which one focuses on unique aspects of socialization experiences as opposed to their common properties; and (5) whether one's primary concern is with causes of deviations from behavioral norms, with measurement of the extent of deviation, or with forces that tend to produce conformity to normative expectations (p. 1-2).

Some of these theoretical issues were addressed by this dissertation. The influence of early behavior including socioeconomic status of family of origin, age, and educational background of subjects was related to professional role socialization. The influence on professional role
socialization of current behaviors was also measured including nursing experience variables of practice setting and nursing position. The individual factor of level of subject's academic achievement was related to the dependent variable.

Other theoretical issues identified by Goslin were not investigated in this dissertation. This research did not examine the socialization process directly but measured the subjects' perceptions of their roles as they were influenced by significant reference groups. This research did not address unique aspects of socialization experiences. Rather, it investigated the interrelationships of a number of variables as they related to the professional role socialization of a group of nurse subjects. This study did not address the deviance variable specifically.

Goslin (1969) discussed four variables included in socialization research. The first variable was role negotiation, the skills individuals must possess to establish and maintain a role and to recognize the roles of others in the situational context. This variable includes the concepts of mutual socialization, the distribution of power and control in relationships, level of awareness of role negotiation, and the effect of established, internalized values regarding one's behavior.

A second variable was presocialization which prepares a person for socialization. Presocialization factors include the cognitive, psychomotor, and affective learning that facilitates subsequent socialization. This includes phenomena that facilitate learning, such as verbal and cognitive skills, the ability to perceive oneself as others do, and the ability to discriminate between real and ideal role expectations.
It also includes skills that are prerequisite to successful socialization into a particular role such as typing skills for an individual being socialized to the secretarial role.

Some presocialization factors necessary for role learning and negotiation include age, experience, prior learning, general conceptual development, personality structure, self concept, interpersonal abilities and specific motor skills. Research designed to study presocialization includes adult socialization, multiple role conflicts, and role relinquishing studies.

A third variable examined through socialization research is the perception of the learner in the learning process. These studies distinguish the learner's conscious awareness and active purposeful involvement in the socialization process versus unconscious, passive learning. Methods for investigating this variable include identification of significant reference figures, determining focused attention of the individual to details of the immediate surroundings, measuring motivation to role demands, and attempts to elicit feedback from others as to performance appropriateness. Social control, including inducements, rewards and punishments that influence the individual to conform to group norms are investigated. External sanctions which produce strong emotional responses such as anxiety are studied as they affect learning. The effect of positive versus negative sanctions and their form, timing and consistency relative to the learner's behavior are examples of investigations of this variable. This variable of perception of the learner is also measured in studies that examine the degree of
internalization of the norms, values, and attitudes of persons being socialized.

A fourth variable of socialization research is the setting. Goslin (1969) included four dimensions by which the setting provides information to the investigator: (a) the degree to which institutionalized mechanisms are in place to teach new members their role; (b) the frequency with which external cues and sanctions are given to the person being socialized to evaluate his or her own role performance; (c) the amount of interaction within the system; and (d) the system's contextual characteristics. Studies of this variable measure effectiveness of formal training programs and effects of informal instructions or advice. Research also investigates subjects' history in settings, or the availability of information within settings as they relate to role socialization.

Researchers employ a wide variety of methods and data collection procedures in socialization studies. The methods include situational and laboratory studies, experimental designs, cross sectional and longitudinal designs, case studies, ethnographic and historical studies. Data are collected by interview, direct observation, questionnaires, and tests (Goslin, 1969; Sociological Abstracts, 1986).

This dissertation on professional role socialization examined many of the variables identified in the theoretical review above, including the relationship of prior socialization variables, the setting, and the perceived influence of significant reference figures. This research employed a predictive study approach, using an ex post facto, quasi experimental model. Data were collected on a written questionnaire.
Symbolic Interactionism

Definition

As discussed in the preceding sections, roles are not static conditions. Rather, roles undergo development and modification through the process of interaction (Hurley, 1978). The interactive process is the essential context in which an individual is able to give meaning to objects.

G.H. Mead (1934) first offered the theory of symbolic interactionism to explain the social processes by which individuals learn roles. According to Mead, an individual views him or herself as an object, taking on the attitudes toward the self of others with whom he or she interacts. Blumer (1969) identified objects as "anything that can be indicated, ... pointed to, or referred to" (p. 10). He classified objects as being either physical, such as books, tables, or trees; social, including roles like teacher, chairman, friend, or brother; or abstract, such as ethical principles, philosophical theories, and ideas like caring, prejudice, or joy. Blumer said that the nature of every object depends on the meaning it has for the person considering it. The meaning of objects varies for different individuals. Further, he said that individuals derive their meanings of objects from the way others have defined the objects to them.

As stated above, Mead (1934, 1968) proposed that one's self is an object that is interpreted and given meaning through interactions with others. Gestures received from the environment represent symbols that are interpreted by the individual and are incorporated into the meaning of the
object (in this case the self) to him or her. Words, voice tone, and gestures are received. The person then interacts with self, interpreting these symbols, reframing the meaning of the objects in light of this definition from the other. Through this interaction, the individual redefines self as an object that is a boy, a friend, and intelligent. The individual interacts further with self, weighing possible reactions that could be made to the other, and projecting possible responses the other might make to each. In making these projections, the individual interprets the meaning of the object to the other. This interpretation of meaning may be accurate or inaccurate but the individual's actions will depend upon these symbolic meanings (Blumer, 1969). This relationship of the three variables of interaction, meaning, and action of persons is symbolic interactionism.

Blumer (1969) outlined three premises on which the theory of symbolic interactionism is developed. First, the way people act toward objects depends on the meanings the objects have for them; second, the source of the meanings of objects is through interactions with others; and third, the meanings are processed and modified through interpretation by the person as he or she deals with objects encountered. In other words, the meaning an object has for a person occurs as the individual interprets the way others react to him or her with regard to the object. Through an internal, social interpretive process, the object takes on meaning and his or her actions toward it are based on that meaning. For example, aspects of objects in the social structure such as roles, authority, and status
affect the nature of actions between persons to whom these objects have symbolic meaning.

According to the symbolic interactionism theory, roles of group members are never static manifestations of preestablished prescription. Rather, role definition is an ongoing, formative process in which each interaction is interpreted against the background of the participants in the joint interaction. Just as Pavalko (1971) indicated that "A person's self concept is a reflection of the conception of him held by others" (p. 88), the socialization process is never complete. Meanings are developed, sustained, weakened, strengthened, or modified through the network of social interactions involved in role behavior.

Research

Research studies of symbolic interactionism examine the interaction itself rather than examining the individual as the unit of analysis. The following key variables have been investigated through such studies: the impact on children and adults of significant reference groups including family and other primary groups; identification with social institutions and their ceremonies; the role of language on identity and thinking; the interaction and interpretation involved in the development of the concept of self and the presentation of self through overt behavior; and various dimensions of deviance (Manis & Meltzer, 1967; Manis & Meltzer, 1972).

Athens (1984) critiqued Blumer's naturalistic inquiry method of studying symbolic interaction. He noted that Blumer subscribed to the antipositivistic school of thought that the subject matter of the social scientist is not the same as that of the natural scientist. Therefore, it
is counterproductive for social scientists to employ the research methods used by natural scientists. Natural phenomena tend to react in predictable, meaningless ways. Whereas people react to objects on the basis of their own personal interpretation of meanings that these objects have to them. Therefore, relationships of social phenomena are more unpredictable and dissimilar. Further, Blumer recommended that in order to preserve the natural integrity of such social phenomena, they should be studied as they occur. He cautioned the social scientist to respect the individual's interpretation of such happenings rather than to impose a preconceived order ordained by the researcher.

The naturalistic inquiry method involves several steps. First, the scientist must become knowledgeable about the phenomena to be studied. Second, the researcher needs to be familiar with the theoretical relationships of these phenomena and the kinds of data that will need to be collected and examined. Several techniques can be employed for data collection of social phenomena. These include observation of participants, conduction of life histories, use of indepth interviews, analysis of letters, diaries, and public documents, and conduction of group discussions. The resulting data needs to be thoroughly analyzed to develop concepts and theoretical relationships. This step is most important. It involves finding relationships between phenomena in actual situations, isolating their characteristics and then comparing them to other actual occurrences in order to further define and develop the concept and theory (Athens, 1984).
Becker and Geer (1967) advised that social researchers be very clear as to the data to be collected through the interview method. They suggested that interview data be limited to the respondent's interpretation and conduct during the interview itself. Interview data should not be the sole source of descriptions of events that have occurred elsewhere. They recommended that if the researcher's goal is to collect more objective rather than subjective data, participant observations should also be employed along with interviews.

Helling (1988) discussed another research method with Norman Denzin who proposed the life history approach in symbolic interaction research. Transcripts, based on research questions are made from life history tapes. Some researchers apply inductive analysis whereby they use individual cases to arrive at general and even universal conclusions. Other researchers do not attempt to analyze the life stories. Rather, they edit them and then present them as case histories.

Denzin cautioned that the case history method, like any interactive process, is affected by the two individuals involved. One individual can construct different and authentic biographies depending upon the audience and the contextual circumstances. Memories are affected by relevancies, personal motives and meanings, maturation, and even literary form of the narrative. These factors influence internal validity. External validity, on the other hand, is influenced by how representative the subjects are to the study population.

The above discussion indicates that although symbolic interactionism is related to role theory, the two represent different concepts. Mead
(1934) provided the original interactionist theory on the development of self. Blumer (1969) expanded Mead's premise in his writings. Since then, much research has been conducted to identify the significant variables and methodologies in the study of symbolic interactionism.

In summary, this discussion provided a conceptual framework for the study of professional role socialization. Role theory is the system that explains the phenomena that influence how individuals learn roles. Role includes the values, attitudes, norms and behaviors of an individual in relation to others within a specific functional context of the social system. In this dissertation, the professional role as defined by Dumont (1970) was investigated as it is a function of different levels of educational experience of a group of registered nurses. Dumont's description of the professional role is discussed in depth in chapter two.

Socialization is the change of behavior and conceptual state of the individual that follows from the environmental condition and leads to a greater ability of the person to participate in that social system (Biddle, 1979). This study explored professional role as a function of several socialization factors including reference groups, professional development activities, practice setting, nursing position, scholastic achievement, age, socioeconomic status, and most important, nursing education. These variables have been established as important in the study of socialization of nurses as discussed in the literature above and in Chapter two.

Finally, the position of symbolic interactionism provided a framework for role socialization whereby individuals interpret the meaning of their
roles through the process of interacting with others in the social context. This dissertation collected data as to registered nurse subjects' interpretations of their professional role concept. Thus, role theory, socialization, and symbolic interactionism provide the framework in which the variables, methods and procedures for this study have been established.

Need For The Study

This study compares the levels of professional role socialization of graduates of ADN and diploma nursing education programs with professional role socialization of registered nurses who have gone on for their baccalaureate degree in nursing. The American Nurses Association (1965) recommends the baccalaureate nursing degree as the minimum requirement for entry into professional nursing practice. Still, the majority of registered nurses (RNs) are educated in diploma or ADN programs. Past research has demonstrated that four year BSN graduates demonstrate higher levels of the professional role concept than graduates of ADN or diploma programs (Brief, Aldag, Van Sell, and Malone, 1979; Corwin, 1961, Corwin and Tavis, 1962; Kramer, 1966; Kramer, 1970; Kramer and Baker, 1971; Stewart Dedmon, 1988). Many ADN and diploma nurses continue their education to achieve the BSN degree. This research investigated if the additional BSN education resocialized the RN into the professional nurse role.

Through a literature review, the researcher identified key variables that prior investigators have found to relate to professional role socialization of nurses. These variables are age, type of basic nursing
education program (ADN, Diploma, BSN), the type of agency in which nurses work (hospital, non-hospital), their nursing position (clinical nurses, management, education), professional development activities, and significant reference groups. Prior studies have not documented the relationship of socioeconomic status of nurses to professional role socialization, although they have noted that current students in nursing education programs have markedly lower socioeconomic status than in the past (Williams, 1988). Past research has not investigated the relationship between nurses' scholastic ability or achievement and their professional role conceptualization.

This dissertation employed an analytic conceptual sequential model as an initial step in constructing a theory of professional role socialization of nurses. This study is unique in the fact that the BSN subjects were all registered nurses who initially graduated from ADN or diploma programs and then continued their education to complete the baccalaureate nursing degree. Most other professional nursing role studies have focused on graduates of generic four year BSN programs.

Statement Of Purpose

Dickoff, James, and Wiedenbach (1968) described four levels of theory in practice disciplines such as nursing; the first two levels are factor-isolating theory and factor-relating theory. These are "theories of classification or more simple systems or even conventions for naming or marking off significant elements" (p. 419). The higher level predictive and prescriptive theories presuppose and build on these two elementary types of theories. The purpose of this dissertation is to begin the
process of constructing a preliminary model of professional role socialization of nurses. This model isolates selected factors and relates them to role socialization of nurses. This dissertation 1) compares the levels of professional role socialization of ADN and diploma nurses to professional role socialization levels of ADN and diploma nurses who have completed baccalaureate level nursing education programs for RNs; 2) constructs a preliminary model that links the variables associated with the level of professional role socialization of these groups of nurses; 3) measures the variables or constructs that are specified by the model; 4) computes correlational bivariate statistics to show the strength of the relationship between each of the pairs of variables; 5) interprets the statistics to explore whether they support or disconfirm the preliminary model (Borg & Gall, 1983).

Research Problem

What are the significant factors which interact with professional role socialization of nurses? The factors and the bivariate relationships under investigation are depicted in the professional nurse role socialization model.

Professional Nurse Role Socialization Model

The variables in this model and their relationship to each other are illustrated in Figure 1, an analytical conceptual diagram for professional role socialization of nurses. The professional role of the registered nurse is associated with many socialization factors. One socialization factor is participation in ongoing professional development activities (Figure 1, r98). These professional development activities include
membership in the ANA and other professional organizations, reading professional nursing journals, taking academic courses, and enrolling in higher education programs. Another professional role socialization factor is the perception of the influence of various reference groups (Figure 1, r97). Reference groups in this study include the nursing profession, the agency for whom the nurses work, their immediate work group, their nursing service, the nursing school from which they graduated, and physicians. This model suggests that nurses who perceive their practice to be highly influenced by the nursing profession share a set of value patterns common to its community of professional nurses, thus socializing them to the professional role. Age is a variable hypothesized to interrelate with other socialization factors and to relate to the professional role directly (Figure 1, r91, r41, r31). For the older motivated registered nurse, factors that promote personal accountability, independent nursing decisions, and control over one's practice lead to socialization into the professional role. These factors include nursing position, practice setting, and academic achievement. The relationships between these factors and between them and professional role are represented in Figure 1 as r96, r86, r87, r95, r85, r75, r94, r84, r74, r64, and r54. Nurses come from diverse social backgrounds; their socioeconomic status is not associated with other professional role socialization factors (r42a, r42b, r32a, and r32b in Figure 1). This model proposes that education is the key variable which links these other socialization factors as well as associating directly with professional role (Figure 1, r93, r83, r73, r63, r53). Successful completion of a baccalaureate nursing education program
is the single variable that provides the foundation for the other socialization factors leading to internalization and enactment of the professional role for registered nurses.

The review of literature which supports this model is presented in Chapter two. For the primary analysis the following concepts were measured:

A. Professional role socialization. Measured by administering Stone's Health Care Professional Attitude Inventory (Modified for Nursing by Therese Lawler, 1988).

B. Age. Subjects were asked their age.

C. Socioeconomic status of family of origin. Measured by having subjects identify the type of occupation and highest academic achievement of their parents.

D. Academic Achievement. Measured by having subjects self report their grade point average in their nursing program.

E. Nursing education experience. Measured by instructing subjects to identify the type of nursing education program from which they graduated; ADN, diploma, or BSN program for the RNs.

F. Nursing Practice Setting. Measured by asking subjects to identify the type of agency in which they are employed. Levels of this variable include hospital or non hospital.

G. Nursing position. Measured by asking subjects to identify their current nursing positions. The three levels of this variable are staff nurse, manager-supervisor-director, and other positions.
Figure 1. An analytical conceptual sequential diagram for professional role socialization of nurses (variables in rectangles mean the variables are continuous, they are measured on an interval or ratio scale, with number scores in the data set; circled variables are discrete and are measured on categorical or ordinal scales; $r_{ij}$ = hypothesized relationships between variables, these are expressed with the effect variable first and the predictor variable second)
H. Professional development activity. Measured by asking subjects to identify their membership in ANA and other professional organizations, the number of journals they usually read, the number of academic courses they have taken since graduation, enrollment in a higher education program, and their plans to continue their education. The state in which this research was conducted, required mandatory continuing education for licensure of all RNS so differences in continuing education hours were not discriminating for this population and were not measured.

I. Significant Reference Groups. Measured by asking subjects to rate how much their nursing behavior was influenced by each of the groups including the nursing profession, the agency for whom they work, their immediate work group, their nursing service, the nursing school from which they graduated, and physicians.

**Definition Of Terms**

*Role* is the observable behavior, the attitudes, values, goals, and beliefs of the occupant of a given position within the context of the social structure (Hadley, 1967; Hinshaw, 1978).

*Baccalaureate nursing program for RN* refers to a National League for Nursing (NLN) accredited academic program granting a baccalaureate degree in nursing to RN graduates of ADN and diploma education programs.

*Baccalaureate prepared nurse* is an individual who has completed a NLN accredited baccalaureate nursing education program and is licensed to practice as a registered nurse. In this study, baccalaureate prepared
nurses have completed ADN or hospital diploma nursing programs initially and then earned a baccalaureate nursing degree.

**Diploma nursing education program** is a hospital-based nursing education program. These programs are usually three years in length. Successful completion of this program qualifies the graduate to take the examination administered by nursing state boards for licensure as a registered nurse (RN).

**Associate Degree in Nursing** (ADN) is a degree awarded to graduates who have successfully completed a two year nursing curriculum usually in a community college or technical institution. This degree qualifies the graduate to take the examination administered by nursing state boards for licensure as a registered nurse (RN).

**Socioeconomic status** relates to the financial situation of the individual's family of origin (father, mother, and siblings). Kramer's (1966) occupational categories were modified for levels of occupation. They are manual labor, semi-skilled labor, service worker, craftsman or foreman, clerical and kindred worker, manager or proprietor, professional or administrator. Highest academic achievement of parents was also measured. Bell's (1981) levels were modified for collecting this data. They are graduate or professional degree, college or university graduate, community college graduate or partial college, trade (technical) school graduate, high school graduate or equivalent, partial high school, or less than high school.
Limitations

1. The entire population of spring 1988 ADN, diploma, and RN - BSN graduates from one state were mailed questionnaires using the bulk mailing system. As a result of this single mailing, a sufficient number of ADN respondents (152) were obtained to conduct the statistical analyses for this study. The bulk mailing system does not forward mail to changed addresses. Therefore, some ADN nurses were not given the opportunity to participate. This caused the threat to internal validity of differential selection. Follow-up mailings were sent to graduates of diploma and BSN programs in order to obtain sufficient numbers of questionnaires for analysis.

2. Random assignment of subjects to the three different educational programs (ADN, diploma, and BSN) was not possible, producing a threat to internal validity of differential selection. An analytic conceptual sequential model examined the interrelationship effect of variables that relate to the self selection by subjects for different nursing education program, however.

3. This study was limited to the nursing education programs located in one state in the midwestern United States which may limit the generalizability of the findings.

Assumptions

1. Respondents answered the questionnaire truthfully and freely.

2. BSN programs that agreed to participate cooperated by sharing all names and addresses of graduates who met the criteria of the study sample so the researcher could contact the subjects.
3. The study measured perceptions of the role and not role performance. It was assumed that the values measured serve as the basis for behavior.

4. The responses to the questionnaire typify values and attitudes of the respondents and were not unduly influenced by extraordinary spurious events that may have occurred at the time of administration of the questionnaire.

Significance Of The Study

From its inception, nursing has been striving to establish professional status. In 1965, the American Nurses' Association published its position that the baccalaureate nursing degree be the minimal educational preparation for entry into professional nursing practice. In a later statement, the ANA encouraged baccalaureate nursing education programs to make their educational programs more accessible to RN graduates of diploma and ADN nursing programs.

Results of this study may guide baccalaureate nursing education programs in directing their marketing and recruitment efforts to populations of ADN and diploma nurses who are likely to exhibit higher levels of professional role socialization after completing the BSN degree. It could provide educators in BSN programs for RNs an increased awareness of the values and role concepts of beginning students entering their program which could assist in developing appropriate curricula and teaching methods.

Results may also assist nurse educators in their student advising role. Advisors can use the information learned through this dissertation
to help prospective graduates avoid frustration by encouraging them to seek nursing positions in agencies that are compatible with their level of professional role concept. This study may help nursing program educators, staff development educators, and nursing service personnel to see the need for better communication related to the values, role concepts and optimum utilization of graduates from the three types of nursing education programs.

The results of this study may also show professional organizations the nurses for whom they should direct their recruitment and program planning efforts. Finally, this study may provide evidence for nurses to share with state legislators in order to elicit their support for the ANA's position to change licensure laws to require a BSN as the minimum requirement for entry into professional registered nursing practice and the ADN as the requirement for technical nursing licensure.

Organization Of The Study

This dissertation is organized into five chapters. Chapter one presented an introduction of the theoretical backgrounds of role, socialization, and symbolic interactionism. The need for the study, purpose, research problem, definition of terms, limitations, assumptions, and significance were also presented in this chapter. Chapter two presents a review of the literature of the historical background and of the variables in this investigation. Chapter three presents a description of the subjects, instrumentation, and procedures. The results are presented in chapter four and include an overview of statistical procedures, description of findings, and analysis of relationships.
Chapter five, the summary and discussion section, includes discussion of findings, and implications for future research.
CHAPTER 2. REVIEW OF THE LITERATURE

Florence Nightingale first conceptualized modern nursing. She envisioned it as an autonomous profession. Nightingale initiated policies to ensure that nurse educators and practitioners would have power to direct and regulate their own profession and prevent outsiders from controlling it for their own purposes. However, when nursing education programs first emerged in the United States, they deviated from Nightingale's plan and have been struggling to gain professional status for over a century.

This review of the literature begins with an historical review of the development of professional nursing education in the United States. It describes how each of the three types of nursing education programs (ADN, diploma, and BSN) became established and the efforts of nursing to require the baccalaureate degree as the minimum requirement for entry into professional practice.

Following this historical discussion, opinions of nursing experts, results of empirical studies, and literature reviews are examined in order to isolate and relate significant factors to the dependent variable of professional role socialization of nurses. The review ends with a summary of the interrelationship of these variables. Sources for the review of literature include an ERIC database search, examination of the Social Science Index, Dissertation Abstracts, and the Cumulative Index to Nursing and Allied Health Literature.
Historical Background

Prior to Florence Nightingale, care of the sick and aged was primarily undertaken by family members. In addition, some Protestant groups and orders of Catholic nuns developed missions to render care to the poor and needy, but for the most part, these care givers were untrained. Then, in 1853, the Crimean War began with the allied armies of Great Britain, France, Turkey, and Sardinia against Russia. In the Crimea, English soldiers were dying on the battle field or in hospitals due to lack of attention to their wounds and illnesses. Responding to this crisis, Florence Nightingale summoned a group of thirty-eight volunteers and went to the Crimea in 1854, to organize and deliver necessary health care services (Kelly, 1987). After the war ended in 1856, the British soldiers were so grateful to Ms. Nightingale that they presented her a tribute of 44,000 pounds sterling which they had collected from the British people through a fund raising benefit (Anderson, 1981).

Florence Nightingale used this fund to develop a school of nursing in affiliation with the St. Thomas Hospital in London; that school admitted its first class of students in 1860. She conceptualized nursing to be developed as a profession. In order to promote autonomy and academic freedom, she advocated that nursing schools should be self supporting and that governance and administration of the schools should be separate from the hospital board (Anderson, 1981; Watson, 1977). The first nursing curriculum included elementary chemistry of air, water, food, etc., physiology of bodily functions, medical and surgical topics, and bedside nursing skills (Kelly, 1986). Training methods included lectures from
physicians and ward sisters and an apprenticeship (Bullough & Bullough, 1981). Nightingale conducted research and published profusely for her times. She also served as a consultant to the first hospital developers in the United States (Kelly, 1986).

The emergence of nursing education in the United States was also influenced by a war. The lack of trained nurses in the American Civil War (1861 to 1865), combined with the suffering of the wounded American soldiers produced the impetus for the development of the first nurse training schools in this country (Anderson, 1981). Because Nightingale and her scientific methods were known and respected, her nursing education prototype was followed in establishing these first American nursing education programs.

New England Hospital for Women and Children graduated the first American nurse in 1873. The training was one year in length and utilized lectures from interns and physicians. That same year, Bellevue Hospital Training School in New York City, Connecticut Training School in New Haven, and Massachusetts General Nurses Training School in Boston were established. Special funds were raised to start the Bellevue program. After witnessing what they judged to be deplorable hospital conditions, a women's service club headed by Mrs. Joseph Hobson was inspired to create the Bellevue school and raised the necessary funds. Both the Bellevue and New Haven programs were operated independently from their affiliated hospitals.

Anderson (1981) noted that the missions of the New Haven and Bellevue schools emphasized better patient care, whereas the Massachusetts General
program was established "to offer an educational and career opportunity for women" (p. 23). The length of training for these programs started at one year but was soon extended to two years, with theory and skills taught the first 12 months followed by an on-the-job apprenticeship the second year.

After these first few schools opened, many other hospitals began their own programs. Oderkirk (1985) reported that in 1880 there were 16 schools in operation. A decade later, there were 132, and by 1900 this number had grown to 549 schools.

Hospital administrators, recognizing that nursing schools provided a pool of free, trained workers to deliver patient care, quickly opened programs at their institutions. The vast majority of these schools were administered by hospital boards rather than independently, as recommended by Nightingale. The control of nursing education by others was a monumental deviation from the Nightingale plan. The power of nurses over their profession was severely impaired by this factor alone. From its inception, nursing education has been forced to struggle with numerous outside forces which have infringed on its most fundamental decision-making. These outside forces include hospital administrators, physicians, and state and federal legislatures.

These early schools lacked a standard of quality and uniformity in their training. Students worked long, arduous hours. Eventually, the length of programs stretched into three years with most of the theory presented the first year. In the second and third years, classes were taught only once or twice a week and four or five 10 to 12 hour days of
work were spent on the wards (Russell, 1979). As educated nurses became available, they replaced physicians as lecturers. At that time, nursing had a problem maintaining its leaders. Nursing was primarily a women's career, and society did not generally condone wives and mothers employed outside the home.

Faced with these challenging conditions, early nurse educators saw the need to organize themselves. At the 1893 World's Fair in Chicago, the heads of several nurse training schools met and established the American Society of Superintendents of Training Schools for Nursing. They elected as their president Isabel Hampton Robb, the principal of the newly established Johns Hopkins Hospital School of Nursing. The initial goals of the Society were to standardize nursing education and to promote the level of preparation and leadership of educators. In 1912, this body changed its name to the National League for Nursing Education (NLNE) in order to more accurately reflect the purpose of the organization.

Individual training schools had separate alumnae organizations. Members of the superintendents' organization saw the limited power of fragmented voices, so they established a second national organization whose membership eligibility was not limited to educators but included all nurses. As a result, in 1896, members of the society, along with a steering committee of members of alumnae from the oldest training schools drafted a constitution for the Nurses' Associated Alumnae of the United States and Canada. One of the goals of this organization was to publish an official nursing journal to facilitate communication and foster cohesion among nurses nationally (Kelly, 1987). Both organizations worked
to set minimum educational standards through state licensing of nurses and state accreditation of nursing programs (Bullough & Bullough, 1981). The Associated Alumnae changed its name to The American Nurses Association (ANA) in 1911 (Kelly, 1987).

In 1899, Mrs. Robb and four additional members of the Superintendents' Society were successful in organizing the first university classes to upgrade the preparation of nursing instructors. In response to requests from Robb and her colleagues, Teachers' College at Columbia University developed four training programs for nurse educators who had graduated from the hospital nursing schools. These programs were "teaching and supervision in training schools; general administration in training schools and hospitals; public service - teacher, nurse; visiting nurse service, board of health assistants and teachers of hygiene; preparatory course for nurses" (Watson, 1977, p. 35).

Ten years later in 1909, the University of Minnesota was the first institution of higher education to offer a basic nursing program though it did not grant a degree. The institution's pioneering of the first university-based nursing program was consistent with the school's long standing tradition. As early as 1869, President William Watts Folwell drafted the "Minnesota Plan" which subscribed to an "all purpose curriculum; embracing potentially all subjects of human and practical interest...a university not merely from the people but for the people" (Brubacher & Rudy, 1976, p. 164). It was not until 1916 at Cincinnati that a nursing degree was first offered (Bullough & Bullough, 1981). This five year program consisted of two years of liberal arts study, two years
in the hospital, and a year of specialization in either public health or
teaching (Watson, 1977). Chance (1977) suggested that the reason these
universities were receptive to introducing a vocational technical course
of study such as nursing, was because of a new focus in American higher
education at that time. Academia, responding to the civic and social
needs of a young, developing democracy, began teaching new professional
curricula that did not follow the ancient European model of the liberal
education.

While nurses were struggling to gain control of their profession to
upgrade their status, medicine was struggling with a similar problem. By
1910, there were 155 medical schools in the United States and Canada. Out
of concern for the quality of medical education, the Carnegie Foundation
for the Advancement of Teaching, with the encouragement of the American
Medical Association, funded an 18 month investigation of these programs.
They hired a professional educator, Abraham Flexner to visit all of the
existing medical schools and to submit a report of his findings.

During each site visit, Flexner looked into the admission
requirements, records, educational staff, resources, and laboratory and
clinical facilities (Garling, 1985). He then published a detailed report,
-describing his findings. He graded the quality of each program
identifying it by name and giving it an A, B, or C classification. He
recommended that the inferior programs be closed and that the better
schools be strengthened. He further recommended that all medical
education be controlled by institutions of higher education, that pre-
admission requirements be strengthened, curricula be lengthened, and facilities be improved.

As the result of wide public dissemination of the Flexner report, private philanthropic foundations responded by making large financial contributions to reform medical education. Approximately $154 million was appropriated to strengthen the stronger schools while funding was diverted away from the weaker ones. Consequently, the number of medical schools dropped from 166 in 1904 to 85 by 1920 (Garling, 1985). Another outcome was that Flexner set standards that became the model for a profession.

As a result of the decreased number of medical schools, there was a corresponding drop in the number of physicians entering and completing medical education. Programs were able to limit their admissions to the most qualified applicants. It can be assumed that the improved standards along with increased resources resulted in superior graduates. These new practitioners entering the profession were then able to establish their fees for service, and medicine became a prestigious and lucrative profession (Moloney, 1986).

Meanwhile, the NLNE also worked to upgrade and standardize nursing education. The organization published its first standard curriculum in 1917 with revisions in 1927 and 1937. Early editions recommended specific courses and outlines while the later edition provided more generalized guidelines (Anderson, 1981). General guidelines continue to characterize NLN criteria for accreditation of nursing programs today.

Following World War I, there was a nursing shortage. This was due in part to the poor image of nursing education. Nursing schools were poorly
funded and lacked educational structure. Nurse educators felt helpless to change this condition because nursing education was not controlled by the nursing profession itself but rather was under the control of hospital administrators. Yet, nursing leaders were encouraged by medicine's positive experience resulting from the Flexner report; the recognition of medicine as a profession, improved academic standards and resources, better prepared graduates, and increased autonomy and prestige of medical practitioners.

In 1918, thirteen years after the Flexner report, nursing leaders undertook a similar investigation into nursing's educational system. Adelaide Nutting, who followed Mrs. Robb as superintendent of the Johns Hopkins Hospital Nursing School, was successful in persuading the Rockefeller Foundation to fund this study. The study was conducted by Josephine Goldmark, a social researcher. In 1919, the original purpose of the study was to determine "the status of public health nursing in the United States and the education desirable for training the needed personnel...and to prepare a definite proposal for a course of training for public health nurses" (Goldmark, 1923, p. 1). In 1920, the scope of the study was broadened to include the proper training of hospital and private duty nurses. Thus, Goldmark surveyed the entire field of nursing education.

There were approximately 1,760 nursing schools then in existence; far too many for Ms. Goldmark to visit. A representative group of 23 hospital-based training programs was selected for indepth evaluation. To secure disinterested and impartial opinions, nurses and lay investigators
were employed for data collection. An extensive report of the investigative findings was published. Names of individual schools were not identified, however, as in the Flexner Report, because the purpose of the study was to report on nursing trends rather than to evaluate individual programs. The summary did not report on its methods, scope, or criteria.

Goldmark concluded that hospital-based nursing training did not conform to educational standards of other fields. Hospital exigencies were consistently placed before needs of students. Educational facilities were generally found to be inadequate. Two essential recommendations cited in the report were (1) nursing schools should be directed by boards independent of the hospital, and (2) adequate funding should be made available for three purposes: (a) education of nursing students; (b) employment of nursing graduates; and (c) hiring of ancillary personnel to perform non-nursing functions (Garling, 1985).

The impact of the Goldmark report was not nearly as revolutionary as that of the Flexner report. Goldmark had recommended that nursing teachers and administrators earn college degrees (Bullough & Bullough, 1981) and that university schools be strengthened (Garling, 1985). As a result, the Rockefeller Foundation made sizable endowments of one million dollars each to Yale and Vanderbilt University Schools of Nursing, and Frances Payne Bolton contributed 1.5 million dollars to Western Reserve's nursing education program. However, these programs were not representative of nursing schools then in existence, the great majority of which were located in hospitals (Garling, 1985).
The Goldmark report also recommended that the work week for student nurses be shortened to no more than 44 to 48 hours per week (Watson, 1977), and that schools eliminate noneducational, repetitive service such as housekeeping duties (Nayer, 1979). Unfortunately, Goldmark's recommendations were largely ignored. Moloney (1986) offered a possible explanation for the contrast of outcomes of the Flexner and Goldmark reports;

Apparently the 1,760 hospital schools...were unable or unwilling to take specific action on these recommendations, thus preventing nursing from acquiring true professional status at that period. Examining this issue from another viewpoint reveals that in this period nurses and nursing were dominated by hospital administrators and physicians. Since nursing units were staffed primarily by student nurses, the expectation that hospital-based diploma programs must continue was great (pp. 40-41).

Goldmark recommended that the objective of nursing education change from one of patient service to that of educating students (Bullough & Bullough, 1981). Anderson (1981) maintained that nursing's foundation in monastic ideals and the notion that nursing is a calling to provide kindly and humane service to the sick has promoted a value for self sacrifice and self-abnegation by nurses. Krekeler (1978) suggested that the obedience to this tradition has permeated the history of nursing, stifling free intellectual activity and initiative, and has been a barrier to innovation.
The effects of this tradition of self-sacrifice expected of nursing students is further illustrated in the findings of a second study which was stimulated by the Goldmark report. This study was conducted by the Committee on the Grading of Nursing Schools and was carried out by researcher, May Ayres Burgess, a Ph.D. statistician. The objectives of the study were first, to analyze nursing activities and second, to determine how nursing should be taught (Burgess, 1928).

The study used a survey questionnaire which was mailed to nurses, physicians, patients, registrars, and public health and hospital administrators. On the basis of this survey, the committee then conducted a job analysis and discussed the optimum curriculum to teach this functional approach in nursing. They also proposed methods of classifying nursing activities. The report detailed conditions which should be considered in nursing curriculum development. The 1928 Burgess report attempted to eliminate weak nursing schools and raise standards in the programs that remained. The report described widespread unemployment among nurses due to untrammeled growth of hospital training schools. It urged that unaccredited and small (less than 50 bed) hospitals close their schools...that no schools be allowed to operate in a hospital which did not employ at least four registered nurses, including an instructor who had graduated from high school before entering nurse's training. It further recommended that a school be closed if it worked its students more than eight hours a day or 56 hours a week, or expected them to carry head nurse and supervisory positions while still students. Schools were also
not accredited which did not keep records or sent their students out to do private duty nursing for the profit of the hospital (Bullough & Bullough, 1981, p. 10).

The Burgess study clearly supported the findings of the earlier Goldmark study.

Six years later, in 1934, another study also influenced nursing education. Ethel Johns and Blanche Pfefferkorn (1934) sought to determine the best methods to teach 12 essential nursing activities. They discussed what nurses needed to know related to these activities and methods by which the associated knowledge, skills, and attitudes might best be taught. Their study involved voluntary participation of nursing schools and they reported on the schools' responses to two questionnaires. Participating schools were graded in relation to other schools in their same area. The findings were published in Nursing Schools Today and Tomorrow.

As a result of dissemination of their findings, standards were raised in some schools while smaller poorly run schools closed, causing a temporary decrease in nursing school admissions. High school graduates constituted 90% of the new admissions. As fewer students were available to provide patient care, hospitals were forced to hire more graduate nurses, and the quality of patient care improved. This study eventually led to voluntary accreditation of nursing schools by NLNE in 1939 (Watson, 1977). The NLNE published its first list of accredited schools in 1941 (Anderson, 1981).
As many hospital schools closed, two large university nursing programs opened - Catholic University, Washington, D.C. in 1933, and the University of Chicago in 1934 (Anderson, 1981). University schools served three functions: 1) to develop five year courses leading to a bachelor of science degree; 2) to offer model three year programs; and 3) to produce teachers of nursing (Watson, 1977). In 1934, Newsweek magazine reported that 29% of the teachers of nursing had never completed high school, while only two percent had one or more years of college.

By 1944, Master's degree programs in nursing were offered at Yale University and Frances Payne Bolton School of Nursing at Western Reserve. University programs continued to expand, and 9,184 women were enrolled in baccalaureate degree nursing programs by 1951 (Watson, 1977). In 1979, the first doctoral nursing program was also instituted at the Frances Payne Bolton School of Nursing at Case Western Reserve (American Nurse, 1983, Oct.). This expansion of nursing into post baccalaureate graduate study served to legitimize nursing as a professional academic discipline. It also resulted in a tremendous dichotomy in academic preparation for the same nursing credential. Both the three-year, hospital school graduate and the doctorally-prepared nurse held the same Registered Nurse license.

The period following World War II brought new challenges to nursing educators. After receiving a broad array of health care services during their military duty, veterans, their families, and eventually the general public came to claim health care as a right of citizenship. The utilization of hospital and clinical health services increased greatly. As health care services expanded to meet this demand, nursing became
increasingly specialized into such areas as specialized clinical nursing, public health nursing, supervision, education, administration, and research. Nursing education, however, did not provide its graduates with the broad academic foundation upon which to base such specialization. Many health care services were understaffed or inadequately staffed by nurses. The nursing profession concluded that they had a chronic problem with an educational system "which could not meet the demand for qualitative or quantitative service" (Brown, 1948, p. 10).

Consequently, another study of nursing education was conducted in 1948. The study was sponsored by the National Nursing Council and funded by the Carnegie Foundation. Its purpose was to examine the broad social question of who should govern, manage, and finance professional schools of nursing (Nayer, 1979). Esther Lucille Brown, an anthropologist, was contracted to do the study.

The methods of the study included visits to 50 schools of nursing which were selected on the basis of their regional distribution, organizational structure and control, financing, and purpose. Brown visited clinical sites and interviewed individuals related to the schools. She also held three 3-day regional conferences to which directors of 1,250 nursing schools were invited. In addition, each of the directors was requested to bring along another concerned individual from administration or teaching staff. Representatives of state board of nursing examiners, federal agencies with nursing units, public health agencies, the American Red Cross, and two life insurance companies that employed nursing staff were also invited to participate. More than one thousand persons attended
the three conferences. The conference format consisted of small group
discussion of the issues. The groups developed statements,
recommendations, and resolutions for nursing education (Brown, 1948).

Brown concluded that the professional nurse should have a broad
liberal arts education which fosters self insight, understanding of human
behavior, respect for cultural differences, ability to write and speak
effectively, problem solving skills, ability to implement the scientific
research process, historical and anthropological perspectives of
contemporary social institutions and functions, responsibility of
citizenship, and professional membership (Nayer, 1979). Furthermore,
Brown advised that professional nurses be educated in, or affiliated with
institutions of higher education (Bullough & Bullough, 1981).

The educational model recommended by Brown was drastically different
from the educational schools that prevailed at that time. The career-
oriented, hospital-based educational model afforded a high degree of
control over nursing by hospital administrators, physicians, and even
hospital nurses. These groups feared loss of influence and control over
nursing education suggested by the broader, liberal education Brown
advocated with its relocation to institutions of higher education. As a
result, Brown's report was largely ignored. If implemented, Brown's
recommendations would have advanced nursing's educational goals and
prevented some of the ambiguity over how a professional nurse should be
educated, an issue which divides nursing still.

Nursing licensure was another development that affected
professionalization. In 1938, New York was the first state to license a
second level of nursing, practical nursing. In her report, Brown also supported stratification of nursing into two levels, professional and practical. By 1941, as a result of the influence of state and national nursing groups, every state legislature had secured nurse practice acts (Gabrielson, 1976). By 1960, all states and territories had statutes licensing practical nurses as well (Bullough & Bullough, 1981).

Emergence of Associate Degree Nursing (ADN) programs had a profound effect on nursing education. A brief discussion of the Bolton Act provides an historical framework for ADN development. World War II created a shortage of nurses throughout the United States. Concerned over this shortage, several nursing groups persuaded John W. Studebaker, Commissioner of the U.S. Office of Education, to explore strategies to increase the number of nurses.

Studebaker hired Isabel Stewart of Teachers College, Columbia University to study means by which 10,000 additional nurses could be made available to meet the demands of the military and civilian health care systems. After numerous conferences, the resulting proposal was supported by all involved groups, including a coalition of professional nursing associations, the Nursing Council on National Defense, the Public Health Services, and the Medical Committee of the Federal Security Agency. It was introduced to the legislature by Congresswoman Frances Payne Bolton as H.R. 2664. There was no opposition, and the Bolton Nurse Training Act which established the Cadet Nurse Corps was passed in 1943. Objectives of the Corps included increasing enrollment in nursing schools and accelerating the training period.
This emergency legislation established the first federal program to provide monies for nursing education. Between 1944 and 1949, the federal expenditure resulting from the Bolton Act was 164 million dollars (equal to $1 billion dollars in 1987). A total of 169,443 students participated in the Cadet Corps program. The program was so effective in recruiting students into nursing education programs that total admissions increased from 72,200 students admitted during the pre-war, 1939-40 fiscal year compared to 127,000 during the 1944-45 year (Kalisch, 1987). The expanded enrollments were not only sufficient to meet the immediate post war nursing needs, but they probably resulted in a surplus of nurses for the long range. This oversupply of nurses contributed to continued suppression of wages and nurses' influence on nursing.

Eligibility for Cadet Corps funds required that programs teach all nursing theory and practice within two to two and one half years, rather than the customary three years. Mildred Montag, the nursing school dean at Adelphi College, developed a Cadet Corps program in which general education and nursing courses were combined to fit the college pattern. Students and faculty had the same privileges and standards as their colleagues throughout campus. Montag's two year model emerged at the same time the community college system was becoming established (Rines, 1977). The first two year ADN programs started in 1952 and the first group of nurses graduated from Montag's program in 1954 (Montag, 1980).

The community colleges, whose mission it was to provide career education to the populace, quickly embraced the two year Associate Degree Nursing (ADN) curriculum and ADN programs began to emerge throughout the
To illustrate the rapid growth of ADN programs, Bullough and Bullough (1981) reported that in 1962, 3.7% of nurses graduated from ADN programs and ten years later, in 1972, ADN graduates constituted 37% of nurse graduates. By 1975, all 50 states, U.S. territories, and some other countries had ADN programs (Rines, 1977).

From the start, when Montag (1980) designed the two year ADN curriculum in 1952, she described the program as "terminal", complete in itself. Graduates were prepared for immediate employment without need of additional education. Widespread implementation of Montag's educational model exacerbated the long standing debate over education of the professional nurse. Should both technical ADN and baccalaureate degree education qualify for the same Registered Nurse license?

After years of discussion and debate of the issue, the American Nurses' Association (1965) published its controversial first Position on Education for Nursing which is also referred to as the 1965 proposal. Basically, there were four statements that embody the substance of their position. The first is: "The education for all those who are licensed to practice nursing should take place in institutions of higher education" (p. 107); second, "Minimum preparation for beginning professional nursing practice at the present time should be baccalaureate degree education in nursing" (p. 107); third, "Minimum preparation for beginning technical nursing practice at the present time should be associate degree education in nursing" (p. 108); and fourth, "Education for assistants in the health service occupations should be short, intensive preservice programs in vocational education institutions rather than on-the-job training
programs" (p. 108). The ANA established 1985 as the goal for implementation of the proposal.

Implementing this proposal has been slow. Across the nation, hospitals have been terminating their diploma nursing programs. This has resulted more from economic forces than from the efforts of nursing, however. Third party health care reimbursement methods have had a powerful impact on the numbers of hospital-based nursing education programs. Prior to the passage of Medicare legislation in 1965, hospitals supported their own nursing education programs as a means of maintaining cheap, skilled care givers.

After Medicare went into effect in 1966, hospital schools of nursing continued to flourish because the cost of operating the schools became an allowable overhead expense incorporated into the patient care bill which was reimbursed by Medicare. In some institutions, the cost of operating a nursing school added five or more dollars per day, per patient, to hospital bills. This retrospective payment system in which Medicare paid hospitals for their actual costs, continued for almost two decades. As a result, hospitals were somewhat rewarded for having high overhead.

In the 1983-84 fiscal year, Medicare changed to a prospective payment system that paid hospitals a predetermined fee based on an average cost of care for the patient's specific diagnosis at the time of admission. This system changed the rules of hospital administration. Rather than rewarding hospitals for high overhead and long patient stays, the new Medicare system induced hospitals to cut their expenses. In an effort to reduce overhead, many hospitals eliminated their nursing education
programs. Thus, most of the Registered Nurses educated in the 1980s have come from ADN programs and a smaller number from baccalaureate programs.

In 1986, Birnbach reported that 49 state nurses' associations supported the ANA statement. Special interest groups within nursing have opposed adoption of the proposal, however. Specifically, ADN program educators and graduates have been particularly opposed to its implementation. The dissention among the various groups within nursing (i.e., ADN, LPN, and diploma nurses) has resulted in a lack of cohesion and has weakened the power base of nursing to make and implement decisions to advance the profession.

Individual states have made efforts to adopt the ANA proposal despite the dissenting groups within nursing. In 1983, the ANA allocated funds to support these efforts of state nursing associations (The American Nurse, 1983, July-August). Five states have received these funds. They are North Dakota, Illinois, Maine, Montana, and West Virginia (The American Nurse, 1986, January). Every year since 1976, a bill has been unsuccessfully submitted to the New York state legislature to upgrade the educational requirements for professional nursing (Selby, 1986). Hospital administrators and ADN and hospital-based faculty and graduates have exerted the greatest opposition.

Not until 1986 was the first state successful in accomplishing the ANA objective. North Dakota was, by its geography, health care needs, and attitudes of its people suited to adopt the changes that nursing had discussed for 20 years. It is a medium-sized state with only 650,000 residents and 6,800 Registered Nurses. It had five baccalaureate, three
diploma, and two ADN programs. All of the diploma programs were in cities in which baccalaureate programs were located. Therefore, the diploma programs could merge with the collegiate programs or close without jeopardizing student access to nursing education programs (McCarty, 1985).

The North Dakota Board of Nursing was able to change the educational requirement without taking the issue before the state legislature. On January 16, 1986, the North Dakota Board of Nursing voted to revise rules governing nursing education programs. The revised rules required a BSN for RN licensure and Associate Degree in Nursing for LPN licensure. Further, the rules also required that BSN programs have articulation plans in place, thus providing a process by which currently licensed nurses could get the required baccalaureate degree (The American Nurse, 1986, January).

In March, 1986, there was a temporary injunction filed against the North Dakota Board of Nursing ordering it to stop implementation of the newly adopted regulations. This injunction was issued after two hospitals with nursing schools filed lawsuits against the nursing board challenging the board's authority to promulgate rules and regulations (American Nurse, May 1986). However, the state supreme court upheld the Board's authority to set nursing education standards (American Nurse, Feb., 1987).

Even prior to the 1965 ANA position statement, individual graduates from ADN and hospital-based diploma nursing education programs improved their academic credentials by seeking baccalaureate and higher degrees. Few colleges had specific baccalaureate nursing programs for RN students, however. Graduation requirements often had students repeat coursework or
may not have recognized any of the students' prior learning thus requiring the full four years of study. These factors discouraged nurses from advancing their educational credentials within nursing. Many enrolled in educational programs that provided baccalaureate degrees in majors outside nursing.

Meanwhile, other nurses worked through professional organizations to support them in their efforts to improve their access to baccalaureate nursing education. Consequently, in 1978, the ANA House of Delegates passed a resolution promoting efforts of collegiate nursing programs to accommodate RN students. In this resolution, the ANA supported "increased accessibility to high quality career mobility programs that utilize flexible approaches for individuals seeking academic degrees in nursing" (Styles & Wilson, 1979, p. 44). This resolution recognized and legitimized educational efforts to make professional baccalaureate nursing education available to graduates of ADN and hospital-based diploma nursing programs.

Predictably, the issue over education for entry into professional nursing practice is far from resolved. Gugenheim (1980) concluded that the public thinks nurses are professional already, and more educated than they actually are. Some nursing leaders recommend the Doctorate in Nursing Science as the minimal education for entry into professional nursing practice (Watson & Wang, 1980).

In summary, nursing education has evolved, from a predominantly on-the-job training program to a legitimate academic discipline with doctoral study in institutions of higher education. Nursing education has emerged
from under the control of hospital administrators who exploited trainees as skilled servants, to a respected discipline of the academic community, discovering and disseminating knowledge in the specialized art and science that is nursing. Yet, despite this progress, nursing is entering the 1990s experiencing still another crisis, as enrollment in nursing education programs throughout the United States is declining. This enrollment decline occurs at a time when the demand for nurses is at an all time high. Hospitals in particular report a critical need for nurses as the length of patient stays declines and the severity and complexity of care increases.

The shortage of nurses is in part due to the poor image of nursing resulting from low salaries, poor working conditions and hours, and its low status compared to other disciplines. This situation presents nursing education and the entire health care service industry with challenges as great as any they have faced throughout history. The future of nursing may depend upon the successful resolution of this crisis. Will nursing respond as in the past; by abdicating power to outside forces who once again find short-sighted, self-serving panaceas for nursing's long-term problems?

An example of such a solution was proposed by the American Medical Association (AMA) House of Delegates who, on June 29, 1988 voted overwhelmingly in favor of a proposal to establish a new category of health care provider, the registered care technologist (RCT) (National League for Nursing, 1988). Their proposal called for the RCT to be trained by the AMA and registered under state medical boards. Opposition
to this AMA proposal has provided the single issue that seems to have rallied and unified the various professional nursing organizations. Organized professional nursing groups are committed to resisting the outside pressures to lower standards in order to increase the number of registered nurses to meet the immediate crisis. Rather, these groups affirm that nursing must press ahead to implement the 1965 ANA proposal. It is through professionalization that the image of nursing will ultimately be improved.

They further profess that the goal of professionalization can only be accomplished by increasing the academic credentials of nurses. To accomplish this goal, baccalaureate nursing education should be encouraged and made more accessible to RN graduates of ADN and diploma nursing programs. Through baccalaureate nursing education, socialization of the standards, norms, and behaviors of the professional role is formally initiated. Professional values must be internalized by nurses themselves in order to be recognized by clients, other health care colleagues, and society in general. For it is only through professionalization that nursing is going to attract and retain bright, energetic, career oriented men and women.

Research Variables

This dissertation employed an analytic conceptual sequential model. There were two factors whose measures were exogenous independent variables. These were age and socioeconomic status. The factor of subjects' gender was controlled to females only. There was one main dependent variable, professional role socialization, but to examine the
relationships of factors associated with the dependent variable, many bivariate analyses were done. Consequently, the independent variables became dependent within the model. One such dependent variable endogenous to the model included the treatment variable, nursing education.

According to the preliminary model, nursing education is the key factor underlying the interrelationships of the other socialization factors to the dependent variable professional role. Subjects were not randomly assigned to the different levels of educational programs, nor was the treatment manipulated directly by the researcher. So in that sense, the treatment differs from that in experimental design studies. Post treatment predictor variables include academic achievement, nursing practice setting, nursing position, professional development activity, and reference groups. The following section reviews the pertinent opinion, previous research, and state of the art of each of these variables.

Gender

The factor of gender was held constant in this study. Data were collected from males and described but statistical analysis was limited to data collected from female subjects.

Nursing has traditionally been and continues to be a female occupation. Ninety seven percent of nurses are female (Holcomb, 1988). Vance, Talbott, McBride, & Mason (1985) described nursing as a "female ghetto from which women should be encouraged to escape" (p. 281). They posit that nursing does not seek or use its power to advance nursing's, the patients', or the public's welfare.
In her review of the literature, Conway (1983) reported on a study by Stromberg which measured students' sex role identity. When students' sex role identities were more compatible with traditional masculine characterizations, their image of nursing was "more in harmony with the image advanced by the profession" (p. 192).

Melesis and Dagnais (1981) conducted a study exploring the sex role identity of nursing students as it related to their descriptions of self. One hundred sixty three graduating nursing students in a large west coast city were compared to female American college students in general as to these variables. Data were collected by use of three instruments; the Student Biographical Inventory, the Omnibus Personality Inventory, and the Nurse's Self Description Form. Nursing students did not differ from the general female college students in male-female correlates. Nursing students scored higher in personality characteristics of autonomy, religious orientation, personality integration, and practical outlook. Associate Degree and baccalaureate nursing students' self description scales for professionalism were significantly higher than diploma nursing students.

Klein and Klein (1984) also conducted an empirical study to compare values of nursing students to those of other female college students. They used the Allport Vernon Lindsey Study of Values (AVL) to collect data on a sample of 58 nursing students at a religious affiliated baccalaureate program during 1971 to 1974 and another group of 66 students who were enrolled from 1977 to 1980. The political index score for the 1980 nursing class was significantly higher than for the 1974 class. The
social and religious index mean scores of the 1980 nursing students were significantly higher than those of the norm group and the political index score significantly lower. However, the political index score at graduation rose significantly from the entering score for the 1980 nursing class.

This study indicated that recent nursing graduates value assertiveness, independence, and achievement to a greater degree than nursing students of the past. Although nursing continues to attract students who adhere more to traditional female values, through the process of socialization in their academic program, their values become more consistent with those of a professional.

Age

In this study, the age of the Registered Nurse (RN) subjects was examined as to its interrelationship with other factors on professional role socialization. The age of nurses at the time of graduation from their basic nursing program is increasing. In 1970, approximately 70% of nursing program graduates were under 23 years of age. In 1986, this group constituted only about 20% while those aged 30 and over accounted for more than 35% of new graduate nurses (Minnick, Roberts, Curran, & Ginzberg, 1989).

In her review of the literature, Green (1987) reported that the average nurse spent 34.9 years in practice. Employment among nurses was high when they were in their twenties, declined in their thirties, rose again in the forties, and declined sharply in the fifties. Sixty percent of working nurses were under 40 years of age. Further, Green reported
that the majority of nurses working in hospitals were under forty, whereas the majority of nurses employed in nursing homes and community health agencies were over 40.

Eight empirical studies on professional role socialization, reported their findings related to age of subjects (Ahmadi, Speedling, & Kuhn-Weissman, 1987; Bell, 1981; Grady, 1980; Ketefian, 1985; Kramer, 1966; Kramer, 1970; Kramer & Baker, 1971; McCain, 1985). Three of these merely identified the ages of the subjects (Bell, 1981; Kramer, 1970; Kramer & Baker, 1971). The others found that the ages of nurses correlated with their degree of professional role perception or with specific professional characteristics. Ahmadi, Speedling, & Kuhn-Weissman (1987) found a negative correlation between age and perception of the level of professional role in actual practice in their study of a group of 180 newly hired hospital nurses.

Ketefian's (1985) study of 217 RNs revealed that the level of moral behavior of nurses over 46 years of age was significantly higher than that of nurses between ages 26 and 35. McCain (1985) observed that older nursing students were less dependent and more interdependent than younger students in her professional socialization study of 422 baccalaureate nursing students throughout their program of study. Grady (1980), in her assertiveness study with 40 RNs, observed that younger nurses generally obtained lower scores than older nurses on responses that measured their degree of comfort in collegial issues with other nurses.

In summary, these studies support that age is a significant factor that relates to professional role socialization of nurses. This
dissertation applied an analytic conceptual sequential model to determine
the interrelationship of age and other factors to professional role
socialization.

Socioeconomic status

The socioeconomic status of the family of origin was investigated as
it relates to the level of professional role socialization of graduates of
ADN, diploma, and baccalaureate nursing education programs for RNs. In
her study of professional role socialization of baccalaureate nursing
students, Kramer (1966) found that 54% of her subjects' parents were in
managerial or professional occupations; 15 1/3% were in white collar
positions; 15 1/3% were in skilled manual; and 15 1/3% were in semi-
skilled manual occupations.

Williams (1988) in her analysis of data from the Annual American
Survey of Cooperative Institutional Research Program (CIRP), revealed that
students aspiring to careers in nursing between 1966 and 1982 came from
families with lower socioeconomic status. In terms of parents' income,
nursing ranked 29th out of 42 careers in 1966; this rank dropped to 37th
of 42 in 1982. Rankings according to parental education also demonstrated
a decline, from 29th in 1966 to 37th in 1982. Williams also found that
among college freshmen declaring nursing as their major, the percent of
caucasian students dropped from 91.1% in 1966 to 83.4% in 1983 while the
percent of black students increased from 3.2% in 1966 to 11.4% in 1983.

Smith (1987) attributed nursing's lack of power in part to the fact
that generally, physicians and nurses come from different social
backgrounds with nurses lacking the status ascribed to physicians. In her
review of the literature, Moloney (1986) reported that many sociologists and authors include prestige and status in their definitions and characteristics of a profession.

In her empirical study of 315 students enrolled in generic or accelerated (for students who held non-nursing baccalaureate degrees) baccalaureate nursing programs, Bell (1981) examined the relationship between levels of professional role socialization with several demographic variables. She found no relationship between professional role socialization scores and the educational achievement of the subjects' parents. Educational achievement of parents was also investigated in the present dissertation.

Nursing education

The relationship between the level of nursing education experience and professional socialization scores of subjects was investigated in this study. Inkeles' (1968) literature review found that several studies documented the direct relationship between the amount of higher education and command over social resources, measures of self esteem, and esteem of society in general.

One study compared the role socialization processes of 210 RN graduates of the three different kinds of nursing education programs (ADN, diploma and BSN). All of the subjects were employed full time as hospital staff nurses in Iowa. Data was collected on three questionnaires. An instrument identified nursing activities performed by the subjects. Another tool measured role conflict and ambiguity. And, a subscale of the Job Descriptive Index gauged work satisfaction. The researchers, Brief,
Aldag, Van Sell, and Melone (1979) found no significant differences in task activities. Baccalaureate graduates experienced significantly greater role conflict and role stress, and less job satisfaction than graduates of the other programs. The researchers concluded that "different educational tracks comprise distinct socialization processes that lead to different role conceptualizations" (p. 162).

One researcher (Lawler, 1987) found that nursing students who had completed diploma or associate degree programs prior to their baccalaureate programs scored higher than generic baccalaureate students on two different instruments developed to measure professional role orientation. In her study of change in professional role orientation of RNs enrolled in a BSN program, Lawler (1984) tested 74 subjects, 51 entering students and 23 exiting students. She collected data on the Role Orientation Questionnaire developed by Corwin and modified by Bevis. There was a significant increase on the professional orientation scale of students completing the baccalaureate program compared to the scores of entering RNs. The increased education was positively correlated with the change.

Ketefian (1985) found that while professional role socialization scores rose while nurses were actively pursuing baccalaureate or graduate education, these conceptions of the professional role did not endure and were not sustained after graduation. The purpose of her study was to investigate the relationship between professional role conception and moral behavior. Her subjects consisted of 217 RNs who actively practiced
nursing in a variety of settings in large and small towns in two midatlantic states.

Moral behavior was measured by a scale of the Judgments About Nursing Decisions (JAND) developed by the researcher. The nursing role conception was measured by Corwin (1961a) and modified by Pieta (1976). The instrument measured three role conceptions (professional, bureaucratic, and service). It presented situational statements and directed respondents to identify the actual situation as it exists and then how they think it should be. The discrepancy score was the difference between the actual and ideal scores.

The results showed a professional role discrepancy, that actual practice did not meet the expectations of the nurses. The professional role conception was found to be positively related to moral behavior. Bureaucratic role discrepancy was also positively related to moral behavior. Of the nurses demonstrating high professional and low bureaucratic role conception, 74% held baccalaureate or graduate degrees or were engaged in educational programs toward these degrees. On the other hand, of nurses responding with low professional and high bureaucratic role orientations, 52% held diplomas or associate degrees and 34% were engaged in study or held baccalaureate or graduate nursing degrees. Thus, baccalaureate education was found to have a positive relationship to professional role conception in these studies.

This discussion described the demographic factors that other researchers have found to relate to the variable of professional role socialization of nurses. The present research measured the relationship
of these factors to professional role socialization of graduates of ADN, diploma, and baccalaureate nursing programs for RNs who practice in a variety of settings.

**Academic achievement**

Academic achievement in nursing education was studied as it related to professional role. None of the studies reviewed by this investigator related the factor of academic ability or achievement to professional role socialization. In addition to nursing literature, this investigator also explored *Psychological Abstracts* and *Social Science and Humanities Index*. Again, no studies were found that explored the relationship of academic achievement to level of professional role socialization.

Green (1988) reported that aspiring students entering nursing education programs differ from other college students. Both their SAT scores and high school grade points are lower than the national average for college students. Only 57% of aspiring baccalaureate nursing students reported that one or both parents attended college compared to 66% of other college students. Green noted an increase in the percentage of minority students who entered nursing. Further, he reported that on average, these students were less prepared academically than white students which resulted in higher attrition from nursing programs.

As reported earlier in this chapter, nursing students were considerably older than traditional college age students. Bernard (1981) reported that female adult learners were generally very ambitious and motivated to learn and achieved high grades when they returned to school. Therefore, it can be inferred that, if the adult female nursing student
does not become frustrated and lost to academia through attrition, she will probably be highly successful in her nursing program. It could be further postulated that those graduates that enjoyed a high degree of success in their basic program would be further motivated to continue their nursing preparation and earn their BSN degree.

Inasmuch as higher education is a major socialization institution, it would follow that students' academic ability and achievement in higher education programs would relate to their level of role socialization. Therefore, this dissertation examined the degree to which academic ability and achievement is associated with professional role socialization of nurses from three different kinds of educational programs.

The following section includes discussion of intervening factors (Babbie, 1989) that, associated with the demographic and treatment variables, relate to professional role socialization of nurses. These include the setting in which nurses practiced, the positions held by the nurses, their level of professional development activity, and their perception of the role ascribed to them by significant others in the nursing area.

The nursing practice setting

The present study examined the relationship between nursing practice setting and professional role socialization of ADN, diploma, and baccalaureate nurse subjects. Most settings in which nursing is practiced exist within institutions. Parsons (1951) defined institution as "a complex of institutionalized role integrates...made up of a plurality of interdependent role-patterns or components of them" (p. 39). The
stability of the institution is dependent on the integration of a set of common value patterns and a degree of social uniformity. Internal consistency within an organization is a powerful force in shaping behavior (Pascale, 1985).

The work force contains 1.9 million nurses of which 79% are actively employed in nursing (Johnson, 1987). Nurses work in a variety of settings. Approximately 65% work in hospitals. This proportion has remained fairly constant since the late 1960s (Aiken, Blendon, & Rogers, 1983).

Smith (1987) observed that each hospital has a unique culture - "a system of norms, unspoken rules, values, and behavior...[which] determines who succeeds and who does not" (p. 513). The system of rewards and sanctions results in enforced modification of behavior of individuals within the system. If the enforced behavior runs counter to the values and ideals of the individual, he or she experiences internal dissonance. To alleviate the discomfort this causes, the individual may change cognitions so they are consistent with behavior (Kramer & Schmalenberg, 1977).

Several empirical studies on professional role socialization limited the scope of practice setting of RN subjects to the hospital setting (Brief, Aldag, Van Sell, & Melone, 1979; Corwin, 1961; Corwin, 1961; Corwin & Taves, 1962; Kramer, 1966; Kramer, 1970; Kramer & Baker, 1971; Stewart-Dedmon, 1988). The role of hospital nursing differs from that of other settings. In the hospital, more nursing judgments are dependent on physician's orders. Whereas in home health, education, and other
settings, nursing judgments are more interdependent or independent, based on the nurse's own assessment and nursing diagnoses of clients.

Another study (Ketefian, 1985) investigated nurses in a variety of settings. She did not find a significant difference in professional role socialization scores of public health nurses compared to hospital nurses when measured on a modified nursing role conception scale developed by Corwin. Pieta (1976) explored professional role socialization of nursing faculty of baccalaureate, associate degree, and diploma nursing programs as well as hospital head nurses and students.

This investigation of the relationship of clinical setting with role socialization of baccalaureate nurses adds to the existing body of knowledge. Researchers found that baccalaureate nurses who worked in hospitals viewed teaching (Corwin, 1961) and community health nursing (Kramer, 1966) as viable options to hospital nursing when their professional values were frustrated in the hospital setting. By contrast, Corwin found that diploma nurses values were more consistent with hospital bureaucracy and that they tended to be more satisfied with the hospital setting.

This dissertation investigated the association of practice setting and professional role socialization of diploma and ADN nurses and nurses who completed baccalaureate education. This is the only known study of this relationship in which all of the baccalaureate nursing graduates were first graduates of either diploma or ADN nursing programs.
Nursing position

The position each nurse occupied within the organization was investigated as it related to professional role socialization. The precedent for studying this variable has been established in the literature. Abrahamson (1967) postured that individuals in lower-status positions rely on the "definition of reality" advanced by their superiors (p. 20). Vestal (1983) observed that contemporary nurses have similar goals to career minded workers in other industries. Nurses aspire for recognition and advancement.

Smith (1987) directed nurses seeking promotion to look at the behaviors and values of those nurses who have succeeded in achieving promotions within their organizations. Then the nurses seeking promotion should decide if they want to conform to these attitudes, traits, and behaviors in order to advance their careers. If such conformity would cause too many conflicts for them, they may need to leave the organization to find one whose reward system is more compatible with their role conception.

Several research investigators also explored the positions nurses held as they relate to professional role socialization. These included Corwin (1961) who compared students, staff nurses, and head nurses; Kramer (1970) and Kramer & Baker (1971) who investigated differences between staff nurses, head nurses, clinically promoted, administratively promoted, and private duty nurses; Pieta (1976) who compared senior nursing students, nursing faculty, and head nurses; and Ketefian (1985) who examined the professional role of supervisors and staff nurses. Based on
studies reported in the nursing literature, it was appropriate that the present research examine the professional role socialization of graduates of ADN, diploma, and baccalaureate nursing programs for RNs as it related to positions occupied by the subjects.

**Significant reference groups**

Role socialization as an interactive process involves influences of various reference groups, each with its expectations of what the nurse should and should not do. The sanctions of these groups may reinforce the professional role concept or be a source of role confusion and conflict (Benne & Bennis, 1959). Attitudes, values and behavior patterns are acquired through contact with members of these groups (McKinney & Ingles, 1959).

In their review of Corwin's research, Ahmadi, Speedling, & Kuhn-Weissman (1987) found that as nurses work in a system for some time, they tend to accept their nursing roles as the system determines them. Chinn and Wheeler (1985) described the hospital as a patriarchy that "does not foster, tolerate, endorse, nor approve nursing practice based on nursing's own theories and values" (p. 76). Rather, hospital nurses, who are almost all women, are expected to be passive and submissive to physicians and administrators, the majority of whom are men. Kanter (1979) offered some hope that as wives and daughters of men in high administrative positions develop careers, these men become more supportive of career aspirations of women in general.

Meisenhelder (1981) observed that while they are in the educational environment, nursing students receive much positive feedback and
reinforcement for their performance. However, after academia, new graduates receive little direction. Much of the feedback nurses receive in the practice setting is in the form of negative sanctions when their behavior runs counter to norms of the unit. Abrahamson (1967) posited that an individual's sense of competence results from the validation he or she perceives from others such as teachers or peers.

Corwin (1961) noted that more often than not, teachers project to students their concept of the ideal image for the profession rather than an accurate picture of the real world of nursing. Students are rewarded by teachers for performance that matches this image. After graduation however, when the neophyte begins practice, nurses in the practice setting have different norms and the sanctions imposed by nurse peers become a source of role conflict for the new graduate.

Huntington (1957) reported on the results of her empirical study to explore processes by which medical students socialize to the role of physician. Specifically, she measured the development of the professional self image of these students. The subjects were first, second, third, and fourth year medical students enrolled at Western Reserve, the University of Pennsylvania, and Cornell Medical School. On a questionnaire, students were asked if they thought of themselves primarily as doctors or as students, and if they saw themselves primarily as doctors or students in their dealings with faculty, classmates, nurses, and patients. The researcher found that students defined themselves as they thought patients defined them. If they perceived that patients defined them as doctors, students exhibited behavior appropriate to that role. The role perception
of physician increased steadily with each year in medical school. Also, the researcher found that if students expected patients to see them as doctors, they then felt that was how they were defined by them. So, their perception matched their expectation 78% of the time.

Benne and Bennis (1959) conducted a study to explore forces that determine the character of the nurse role. The subjects consisted of 91 RNs from seven outpatient departments (OPD). To determine the reference groups that influenced these nurses, they were asked to compare the importance of six groups; the nursing profession, their OPD, their hospital, their immediate work group, the medical field, and their nursing service. The researchers regretted that they did not include the nursing schools from which subjects graduated. The subjects responded that their greatest loyalty was to the nursing profession. Kramer (1966) collected data on significant reference groups by asking subjects to identify their ideal nurse. The studies reviewed above and the positions proposed in the literature affirm that perception of the role ascribed by reference groups constitutes a factor that should be studied as it relates to professional role socialization of nurses.

According to the position of symbolic interactionism, individuals learn to relate to themselves and others in the context of social situations. They learn their roles through interpreting the meaning they perceive in how others act toward them. Their response to others is based on this interpretive process. Role socialization is an ongoing, formative process in which role occupants eventually internalize the roles they perceive as ascribed to them by significant others (Blumer, 1969).
This dissertation collected data on the reference groups that the subjects viewed as affirming the nursing role as they had become socialized to it. The study related reference groups to professional role socialization levels of diploma and ADN nurses and nurses who earned the baccalaureate degree.

**Professional development activity**

Some of the activities that Kramer (1970) identified as reflecting professional development of nurses include plans to pursue graduate study, regular reading of professional journals, participation in formal course work or continuing education activities, and involvement in professional associations. Chinn & Wheeler (1985) advanced Robert's position that when individuals choose not to participate in professional organizations, they demonstrate lack of pride in the profession and the desire to not be identified with it. This dissertation examined the relationship between the level of professional development activity identified by Kramer (1970) with the level of professional role socialization as defined by Dumont (1970).

**Professional nursing role socialization**

Levels of professional role socialization were measured and related to the independent and dependent variables discussed above for groups of registered nurses who graduated from ADN, diploma, and baccalaureate nursing programs for RNs. Biddle (1979) described professions as occupations whose roles involve interaction with human beings (clients), whose performance is based upon a long period of training and is accounted "expert" for which the associated roles tend to be
performed in private, and for which an explicit code of conduct in
the form of rules governing the role are set and enforced by its
members (p. 314).

In her review of the literature, Moloney (1986) reported on M. S. Larson's
three dimensions of a profession. These are cognitive (mastery of the
body of knowledge and skills); normative (delivery of service which
follows a code of ethics and is self regulated by its membership); and
evaluative (characterized by autonomy and prestige when compared to other
occupations). Moloney compiled a list of professional characteristics
from the selected authors she reviewed (Barber, Becker, Carr-Saunders &
Cogan, Flexner, Freidson, Greenwood, Goode, Hobenstien, Hughes,
Kornhouser, Larson, Moore, Schein, and Wilson). She summarized that a
profession is characterized by knowledge, a theoretical base, altruism, a
code of ethics, autonomy, service, competence, commitment, professional
association, prestige, authority, and trustworthiness.

Matthew P. Dumont (1970) of the National Institute of Mental Health
advised that professionalism needed to be profoundly redefined to meet the
needs of changing society. He wrote in the wake of civil disorder and
campus unrest of the 1960s. He observed that "crisis has become a steady
state" (p. 22) and that values no longer seem to direct decision making,
particularly in government and industry. He noted that it was in this
climate that the community action program called for "maximum feasible
participation of the poor" (p. 22). In light of these conditions, Dumont
charged that the role of the new professional must be directed toward
social change.
He proposed six principles to serve as the code of conduct for these new professionals: (a) they must assure maximum participation and control by the consumer; (b) they should be indifferent to credentials and other "artifacts of authority" (p. 24), rather, professionals should be evaluated by their efficacy in delivering needed service to all segments of society; (c) professionals across all disciplines should have a sense of "superordinate purpose" (p. 30), that of the well-being of the people, a common goal which fosters mutually supportive relationships between disciplines and between research, education, and service; (d) an attitude of criticism should guide their searching, questioning, and skepticism to discover evidence and alternatives; (e) they should be impatient with change as they employ an "ethic of responsibility" (p. 32) directing both their delivery of service and their involvement in the political processes to meet the very survival needs of society; and (f) they should be driven by a sense of compassion for humankind. Dumont's definition and characterization of the professional role was applied to this research investigation of the professional role socialization of nurses.

McCain (1985) defined professional socialization as "the interactive process by which an individual integrates a professional role into the self-concept through the acquisition and internalization of the requisite knowledge, skills, values, attitudes, and norms of the profession" (p. 181). The individual thus socialized is expected to demonstrate the established standards of the profession related to "physical development, skills and capacities, emotional expression, intellectual and co(g)native activity, and patternning of relations with significant others" (Hurley,
Moore (1970) suggested that this level of socialization is not achieved until the individual is a fully qualified practitioner.

One effect of higher education (and professional status) is the feeling that one understands and can influence the political processes related to his or her environment (Inkeles, 1968). Dumont (1970) included political activism as one of the characteristics of a professional. Pinch (1981) posited that, because nursing is often practiced in male dominated systems, it lacks the power and prestige to carry out the professional role.

In her study of the resocializing effects of assertiveness training of nurses, Grady (1980) used a pretest, post-test, control group design. Twenty four RNs attended 20 hours of assertiveness training conducted by the investigator; 16 RNs attended a similar course presented by a non-nurse assertiveness trainer, and 19 RNs constituted a control group who did not receive the training. Data were collected by three instruments, The Adult Self-expression Scale developed by Gay, Hollandsworth, & Galassi, the Assertion Inventory for Nurses developed by Gambrill & Richey, and Participant Personal Information Inventory developed by the investigator. Subjects in both experimental groups demonstrated increased ease of self expression and confidence in professional interactions and increased self esteem after the assertiveness training. They demonstrated a significant value change toward supporting nursing colleagues and personal desire to control their own practice. They demonstrated decreased paternalism by their change in behavioral response to authority
figures, particularly physicians. The scores of the treatment group also showed significant change on the Values Client scale which related to client advocacy and humanizing relationships. The measure of Values Self did not result in significant change scores.

Grady's pretest results suggest lack of empowerment in the current role of nurses. She did not report the scores according to educational preparation of the nurses. Grady's study indicated that assertiveness on the part of nurses related positively to professional role values. Although the present study did not investigate assertiveness levels, it measured the same professional role values Grady found underlying the assertive behavior of her subjects.

Corwin (1961) conducted research to answer three questions. 1) Do bureaucratic and professional conceptions of role conflict? 2) Are there differences in role conceptions related to diploma and degree nursing education? 3) Is there an increase in discrepancy between the real and ideal role after graduation? His subjects consisted of 201 staff nurses and 23 head nurses all with either diploma or baccalaureate education, and 71 junior and senior nursing students from four schools of nursing in a large midwestern city.

Data were collected on a questionnaire developed by the investigator that consisted of three Likert-type scales that measured bureaucratic, professional, and service role conceptions. For each item, respondents answered how they see the situation as it actually is, then as they think it should be. The difference between actual and ideal is the discrepancy score. Respondents were classified based on their scores as high
bureaucratic high professional (HBHP); high bureaucratic low professional (HBLP); low bureaucratic high professional (LBHP); low bureaucratic low professional (LBLP). Results showed that HBHP generally express greater discrepancy in both role conceptions. Thus, for them, neither role was adequately fulfilled. With LBHP, there was high professional discrepancy.

Degree nurses scored higher on professional conception than did diploma nurses who frequently chose HBLP. Corwin found that degree nurses, after graduation, tend to hold on to their professional role conception but may also increase their bureaucratic conception as well. On the other hand, diploma graduates held on to their allegiance to their hospital (HB) while their allegiance to their profession declined (LP).

In a second research project, Corwin (1961) explored the orientation of role concepts and their relationship to mobility aspirations of nurses. Subjects consisted of 169 staff nurses from seven hospitals and 67 junior and senior nursing students from four nursing schools in a midwest metropolis. All subjects had diploma or degree education. Data were collected on the Corwin Role Conception tool described above. Degree students held less bureaucratic role conceptions than diploma students. Degree graduates demonstrated a greater discrepancy between the ideal and actual role.

Diploma students expressed a greater ambition to be promoted in the hospital setting whereas degree graduates demonstrated higher teaching ambition. Role certainty was inversely associated with promotion ambitions of students and nurses from both diploma and degree programs. Frustration of role conception of degree nurses and students was related
to ambition to teach. Diploma students who felt bureaucratic role frustration demonstrated promotion ambition while professional role frustration directed degree nurses into teaching. Corwin concluded that degree nurses maintain their professional identity which becomes frustrated in the hospital setting, occasionally directing them to seek careers in teaching. Diploma nurses maintain a higher affiliation with the hospital and have ambition to be promoted within the system.

In a third study, Corwin and Taves (1962) researched the type and certainty of role conceptions and the amount of role deprivation experienced by nurses from different types of educational programs in different stages of their careers; and how these factors relate to career aspirations. The subjects consisted of 124 staff nurses and 71 junior and senior nursing students, all with diploma and degree educations from a large midwest city. Corwin's Role Conception instrument was used to collect data.

Degree students expressed lower bureaucratic and higher professional role conceptions than diploma nurses. Degree nurses expressed a very significant professional deprivation mean, showing that they maintained their professional role conception but were very frustrated in the hospital setting. Persons with HB role conceptions were not interested in teaching but did aspire to being promoted to supervisor or head nurse. The more certain both groups of students and nurses were in their role conceptions the less their ambition to a supervisory promotion. Professional role conceptions generally directed ambitions outside the
hospital, away from promotion and toward non-hospital nursing or other types of careers.

Ahmadi, Speedling, & Kuhn-Weissman (1987) investigated the feeling of nurses that they are powerless to control their practice (alienation). The purpose of their study was to examine the interrelationship of role deprivation, satisfaction, and alienation on role conception. The subjects consisted of 180 RNs newly hired by a large northeastern urban teaching medical center. Seventy-five percent of the subjects were new graduates.

The data collection instruments were the Corwin Role Conception Scale, a Job Satisfaction Scale developed by Everly & Falcion, and Pearlin's Alienation Scale. Subjects first completed the questionnaires during orientation (three to four weeks after being hired), then again one year later. The results of this study demonstrated that over the one year period, mean bureaucratic and professional role conceptions, professional role discrepancy, and job satisfaction remained unchanged. The researchers found that when subjects perceived nursing as being much more bureaucratic than it should be, alienation increased while their perception of nursing situations being professional and the importance of job factors decreased. Professional Role conception and job satisfaction were strongly negatively correlated at the time of hire. One year later, alienation and job satisfaction were negatively correlated. The researchers concluded that the feeling of powerlessness which was greater than at the time of hire was related to job dissatisfaction.
Kramer was involved in several research projects on role conception. Her doctoral dissertation in 1966 was a longitudinal study to determine the relationship between time in a bureaucratic work setting, role reorganization, and role deprivation. She used a panel in a time series design. The population consisted of June 1965 graduates of three California state nursing programs. Subjects were randomly assigned to study and control groups in a ratio of three to one. All subjects were employed in bureaucratic organizations (25 different hospitals).

Subjects were tested at the time of graduation. The control group was tested only once while the treatment group was interviewed and retested two more times, once between the tenth and thirteenth week of employment and again between the 23rd and 26th week. Data were collected by use of a personal data form; the Corwin Role Conception instrument; an Inducement Scale developed by the investigator to measure the presence and importance of organizational inducements; and by recorded structured interviews.

All but six neophytes chose hospital work as their first employment setting. Fifty two percent of the 79 subjects remained in the same job or in the same organization for the first six months. One third changed jobs at least once. At six months, 16.4% of the newly graduated nurses had either begun working as nurses and then stopped or had not practiced nursing at all.

By three months, 64% of the new graduates were assuming charge responsibility. At the six month interview, when asked what they planned to be doing in a year, less than 20% planned to remain in their jobs.
Forty-four percent planned to enter community health or school nursing. Kramer observed a significant shift to bureaucratic role conception after three and six months of employment. There was an overall decrease in the professional role scale over the six months but it was not significant. Three nurses, whose professional role conception scores were in the top ten percent, left bureaucratic employment to return to school.

During data collection interviews, subjects were asked to describe their ideal nurse. At graduation, 90% identified an instructor. This response dropped to 21% and 17% at the third and six month interviews. At three months, 44% of respondents indicated a staff nurse and 17% their head nurse. At six months, 27.5% indicated staff nurses while 30% identified their head nurses as their role model. Professional role deprivation rose at the three month interval but dropped to the level of graduation at six months. Of the nurses who at six months expressed high role deprivation, none was working at the same job and seven of the eleven had returned to graduate school or planned to do so. Of the final six month sample of 47, 38.3% had either changed jobs because of dissatisfaction or had made plans to leave nursing.

Over the six months, the greatest shift in role conceptions was to high bureaucratic low professional (HBLP). This cell contained 12 subjects at graduation, 24 at three months and 31 at six months. The high bureaucratic high professional (HBHP) group was the most stable, retaining 75% of its original subjects. The low bureaucratic low professional (LBLP) group shifted toward HBLP. The low bureaucratic high professional (LBHP) cell was most unstable. Subjects shifted role concept orientation
every direction. Looking at direction of change for single role conceptions, LB to HB accounts for the greatest shift. The second most frequent change was from HP to LP.

Nurses in the HBHP group were more inclined to remain in their initial job than any other group. All of the nurses in the HBHP group intended to return to school. They were all role deprived and most retained a former instructor as their role model. Kramer conducted a follow-up study of the same subjects two years later which showed a further decrease in the professional role conception.

Ranking of Inducements indicated that working with dedicated nurses was first, opportunity to provide bedside care was second, salary was third, and modern environment was fourth. The most change in rank order over the six months included inducements of professional organizations, medical center and research, and nursing research. All three are classified as prestige inducements.

In 1968, Kramer began a six year study to relate role conceptions with employers' perceptions of nurses who were regarded as highly successful, average successful, and less than average successful. Subjects consisted of 220 nurses from 37 medical centers. In each medical center, the nursing director and the assistant and six RNs who were graduates of generic baccalaureate programs were tested and interviewed. The six nurses included two considered by nursing administration to be very successful, two considered average and two considered less successful than average. All met the criteria in that they had been employed in nursing at least 9 to 12 months. Her sample consisted of 74 highly, 74
average, and 72 less successful nurses as perceived by their employers. The Corwin Role Conception Scale was again used to collect data. Additionally, interviews were held with each participant.

Results showed that the mean bureaucratic score for highly successful nurses was significantly higher than that of less successful nurses. The mean professional scale score for the less successful nurses was significantly higher than that of average successful nurses but there was no difference in the professional mean score when comparing the less and more successful nurses. Nurses with HBHP conceptions were viewed as most successful by administration. Nurses regarded as less than average successful exhibited higher role deprivation scores than the other two groups. They were apparently frustrated by their failure to resolve the bureaucratic-professional conflict in the hospital setting.

In 1968, 113 of the 220 nurses were in staff nurse positions, 71 were assistant head nurses or head nurses, 30 were in clinically promoted positions and six were supervisors or assistant directors, all in medical center hospitals. By 1970, 210 of the subjects remained in the study. Of these, only 116 remained in hospital nursing (53%). Sixteen nurses had become employed in community health agencies, 26 were engaged in teaching, ten were enrolled in graduate programs, most of these seeking teacher preparation. The remaining 50 nurses were not working in nursing; 14 were raising children, 15 were in non-nursing positions, five were enrolled in non-nursing graduate programs, and 16 left nursing due to extended travel, poor health, or dissatisfaction with nursing.
The ratings by administration had changed. In 1968, each group had contained about one third of the sample. Seventy four (33\%) of the nurses had been rated as highly successful. In 1970, this number rose to 96 (43.5\%). The 1970 average successful group rose to 78 (36\%) from the original number of 74, and the number of less than average successful dropped from 72 to 45 (20.5\%). The ratings for the three groups had improved overall.

With regard to role conceptions, the greatest movement was toward the HBLP cell which contained 75 nurses (36\%); LBLP had 52 (25\%); HBHP and LBHP each attracted 41 nurses (19.5\%). Most of these baccalaureate nurses had relinquished their professional role conception.

Kramer and Baker (1971) examined the characteristics of the nursing dropouts identified in the study. Some 16.5\% of nurses had left the practice of nursing entirely. Another 16.5\% were teaching full time and not involved in patient service. The mean number of jobs assumed by these nurses over the two years was four, compared to a mean of 2.7 jobs for those who remained in clinical nursing. This indicates that the dropouts made repeated efforts to find their job fit before giving up on nursing. Of the 63 dropouts (including those who left to teach), 39.7\% were rated highly successful and 36.5\% were regarded as less successful than average by their employers. Of the nurses initially rated less successful, more than half dropped out of nursing. The majority of dropouts were in the HP group. The highly successful dropouts were in the HBHP cell, whereas the less successful nurses were from the LBHP group. Of 46 nurses who were promoted to administrative positions, 35 of them came from the HBLP cell.
The variable of professional role conception does appear to be related to job satisfaction and success of baccalaureate nurses.

Pieta (1976) conducted an empirical study to examine the role conceptions of senior nursing students and their faculty from the three types of nursing education programs, Associate Degree (ADN), diploma (dip), and baccalaureate (BSN), plus head nurses from hospital units where new graduates were assigned. One of each type of nursing education program was randomly selected from each of the seven New York regents-designated post secondary education regions that had at least one of each type of program. Therefore, there were seven ADN, seven dip and seven BSN programs. Two hospitals from each region were randomly selected for a total of 14 hospitals from which head nurse subjects were chosen. At least twenty five students were selected from each school. In all, there were from 103 to 180 subjects in each group (students, faculty, and head nurses).

Data were collected on the Corwin Role Conception instrument that was revised by the investigator. A total of 838 questionnaires (77.8%) were returned and used in the data analysis. The ideal role conceptions for students and faculty of all three programs were ranked in order from highest to lowest, service role, professional role, and bureaucratic role. All faculty and student groups rated the bureaucratic role first in actual practice. All faculty groups along with baccalaureate and diploma students rated the actual service role second and actual professional role last. ADN students rated actual professional as second and service as third.
All of the role discrepancy scores were significant for the ADN and BSN students and faculty. The professional and service role discrepancy scores were also significant for the diploma students and faculty. However, the discrepancy scores between the ideal and actual bureaucratic role was not significant for the diploma students and faculty. Their ideal concept of the bureaucratic role matched the actual bureaucratic role conception as practiced in hospitals.

Head nurses' ranking of ideal role conceptions reflected the same pattern as the other groups; service, professional, and bureaucratic. Their perception of actual role in practice matched the order of the five groups other than ADN students. The head nurses' discrepancy scores between ideal and actual role in practice was significant in all three dimensions of service, professional, and bureaucratic roles. Interestingly, head nurses perceived that the bureaucratic role was practiced to a lesser extent than did any of the faculty or student groups. The baccalaureate faculty found the greatest discrepancy for all three role conceptions.

This study validated findings of studies by Corwin and Kramer. Nurses with high professional role conceptions leave nursing to go into teaching in higher educational institutions where they maintain and perpetuate their role orientation, which is an ideal not reflected in nursing practice. On the other hand, nurses who leave to teach in hospital diploma programs have resolved the professional-bureaucratic conflict. Diploma faculty also perpetuate this role orientation to their students. This might explain the findings of Brief, Aldag, Van Sell, and
Melone (1979) that diploma graduates demonstrate a higher level of loyalty to their hospital employer than do graduates from the other types of programs which are located in institutions of higher education.

Bell (1981) conducted a research study to compare the role socialization process of accelerated baccalaureate nursing students with that of generic baccalaureate students enrolled in programs at Creighton University, Omaha Nebraska. The accelerated program was a one year nursing program for students holding another baccalaureate degree in an area outside nursing, and who had completed all prerequisite courses to the nursing major. All 440 students enrolled in spring, summer, or fall terms of their sophomore, junior, or senior year received questionnaires. Of these, 315 were completed and returned for use in data analysis. An ex post facto design was used. Data were collected on five instruments; the Corwin Role Conception tool, the Characteristics of Nursing questionnaire developed by Davis & Oleson, a Professionalism Scale developed by Sister M. Vaillot, a Professionalism test developed by Hogan, and an Attitude scale developed by Pankratz & Pankratz.

She found no differences between role socialization scores of the two groups of students. As students progressed through the academic programs, their socialization scores increased significantly. There was a correlation between age of students and their socialization scores. Gender was not found to be a significant variable to role socialization. No relationship was found between parents' educational achievement and students' socialization scores. The relationship between previous work
experience of the student and socialization scores was found to be not significant.

Bell's study reinforced the position that students' socialization scores increase to resemble the role conception of their faculty. This would be expected while students are enrolled in their formal educational program where nursing faculty are their almost exclusive reference group in the role socialization process.

The literature review of professional role validated the importance of investigating the socialization factors cited in this dissertation. Some factors seem to relate directly to professional role while others seem to interact with one or more socialization factors as they relate to professional role socialization.

**Time since graduation**

The time since graduation has been supported as a significant variable by past writers and researchers in the area of professional role socialization. Conway (1983) expressed the position that formal education is merely the first stage of a developmental process that continues throughout an individual's career. Gulack (1983) reported that many RNs leave nursing after three to five years of practice and burnout is often cited as their reason for leaving.

In their review of the literature, Ahmadi, Speedling, & Kuhn-Weissman (1987) cited a study by Knopf in which only 25% of baccalaureate nurses belonged to the American Nurses' Association five years after graduation, illustrating their lack of affiliation with the profession. Holloran, Mishkin, and Hanson (1980) expressed the position that for new graduates,
their first work experience presented the greatest conflicts to their values. In this dissertation the investigator controlled the time variable by limiting the study to 24 months following graduation.

In summary, the selected literature which was reviewed validated the importance of studying the interrelationships of the research variables to professional role socialization of nurses. The predictor independent variables consisted of the demographic characteristics and nursing experience of the subjects. The demographic variables were age, gender, and socio-economic status. Three researchers reported their findings related to age (Bell, 1981; Kramer, 1966; Kramer, 1970; Kramer & Baker, 1971). Four researchers found that age related to the level of professional role socialization or specific professional characteristics (Ahmadi, Speedling, & Kuhn-Weissman, 1987; Grady, 1980; Ketefian, 1985; McCain, 1985).

The variable of gender was held constant. Only data from female subjects were analyzed. Females constitute 97% of nurses (Holcomb, 1988). Conway (1983) found that when individuals demonstrated more characteristics traditionally regarded as masculine, their image of nursing was more professional. One study (Meleis & Dagenais, 1981) compared sex role identities (male-female correlates) of nursing students to other American college students and found no significant differences.

Klein & Klein (1984) compared nursing students' values with those of other female college students from 1971 to 1980. They found that individuals who enter nursing education demonstrate traditional female
values; but through academic socialization their professional values for assertiveness, independence, and achievement increase.

Socioeconomic status of subjects was studied as it related to professional role socialization. In her study with four-year baccalaureate students, Kramer (1966) found that over half (54%) came from homes where the principle wage earner was in a managerial or professional career. More recently, Williams (1988) found that students aspiring to become nurses were from lower socio-economic families. Smith (1987) and Moloney (1986) also reported on the fact that nurses often have lower social status and prestige than physicians.

Higher educational experience of subjects was examined as it related to professional role socialization. Education has been shown to have a positive correlation to self esteem, esteem of others, and control over social resources (Inkeles, 1968). Researchers have found levels of nursing education (ADN, diploma, and baccalaureate degree) to relate to professional role socialization of nursing (Brief, Aldag, Van Sell, & Melone, 1979; Ketefian, 1985; Lawler, 1987).

Professional role socialization was investigated as a function of several factors including nursing setting, position, professional development activity, and perception of the role ascribed by significant others. Approximately 65% of employed nurses work in hospitals (Aiken, Blendon, & Rogers, 1983). Several studies of professional role socialization limited the setting of subjects to the hospital (Brief, Aldag, Van Sell, & Melone, 1979; Corwin, 1961a; Corwin, 1961b; Corwin & Taves, 1962; Kramer, 1966; Kramer, 1970; Kramer & Baker, 1971; Stewart-
Dedmon, 1988). Baccalaureate nurses, in Corwin's (1961) and Kramer's (1966) studies who experienced professional role frustration, left the hospital setting to practice in home health or education settings. This dissertation explored whether practice setting is associated with professional role socialization.

Researchers have studied professional role socialization of nursing students and of nurses in various positions including staff nurse, head nurse, clinically or administratively promoted, private duty, faculty, and supervisory positions (Corwin, 1961; Ketefian, 1985; Kramer, 1970; Kramer & Baker, 1971; Pieta, 1976). They have found an association between nursing position and professional role socialization.

The perception of the role ascribed by reference groups relates to the professional role socialization of the role occupant. Huntington (1957) found this to be true of medical students. Benne & Bennis (1959) and Kramer (1966) also found this association with nurses.

The dependent variable of professional role socialization has been studied by several researchers. Grady (1980) found a positive relationship between professional role and assertiveness in nurses. Ahmadi, Speedling, & Kuhn-Weissman (1987) found that professional nurses developed feelings of powerlessness in the hospital setting. Corwin (1961a, 1961b), Corwin & Taves (1962), Kramer (1966, 1968), and Kramer & Baker (1971) measured levels of professional role socialization and bureaucratic role socialization and related these role conceptions to a number of demographic, educational, and practice factors of hospital nurses over time. Pieta (1976) compared role socialization scores of ADN,
diploma, and baccalaureate students and faculty and head nurses. Bell (1981) compared professional role socialization of a group of traditional four year baccalaureate nursing students with a group of accelerated students who held other baccalaureate degrees. The present dissertation examined professional role socialization of diploma and ADN nurses and nurses who completed baccalaureate nursing programs for RNs.

Time since graduation was held constant for all subgroups of ADN, diploma and baccalaureate nurses. Time has been found to relate to role socialization of nurses in a number of studies (Ahmadi, Speedling, & Kuhn-Weissman, 1987; Conway, 1983; Gulack, 1983; Kramer, 1966). Professional role socialization of nurses was measured approximately 24 months after graduation from ADN, diploma, and baccalaureate nursing programs for RNs. In this time, the nurses should have passed through the initial orientation phase and not have experienced the burnout reported to Gulack (1983) by nurses after three to five years of practice.

In conclusion, this is the only known study that examined professional role socialization of nurses approximately 24 months after graduating from ADN, diploma and baccalaureate nursing education programs for RNs in the state of Iowa. It is also unique in the fact that it did not limit the scope of the setting in which the subjects practiced nursing. Rather, the nurse subjects practiced in a variety of settings.
Chapter 3 describes how the study was conducted. Descriptions of subjects, instrumentation and procedures are discussed.

Subjects

The research population consisted of spring 1988 graduates of ADN, diploma, and baccalaureate nursing programs for RN students who had previously graduated from ADN and diploma nursing programs in Iowa. There were 20 ADN programs, five diploma, and 14 baccalaureate nursing programs for RN students in this state. The baccalaureate and diploma programs were all accredited by the National League for Nursing and the baccalaureate programs were members of the State Association of Colleges of Nursing. Two of the ADN programs were NLN accredited. One of the baccalaureate programs was located in a large state university while the others were situated in small private colleges and universities. The diploma programs were located in private, not for profit hospitals. The ADN programs were located in community colleges or regional institutes of technology.

The subjects consisted of registered nurses (RNs) who graduated from these nursing programs. A total of 308 nurses returned surveys. Of the 137 BSN nurses who were mailed questionnaires, 99 (72%) returned them; of 77 diploma graduates, 57 (74%) returned questionnaires. The investigator sought a number of ADN subjects approximately equal to the BSN group. Four hundred fifteen questionnaires were mailed to the entire population of ADN graduates who obtained initial RN licensure in July 1988. One hundred fifty two questionnaires were returned in response to the initial
mailing. Since an adequate number was obtained with the initial mailing, further follow-up mailing was not done with this group.

Of the 308 questionnaires which were returned, 282 were usable for data analysis in the study; 55 diploma, 128 ADN, and 99 BSN. Twenty eight of the returned questionnaires were not analyzed because respondents did not complete the entire questionnaire, respondents did not graduate from their nursing programs in the spring of 1988, or their gender was male.

Protection of human subjects

The questionnaire was anonymous. There was no request for names of respondents or educational programs. However, questionnaires were coded for the purpose of sending follow up letters. The study was approved by the Iowa State Human Subjects In Research Committee.

Completion of the questionnaire was voluntary and participation in the study constituted consent. The code book of subjects' names and all questionnaires were kept in a locked cabinet in the investigator's office. They were accessible only to the investigator and computer programmer. The code book and questionnaires were shredded after the research project was completed. The investigator did not identify individual subjects or educational programs in any publications that resulted from the research project.

Instrumentation

The instrumentation subsection presents the operational definitions of the variables used in this dissertation (Moore, 1983). The purpose of the investigation was to isolate and relate factors associated with professional role socialization of nurses as the initial step in
preliminary theory construction. A description of each factor and how it was measured is presented.

A questionnaire was used for data collection. Treece and Treece (1986) stated that the questionnaire is the most common instrument used in research. Questionnaires collect data that reflect opinion or subjective responses of subjects. This dissertation used a questionnaire for demographic-type of facts and subjective perceptions related to role. Its use was appropriate for collection of this kind of data.

The questionnaire contained two data gathering instruments: the dependent variable, professional role socialization, was measured by Stone's (1979) Health Care Professional Attitude inventory (see Appendix A); data related to demographic and predictor variables were collected on an instrument developed by the investigator. There were two forms of this instrument; one for ADN and diploma nurses (Appendix B), and the other for BSN nurses (Appendix C).

**Professional role socialization**

Professional role socialization was measured by Stone's Health Care Professional Attitude Inventory (Stone, 1979) which was modified for nursing by Lawler (1988). Permissions to use the instrument are provided in Appendixes D and E. The instrument was developed to measure the construct of professional role as described by Matthew Dumont (1970). He defined the professional role as it directs social change and includes the six characteristics of (a) recognition and acceptance of consumer control, (b) indifference to credentials (versus recognition based on numbers of academic degrees and publications), (c) a sense of shared superordinate
purpose of all professions to work cooperatively together to further the well being of the people, (d) a value for critical thinking with a skepticism which directs the search for alternatives and evidence, (e) an attitude of impatience for social change, and (f) a dedication which is driven by compassion for client needs.

The inventory consists of 38 items to which subjects respond on a five-point, number-anchored Likert scale. Each statement either supports or opposes Dumont's constructs of professionalism. In responding to each item, the subjects express either agreement or disagreement with the construct. The inventory provides a composite score of each subject's total professional attitude. This score was the major dependent variable for analysis. In addition, six subscale scores were derived, measuring support for each of Dumont's principles of professionalism. These subscales were (a) consumer control, (b) indifference to credentialing, (c) superordinate purpose, (d) critical thinking, (e) impatience for change, and (f) compassion for peoples' needs. These six subscales were used appropriately in the process of analysis as needed to increase understanding of relationships among variables.

Stone (1979) conducted a literature review of health care education which served as the basis for his inventory items. He developed an initial list of 40 statements relating to Dumont's constructs. To establish content validity, Stone gave these statements to a panel of six educators to review. Panel members were asked to respond to each item as to its applicability to the construct it purported to measure, the
appropriateness of each response, and its general readability. As a result of this process, Stone retained 36 items.

Lawler (1988) conducted further validation studies of Stone's inventory as she modified it to measure socialization to the professional nursing role. Lawler gave the Stone inventory along with a modified professional subscale of the Corwin Nursing Role Conception Scale to a panel of expert educators and administrators of baccalaureate nursing education programs from various university settings. The panel was instructed to judge both instruments for clarity, readability, and comprehensiveness, and to judge the items from both inventories as to their characterization of the professional role. Further, panel members were encouraged to modify, delete, or add items to better measure the construct. The panel recommended that two additional items be added to Stone's survey for a total of 38 items. This panel determined that the Stone inventory, thus modified, was a better measure of the professional role concept than was the Corwin instrument.

Thus, Lawler appraised the construct validity of the two instruments. Then she administered both tools to nonequivalent groups of nursing students two to three weeks before they graduated from (a) a generic baccalaureate program (N=25), (b) a baccalaureate outreach program for RN students (N=18), and (c) an ADN program located in a community college (N=36). Lawler hypothesized that BSN students would score higher than ADN students on the professional nurse role scale.

Lawler theorized that the construct of professionalism would differ according to type of education, and that instruments, if they were valid,
would discriminate significantly between ADN and BSN graduating nursing students. She employed the independent t-test to determine differences between means. Five of the six subscales of Stone's inventory were found to discriminate significantly between ADN and BSN students. Only the differences on the critical thinking scale were found to be not significant at the 0.05 level. Corwin's subscale that measures the ideal professional role did not discriminate between the two groups of students.

In an effort to determine reliability of his instrument, Stone (1979) administered it to a group of 153 freshman nursing students and 201 first year medical students. Data from this pilot study were analyzed to determine coefficient alpha for each of the subscales of the instrument. Item to scale correlations were also done for each item. The overall alpha coefficients for the medical students were 0.79 and for the nursing students 0.70. This indicated that the combined items making up the total inventory were internally consistent. All item to scale correlations were significant beyond the 0.01 level with the exception of one item which was significant beyond the 0.05 level.

Lawler (1988) also assessed internal consistency of both Stone's and Corwin's instruments using Cronbach's alpha coefficient. The internal consistency reliability coefficients of Corwin's professional subscale ranged in the 0.50s. The alpha for the total Stone inventory was 0.73, showing a higher, more acceptable level of reliability. In addition, Lawler employed the test-retest method of determining reliability. Pearson's correlation coefficients for test-retest comparisons on the two instruments were 0.59 for the Corwin scale and 0.52 for the Stone
inventory. Based on these validity and reliability studies of the two instruments, Lawler concluded that Stone's inventory was superior to Corwin's professional subscale for measuring professional role socialization of nurses.

In order to develop content validity for the present dissertation, this investigator sent the questionnaire and objectives to a panel of three doctorally prepared directors of BSN programs within the state. They were asked to analyze the questionnaire to determine if it measured the variables the examiner intended it to measure. This letter is included as Appendix F. The panel agreed that the instrument measured the objectives. They made some recommendations for minor wording changes which were incorporated into the questionnaire.

Test-retest reliability was also determined for the present research. The investigator administered the questionnaire to a group of 23 registered nurses enrolled in a BSN class. Fourteen days separated the testing times. The average time required to take the test was noted in order to inform future research subjects. The test scores obtained in the two testings were correlated and the reliability coefficient of .844 indicated stable and consistent test scores over time. Polit and Hungler (1983) reported that reliability coefficients of .70 or better are sufficient when the researcher is making group-level comparisons such as was the case with this study.
Gender

Subjects were asked their sex. Only data collected from female subjects were analyzed. Females represent greater than 95 percent of nurses and not enough male responses were returned to be significant.

Age

Subjects were asked to state their age. Age is a continuous variable and was measured on a ratio scale as there is an absolute zero level of the characteristic (Hinkle, Wiersma, & Jurs, 1979).

Socioeconomic status

Socioeconomic status of the subjects' family of origin encompassed two variables; academic achievement and occupation of parents. The first variable was measured by asking subjects to identify the highest academic achievement by either parent. The levels were 1) less than high school; 2) partial high school; 3) high school graduate or equivalent; 4) trade (technical) school graduate; 5) community college graduate or partial college; 6) college or university graduate; and 7) professional or graduate school degree (master's or doctorate). The second variable was measured by asking subjects to identify the usual occupation of their father or mother, whomever they regarded as principle wage earner. Levels of this variable included 1) manual labor, (includes farm or warehouse laborer, handyman); 2) semi-skilled labor, (includes custodian, repairman); 3) service worker (includes bartender, fire worker, police, barber, truck driver etc.), 4) craftsman or foreman (includes plumber, factory machine operator, carpenter, electrician, etc.), 5) clerical kindred worker (includes secretary, sales, bookkeeper, accountant, etc.);
6) manager (includes office, department, or farm) or proprietor (includes small business, farm owner/operator), 8) professional or administrator.

The data are discrete. These variables are measured on ordinal scales because the categories have logical order scaled according to the amount of the characteristic they possess.

**Academic achievement**

This concept was measured by an instruction to subjects to identify their overall grade point average in their nursing program. There were ten levels of this variable. They were 3.75-4.0, 3.50-3.74, 3.25-3.49, 3.0-3.24, 2.75-2.99, 2.50-2.74, 2.25-2.49, 2.0-2.24, 1.75-1.99, less than 1.74.

**Nursing education experience**

This concept was measured by instructing subjects to identify their nursing education experience. The levels were two year associate degree in nursing, three year diploma nursing school graduate, baccalaureate degree in nursing. These data were discrete.

**Nursing practice setting**

This concept was measured by asking subjects to identify the type of agency in which they were employed. Levels of this categorical measure are hospital, community health agency, nursing education program, nursing home, school, clinic or physician's office, and other, please specify.

For the purpose of analysis, this measure was treated as a discrete dichotomy. The levels were hospital and non hospital.
Nursing position

Nurses were asked to indicate the type of nursing position they currently occupied. The levels were staff nurse, supervisor, assistant head nurse or head nurse, instructor or professor, administrator or director, school nurse, office nurse, clinical nurse specialist, and other, please specify.

For purposes of statistical analysis, this measure was divided into three discrete categories. These were staff nurse, manager-supervisor-director, and other.

Professional development activity

The concept was measured by asking subjects seven questions. These questions were 1) Are you currently a member of the American Nurses Association? The levels were yes and no. 2) Do you belong to other professional nursing organizations? The levels were yes (which ones?) and no. 3) How many nursing journals do you usually read every month? The levels were 0, none, 1, 2, 3, 4 or more. 4) How many formal academic courses have you taken since graduating from your baccalaureate nursing program? The levels were no courses, 1, 2, 3, 4 or more. (ADN and diploma nurses were asked how many formal academic courses they have taken since graduating from their nursing program. 5) BSN nurses were asked if they have entered or plan to enter graduate school. Levels were yes and no. Then if they answered yes to the previous question, are they majoring in or do they plan to major in nursing in graduate school. The levels were yes and no. ADN and diploma nurses were asked if they have enrolled in or plan to go on to school for their bachelor's degree. The levels
were yes and no. Then, if they answered yes, are they majoring in or do they plan to major in nursing (BSN). The levels for this variable were yes and no. Some of the scales were discrete dichotomies, others were interval scales.

Reference groups

This concept was measured by asking subjects to rate how much their nursing behavior was influenced by the following reference groups' judgement of what is right and proper for them to do. The reference groups were the nursing profession, the agency for whom they work, their immediate work group, their nursing service, the nursing school from which they graduated, and physicians. Responses ranged from 1, does not influence their nursing behavior to 10, definitely influences their nursing behavior. Data were continuous.

This concludes the instrumentation discussion operationalizing the dependent and independent variables studied in this dissertation. These variables were all directly related to the professional nurse role socialization model guiding this investigation.

Design

This dissertation employed a predictive study approach using an ex post facto, quasi experimental design. Polit and Hungler (1985) reported that ex post facto investigations are very prevalent in nursing, nursing education, and medical research. This type of study is weaker than the experimental design. However retrospective studies are frequently employed to determine antecedent factors to some phenomena existing in the present. Polit and Hungler stated further, that the challenge to ex post
facto investigations is in identifying and disentangling the independent variables that have a relationship to the outcome variable that is being studied. Since the purpose of this dissertation is to isolate and relate factors as a preliminary step in theory development, the research design is appropriate.

A professional nurse role socialization model and an analytical conceptual sequential diagram (Figure 1) were developed to isolate the associated factors and guide the examination of covariate relationships of these factors to each other and to the dependent variable. There was one main dependent variable being examined. Within the model, many analyses were conducted to examine the interrelationships of independent variables to this dependent variable. Therefore, the predictor intervening variables became dependent within these analyses. Although subjects were not randomly assigned to treatment groups and though the treatment variable was not directly manipulated by the experimenter, a treatment variable was implied in the model. The treatment variable consisted of three levels of nursing education; ADN, diploma, and baccalaureate education for RNs. The independent variables consisted of age and socioeconomic status. The intervening (predictor) variables included academic ability as evidenced by achievement, the type of agency in which subjects were employed (hospital, non hospital), nursing position, professional development activities, and significant reference groups. The main dependent variable was professional role socialization including the six subscales of professional role identified by Dumont (1970). Two
variables were held constant; they were gender (data analysis was limited to female subjects) and time since graduation (approximately 24 months).

**Procedure**

The investigator contacted the directors of baccalaureate nursing education programs in the state by telephone, requesting their participation in the study. She informed them that the purpose of the study was to measure variables associated with professional role socialization of graduates of ADN, diploma, and baccalaureate nursing education programs for RN students. Each director was provided a copy of the questionnaire and a description of how the data was treated to protect the confidentiality of their graduates and their nursing program. This letter is included as Appendix G. They were asked to give the investigator a list of spring 1988 graduates and their most current addresses. Every BSN program in the state participated in the study.

The May 1988 graduates of ADN and diploma nursing education programs received their initial licensure by examination in July of that year. The names of these licensed nurses was a matter of public record. Therefore, the investigator obtained names and addresses of ADN and diploma subjects by purchasing mailing labels from the Board of Nursing.

The researcher assigned each ADN and diploma graduate an identifying code number and sent each a number coded questionnaire. Every graduate of participating BSN programs in the state was also assigned a number code. In those instances where the program director submitted graduate names and addresses to the investigator, she mailed coded questionnaires directly to the subjects.
Some BSN program directors were unwilling to provide the investigator with names and addresses. So, in these cases, the investigator sent the program directors packets of number coded questionnaires in stamped, sealed envelopes bearing code numbers corresponding to those of the questionnaires. These nursing program directors assigned each graduate one of these code numbers and maintained their own logs. As completed questionnaires were returned to the investigator, she noted the code numbers. For those questionnaires that were not returned in 10 days, a reminder post card (see Appendix H) was sent either directly to the subjects or to their nursing directors to send out. After twenty days, a second packet containing another questionnaire was mailed. The questionnaires that were returned after the second mailing represented the BSN subjects' data for analysis for this study.

Ninety-nine of the 137 (72%) BSN graduates and 57 of the 77 (74%) diploma graduates returned questionnaires. The researcher sought a number of ADN subjects approximately equal to the number of BSN subjects. A sufficient number (152) of ADN questionnaires were returned after the first mailing, so further follow-up mailings were not sent to this group.

With mailed questionnaires, Polit and Hungler (1983) report that a response rate of greater than 50 percent is probably sufficient for most purposes. If the rate of return of questionnaires is less than 50 percent the threat of response bias becomes increased. Less than 50% of ADN nurses returned questionnaires. The investigator attempted to discover how representative the respondents were compared to the total sample. Variables of age, socioeconomic status and practice setting were similar
to characteristics as reported in the literature. Therefore, it was inferred that bias was probably not a factor that would affect the data analysis.

Borg and Gall (1983) recommend as a general guideline a sample size of at least 15 subjects for each predictor variable. So, for this investigation of eight predictor variables, the 280 usable questionnaires surpassed the guideline which would have been 120.

Each subject was sent a packet in the mail consisting of a cover letter (Appendix I), and the questionnaire consisting of the instrument developed by the investigator and Stone's Health Care Professional Attitude Inventory as modified by Lawler (1988). The cover letter was written on Iowa State University letterhead and, in the case of BSN subjects, informed them that the investigator received their names and addresses from their nursing programs who were participating in the study. All subjects were informed that the purpose of the investigation was to study professional role socialization of nurses. The letter informed subjects that all data would remain confidential. Only the research investigator had access to the data. Data collected from individual subjects would not be identified by name. The investigator would not identify individual subjects or educational institutions in any publications that resulted from the research project.

Subjects were also told how much time it would take to answer the questionnaire. They were instructed to answer each item and to interpret the title "health care professional" to mean members of the nursing team.
They were instructed to return the instrument in the enclosed, stamped, self-addressed envelope to the investigator within ten days.
This chapter presents the research results including an overview of statistical procedures, a description of subjects, and analyses of relationships.

Overview Of Statistical Procedures

The data analysis diagram for factors associated with professional role socialization of nurses is illustrated in Figure 2. Standard path analysis procedures could not be used because some of the "dependent" endogenous variables were not measured on interval or ratio scales. As stated in the previous section, some of the data in this study were categorical measures.

The analytic ordering of the model was not a statistical decision. Rather it resulted from reason, logic and knowledge gained from review of previous literature and research (Munro, Visintainer, & Page, 1986). The data analysis diagram is unidirectional and recursive; sequencing indicates the interrelationships of the predictor variables as they relate to the dependent variable, professional role. Because path analysis was not used, arrows were not included in the diagram.

Six of the theoretical constructs were measured as independent qualitative, nominal or categorical variables (see the circled variables in Figure 2). These were 2a. parental job, 2b. parental education, 3. nursing education, 5. nursing practice setting, 6. nursing position, and 8. professional development activities. Chi-square analysis was used to determine the relationship that exists between pairs of these categories to determine if membership in one category related to membership in the
Figure 2. Data analysis diagram for professional role socialization of nurses (variables in squares and rectangles mean the variables are continuous, they were measured on an interval or ratio scale; circled variables are discrete and were measured on categorical or ordinal scales; $r_{i,j}$ = hypothesized relationships between variables, these are expressed with the effect variable first and the predictor variable second; the statistical test used for data analysis is indicated for each bivariate relationship: ANOVA = analysis of variance, $X^2$ = chi-square, corr = correlation)
other. If no relationship was found, the categories were considered "independent" of one another. Whereas if a relationship was demonstrated, the categories were considered "contingent upon one another" (Visintainer, 1986, p. 127). Chi-square \( (X^2) \) uses a frequency count and is based on the relationship between the expected number of subjects that fall into a category by chance alone and the actual observed number of subjects that fall into a category (Visintainer, 1986). The data analysis diagram illustrates that the relationships computed with chi-square include r32a, r32b, r53, r63, r83, r85, and r86.

Three of the constructs (variables in squares and rectangles in Figure 2) were measured on quantitative interval or ratio scales; these were 1. age, 4. academic achievement, and 9. professional role socialization. For determining the statistical relationship between two quantitative variables, ordinary least squares regression and/or Pearson Product Moment Correlation Coefficient were used (Munro, 1986). Relationships for which degrees of correlation were computed include r41, r74, r91, r94, and r97.

ANOVA tests the null hypothesis that all groups come from the same population. It does this by computing the variance of individual scores within a group, the variance between groups, and the total variance (Visintainer & Munro, 1986). In studying the relationship of two variables, one of which is quantitative "described by a numerical quantity on a scale" (Neter & Wasserman, 1974, p. 424) and the other qualitative or categorical, the researcher chose to use the ANOVA technique, using the categorical variable to define the group classification. "ANOVA is the
equivalent to regression on only categorical (dummy) variables" (Wonnacott & Wonnacott, 1970, p. 77). The relationships that were computed using ANOVA were r31, r42a, r42b, r54, r64, r73, r75, r76, r84, r93, r95, r96, and r98 (see Figure 2).

In conclusion, a variety of statistical procedures was done depending upon the measurement scale on which data were collected. These procedures included chi-square analysis, analysis of variance, and correlation. The interaction of multiple independent variables on a single dependent variable was computed using analysis of covariance.

**Description Of Findings**

This section of Chapter four begins with a general description of subjects. Then, it describes the analyses of relationships of factors in the professional nurse role socialization model.

**Description of subjects**

**Age.** The 280 subjects who responded to this question ranged in age from 21 years to 63 years with a mean age of 32.6 years and a standard deviation of 8.465. The histogram of ages is presented in Figure 3.

<table>
<thead>
<tr>
<th>Midpoint</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>64</td>
</tr>
<tr>
<td>27</td>
<td>56</td>
</tr>
<tr>
<td>32</td>
<td>56</td>
</tr>
<tr>
<td>37</td>
<td>39</td>
</tr>
<tr>
<td>42</td>
<td>41</td>
</tr>
<tr>
<td>47</td>
<td>14</td>
</tr>
<tr>
<td>52</td>
<td>5</td>
</tr>
<tr>
<td>57</td>
<td>3</td>
</tr>
<tr>
<td>62</td>
<td>2</td>
</tr>
</tbody>
</table>

Figure 3. Histogram of subjects' ages
Socioeconomic status. The highest degree or amount of schooling achieved by parents of subjects was: a professional or graduate degree, N=9 (3%); college or university graduate, N=57 (20%); community college graduate or partial college, N=45 (16%); trade or technical school graduate, N=22 (8%); high school graduate or equivalent, N=119 (42%); partial high school, N=16 (6%); and less than high school, N=14 (.5%).

The histogram of parents' education is presented in Figure 4.

<table>
<thead>
<tr>
<th>Parents' Ed</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>9</td>
</tr>
<tr>
<td>B</td>
<td>57</td>
</tr>
<tr>
<td>C</td>
<td>45</td>
</tr>
<tr>
<td>D</td>
<td>22</td>
</tr>
<tr>
<td>E</td>
<td>119</td>
</tr>
<tr>
<td>F</td>
<td>16</td>
</tr>
<tr>
<td>G</td>
<td>14</td>
</tr>
</tbody>
</table>

Figure 4. Histogram of parents' education; A) Graduate or Professional degree, B) college or university graduate, C) community college graduate or partial college, D) trade or technical school graduate, E) high school graduate, F) partial high school, G) less than high school

The usual occupation of the parent whom the subject regarded as primary wage earner was: professional or administrator, N=33 (12%); manager (office, department, farm) or proprietor (small business, farm owner-operator), N=100 (35%); clerical and kindred worker (secretary, sales, bookkeeper, accountant, etc.) N=17 (6%); craftsman, foreman (plumber, factory machine operator, carpenter, electrician, etc.) N=48 (17%); service worker (bartender, fire worker, police, barber, truck driver, etc.) N=30 (11%); semiskilled labor (custodian, repairman, etc.) N=9 (3%); and manual labor (farm or warehouse laborer, handyman, etc.) N=45 (16%). An histogram of parents' occupations is found in Figure 5.
Occupation | Count
---|---
A | 33  
B | 100  
C | 17  
D | 48  
E | 30  
F | 9  
G | 45  

Figure 5. Histogram of parents' occupation; A) professional or administrator, B) manager or proprietor, C) clerical or kindred worker, D) craftsman or foreman, E) service worker, F) semiskilled labor, G) manual labor

Nursing education program. The nursing education programs from which subjects graduated were: diploma nursing programs, N=55 (20%); associate degree nursing (ADN), N=128 (45%); and baccalaureate nursing programs for registered nurse students, N=99 (35%). Nursing education programs of subjects are illustrated in Figure 6.

<table>
<thead>
<tr>
<th>Ed Program</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>55</td>
</tr>
<tr>
<td>ADN</td>
<td>128</td>
</tr>
<tr>
<td>BSN</td>
<td>99</td>
</tr>
</tbody>
</table>

Figure 6. Histogram of nursing education

Academic achievement. The grade point averages (GPA) from nursing programs as self reported by subjects ranged from a minimum of 2.125 to a maximum of 3.875. These grades were based on a four point scale with A=4.0, B=3.0, C=2.0, D=1.0, and F=0. The histogram of subjects' grade point averages is shown in Figure 7.

Reference groups. On a continuous scale of one to ten, subjects reported how much their nursing behavior was influenced by six different groups. They indicated that their most significant reference group was the nursing profession. Then, in descending order, they reported they were influenced by their immediate work group, the agency for whom they
work, the nursing school from which they graduated, their nursing administration, and physicians. Mean scores and standard deviation are reported in Table 1. An intercorrelation matrix of the perceived influence of these reference groups are reported in Table 2.

<table>
<thead>
<tr>
<th>Midpoint</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>2.4</td>
<td>8</td>
</tr>
<tr>
<td>2.6</td>
<td>10</td>
</tr>
<tr>
<td>2.8</td>
<td>30</td>
</tr>
<tr>
<td>3.0</td>
<td>0</td>
</tr>
<tr>
<td>3.2</td>
<td>62</td>
</tr>
<tr>
<td>3.4</td>
<td>56</td>
</tr>
<tr>
<td>3.6</td>
<td>57</td>
</tr>
<tr>
<td>3.8</td>
<td>55</td>
</tr>
</tbody>
</table>

![Histogram of grade point averages in nursing education](image)

Table 1. Mean scores and standard deviations of perceived influence of reference groups

<table>
<thead>
<tr>
<th>Reference Group</th>
<th>Profession</th>
<th>Work Grp</th>
<th>Agency</th>
<th>School</th>
<th>Admin</th>
<th>Phys'ns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>8.40</td>
<td>7.81</td>
<td>7.78</td>
<td>7.03</td>
<td>6.98</td>
<td>6.61</td>
</tr>
<tr>
<td>S D</td>
<td>1.54</td>
<td>1.78</td>
<td>1.68</td>
<td>2.08</td>
<td>2.03</td>
<td>2.31</td>
</tr>
</tbody>
</table>

Table 2. Six variable intercorrelation matrix of perceived influence of reference groups

<table>
<thead>
<tr>
<th></th>
<th>Profession</th>
<th>Agency</th>
<th>Work Grp</th>
<th>Admin</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>0.303</td>
<td>0.448</td>
<td>0.395</td>
<td>0.403</td>
<td></td>
</tr>
<tr>
<td>Work Group</td>
<td>0.200</td>
<td>0.595</td>
<td>0.075</td>
<td>0.099</td>
<td>0.132</td>
</tr>
<tr>
<td>Administration</td>
<td>0.320</td>
<td>0.397</td>
<td>0.441</td>
<td>0.393</td>
<td>0.234</td>
</tr>
<tr>
<td>School</td>
<td>0.276 *</td>
<td>0.075 *</td>
<td>0.099 *</td>
<td>0.132</td>
<td></td>
</tr>
<tr>
<td>Physicians</td>
<td>0.227</td>
<td>0.397</td>
<td>0.441</td>
<td>0.393</td>
<td>0.234</td>
</tr>
</tbody>
</table>

* = Relationships that are not significant at the .05 Level.
Nursing position. The levels of the variable nursing position currently occupied by subjects were: staff nurse, N=221 (79%); supervisor, N=9 (3%); assistant manager or nurse manager, N=15 (5%); instructor, professor, N=4 (1%); administrator, director, N=12 (4%); school nurse, N=3 (1%); office nurse, N=5 (2%); clinical nurse specialist, N=5 (2%); and other, N=7 (2%). Thus, 221 subjects (79%) reported they were staff nurses; 36 (13%) were supervisors, managers, or directors; and 24 (9%) were in other positions.

Practice setting. Subjects indicated the type of agency for whom they worked as; hospital, N=218 (78%); community health agency, N=12 (4%); nursing education program, N=1 (.4%); nursing home, N=30 (11%); school, N=3 (1%); clinic or physician's office, N=6 (2%); other, N=11 (4%). Only 22% worked in settings other than hospitals.

Professional development activities. Thirty-one subjects (11%) reported that they belonged to the American Nurses Association (ANA) compared with 251 (89%) who did not. Sixty-nine (24%) said they belonged to other professional nursing organizations. The number of professional nursing journals read every month is reported in Figure 8.

<table>
<thead>
<tr>
<th>Journal Count</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>54</td>
</tr>
<tr>
<td>ONE</td>
<td>117</td>
</tr>
<tr>
<td>TWO</td>
<td>76</td>
</tr>
<tr>
<td>THREE</td>
<td>24</td>
</tr>
<tr>
<td>FOUR</td>
<td>11</td>
</tr>
</tbody>
</table>

Figure 8. Number of nursing journals read monthly

Subjects reported that, since graduating from their nursing programs two years previously, 169 (60%) have taken no formal academic courses; 36 (13%) have taken one course; 30 (11%) have taken two courses; 13 (5%) have
taken three courses; and 34 (12%) have taken four or more courses. Forty-eight subjects (17%) reported that they have enrolled in higher degree programs since completing their nursing programs. Of the 207 respondents who indicated that they have not enrolled in such programs, 128 (62%) said they planned to continue their formal education in the future. Of 181 subjects who either were enrolled or planned to enroll in a formal higher education program, 133 (73%) said nursing was or will be their major.

Analysis Of Relationships

This section of chapter four presents the statistical analysis of the relationship of each of the pairs of variables hypothesized to be associated with professional role socialization of registered nurses. All data analyses were computed using MINITAB data analysis software release 6.1.1 - standard version (1987). The relationships are presented in numerical order according to the rij illustrated in the diagram, Figure 2.

Age related to nursing education program (r31)

Analysis of variance was done to simultaneously test the equality of means of ages of graduates of the three nurse education programs (see Table 3). The mean age of diploma graduates was 22.927, of ADN graduates, 32.183, and of BSN graduates, 32.808. The age difference was statistically significant at an alpha level of .001. The population means from the three educational programs were not equal. This supports the model that older, more mature women select ADN programs and that registered nurses continue their formal education to earn their baccalaureate degree after they have been in practice for a number of years.
Table 3. ANOVA: Choice of nursing education as a function of age

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
<td>2</td>
<td>4036.1</td>
<td>2018.0</td>
<td>35.03</td>
<td>0.000</td>
</tr>
<tr>
<td>Error</td>
<td>277</td>
<td>15955.9</td>
<td>57.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>279</td>
<td>19991.9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV**

<table>
<thead>
<tr>
<th>Level</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th>Age at graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLOMA</td>
<td>55</td>
<td>22.927</td>
<td>4.233</td>
<td>24.0</td>
</tr>
<tr>
<td>ADN</td>
<td>126</td>
<td>32.183</td>
<td>8.156</td>
<td>28.0</td>
</tr>
<tr>
<td>BSN</td>
<td>99</td>
<td>32.808</td>
<td>8.252</td>
<td>32.0</td>
</tr>
</tbody>
</table>

Age at graduation pooled STDEV = 7.590

**Socioeconomic status related to nursing education (r32a, r32b)**

Parental job and education were used to measure subjects' socioeconomic status. Chi-square was used to determine statistical significance between expected and observed frequencies of parental job categories related to nursing education program (ADN, diploma, BSN). The chi-square distribution $X^2 = 0.174$ with degrees of freedom (DF) = 4 indicated that parental job was not a significant factor when related to nursing education program. Chi-square was also used to measure the relationship between parental education and nursing education program of subjects. $X^2 = 3.753$ with DF = 4. The relationship between parental education and subjects' nursing education program was not significant. Therefore, the hypothesized model was supported. Nurses from all socioeconomic backgrounds demonstrated a commitment to life long learning by continuing their nursing education and earning their BSN degrees.
Age related to level of academic achievement (r41)

The correlation of age and overall grade point average was 0.279. With N = 280, this correlation coefficient was significant at the .01 level. The model statement was supported. Older mature women earn higher grades in their nursing education programs.

Socioeconomic background related to level of academic achievement (r42a, r42b)

ANOVA was used to analyze the statistical relationship of three levels of parental job to subjects' academic achievement. ANOVA was also used to measure the relationship between four levels of parental academic achievement to subjects' grade point averages in their nursing education programs. In the present study, no relationship was found between academic achievement and parents' job (F = 0.08) and parents' education (F = 2.48). These findings agree with the literature underlying the model that women from all socioeconomic strata are motivated to achieve academically.

Nursing education program related to nursing practice setting (r53)

To analyze the degree of association between the three nursing education programs (diploma, ADN, BSN) and two levels of nursing practice setting (hospital, non-hospital) the chi-square, $X^2$ value was calculated. Table 4 shows that with DF = 2, $X^2 = 5.15$, which exceeds the critical value at alpha level .05 for a 1-tailed test. The difference between the expected and observed frequencies is too great to be explained by sampling fluctuations. The hypothesized model was supported. Diploma graduates
practice in the hospital setting whereas ADN and BSN graduates practice to a greater degree in the non-hospital setting.

Table 4. Chi-square analysis: Nursing education and practice settings

<table>
<thead>
<tr>
<th></th>
<th>HOSPITAL</th>
<th>NON-HOSPITAL</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLOMA</td>
<td>49</td>
<td>6</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>42.67</td>
<td>12.33</td>
<td>55.00</td>
</tr>
<tr>
<td>ADN</td>
<td>94</td>
<td>34</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>99.30</td>
<td>28.70</td>
<td>128.00</td>
</tr>
<tr>
<td>BSN</td>
<td>75</td>
<td>23</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>76.03</td>
<td>21.97</td>
<td>98.00</td>
</tr>
<tr>
<td>ALL</td>
<td>218</td>
<td>63</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>218.00</td>
<td>63.00</td>
<td>281.00</td>
</tr>
</tbody>
</table>

CHI-SQUARE = 5.515 WITH D.F. = 2
CELL CONTENTS ACTUAL COUNT
EXPECTED FREQUENCY

Academic achievement in nursing education program related to nursing practice setting (r54)

ANOVA was used to examine the relationship of grade point average in nursing education program to two levels of nursing practice setting (hospital, non-hospital). The F value was statistically significant at the .025 level (see Table 5). Therefore, the model statement was supported. Graduates with higher academic achievement practice nursing in non-hospital settings which allow for more professional autonomy.
Table 5. ANOVA: Nursing practice setting as a function of grade point average in nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>1</td>
<td>1.028</td>
<td>1.028</td>
<td>6.45</td>
<td>0.012</td>
</tr>
<tr>
<td>ERROR</td>
<td>277</td>
<td>44.171</td>
<td>0.159</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>278</td>
<td>45.199</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th>50% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOSP</td>
<td>216</td>
<td>3.317</td>
<td>0.403</td>
<td>3.277 - 3.357</td>
</tr>
<tr>
<td>NONHOSP</td>
<td>63</td>
<td>3.462</td>
<td>0.384</td>
<td>3.394 - 3.530</td>
</tr>
</tbody>
</table>

POOLED STDEV = 0.3993

GPA 3.30 3.40 3.50 3.60

Nursing education program related to nursing position (r63)

Chi-square analysis was used to answer the statistical question, are there more (or less) graduates of the three levels of nursing education programs (diploma, ADN, BSN) than would be expected in each of three levels of nursing position (staff nurse, supervisor-manager-director, other). Analysis showed that the difference between expected and observed frequencies was statistically significant at the .05 level (see Table 6). The model relationship was supported. More diploma and ADN nurses held staff nurse positions, whereas BSN graduates assumed supervisory and other positions. The investigator noted however, that some of the cell sizes were very small so she repeated the analysis using two levels of education, BSN degree and no degree.

Table 7 shows that the difference in expected and observed frequencies of nursing positions held by the degree and non degree nurses is statistically significant at the .025 level. The model relationship was supported. Nurses with baccalaureate education practiced in
supervisory, managerial, administrative or other positions where professional leadership and autonomy are demonstrated while nurses without the degree remained in staff nursing positions.

Table 6. Chi-square analysis: Nursing education and nursing position

<table>
<thead>
<tr>
<th></th>
<th>STAFF NURSE</th>
<th>SUP-MGR-DIR</th>
<th>OTHER</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIP</td>
<td>48</td>
<td>6</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>43.26</td>
<td>7.05</td>
<td>4.70</td>
<td>55.00</td>
</tr>
<tr>
<td>ADN</td>
<td>104</td>
<td>16</td>
<td>8</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>100.67</td>
<td>16.40</td>
<td>10.93</td>
<td>128.00</td>
</tr>
<tr>
<td>BSN</td>
<td>69</td>
<td>14</td>
<td>15</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>77.07</td>
<td>12.56</td>
<td>8.37</td>
<td>98.00</td>
</tr>
<tr>
<td>ALL</td>
<td>221</td>
<td>36</td>
<td>24</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>221.00</td>
<td>36.00</td>
<td>24.00</td>
<td>281.00</td>
</tr>
</tbody>
</table>

CHI-SQUARE = 10.756 WITH D.F. = 4
CELL CONTENTS ACTUAL COUNT EXPECTED FREQUENCY

Academic achievement related to nursing position (r64)

ANOVA was used to analyze whether the nurses occupying various positions were equal, drawn from the same population related to their level of academic achievement measured by grade point average (GPA). GPA was measured on a continuous numeric scale. There were three levels of the category of nursing position. Table 8 illustrates that the differences of means of the groups were significant at the .05 level supporting the model relationship. Nurses with higher academic achievement held positions which require more autonomy and independent nursing judgements.
Table 7. Chi-square analysis: Degree, non-degree and nursing position

<table>
<thead>
<tr>
<th></th>
<th>STAFF NURSE</th>
<th>MGR-SUP-DIR</th>
<th>OTHER</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON-BSN</td>
<td>152</td>
<td>22</td>
<td>9</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>143.93</td>
<td>23.44</td>
<td>15.63</td>
<td>183.00</td>
</tr>
<tr>
<td>BSN</td>
<td>69</td>
<td>14</td>
<td>15</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>77.07</td>
<td>12.56</td>
<td>8.37</td>
<td>98.00</td>
</tr>
<tr>
<td>ALL</td>
<td>221</td>
<td>36</td>
<td>24</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>221.00</td>
<td>36.00</td>
<td>24.00</td>
<td>281.00</td>
</tr>
</tbody>
</table>

CHI-SQUARE = 9.618 WITH D.F. = 2

Cell contents

Actual count

Expected frequency

Table 8. ANOVA: Nursing position as a function of grade point average in nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>1.182</td>
<td>0.591</td>
<td>3.71</td>
<td>0.026</td>
</tr>
<tr>
<td>ERROR</td>
<td>276</td>
<td>44.017</td>
<td>0.159</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>278</td>
<td>45.199</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN

BASED ON POOLED STDEV

LEVEL | N   | MEAN | STDEV | (----*-----)       |
STAFF | 220 | 3.3170| 0.4037| (----*-----)       |
MGR/SUP | 35  | 3.4464| 0.3667| (----*-----)       |
OTHER  | 24  | 3.5104| 0.4036| (----*-----)       |

POOLED STDEV = 0.3994

Nursing education related to identified reference groups (r 73)

ANOVA was conducted on each pair of the six reference group numeric scales and the three levels of nursing education. Five of the relationships were found to be not significant. The groups were basically
equal. Differences of means could be explained by differences in sampling. Graduates of all three nursing education programs scored equally on the perceived influence of five reference groups, the nursing profession \((F = 1.92)\), their immediate work group \((F = 0.74)\), the agency for whom they work \((F = 2.25)\), their nursing administration \((F = 1.12)\), and the nursing school from which they graduated \((F = 1.60)\). ANOVA demonstrated one relationship in which the means of the scores on reference groups were not equal for subjects from the three educational programs (Table 9). The mean scores of their perceived influence of physicians as a reference group were significantly different at the .001 level. BSN graduates scored the influence of physicians on their nursing behavior as lower than either diploma or ADN subjects. This supports the model relationship.

Table 9. ANOVA; Perceived influence of physicians as a function of subjects' nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>75.34</td>
<td>37.67</td>
<td>7.42</td>
<td>0.001</td>
</tr>
<tr>
<td>ERROR</td>
<td>278</td>
<td>1411.82</td>
<td>5.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>280</td>
<td>1437.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV**

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLOMA</td>
<td>55</td>
<td>6.945</td>
<td>1.737</td>
<td>(------*--------)</td>
</tr>
<tr>
<td>ADN</td>
<td>128</td>
<td>7.000</td>
<td>2.354</td>
<td>(------*------)</td>
</tr>
<tr>
<td>BSN</td>
<td>98</td>
<td>5.898</td>
<td>2.370</td>
<td>(------*------)</td>
</tr>
</tbody>
</table>

POOLED STDEV = 2.254  PHYS INFLUENCE SCORE 6.00  6.60  7.20
Academic achievement related to perceived influence of significant reference groups (r74)

Correlations were done on reported grade point average as a measure of academic achievement and each of the reference groups scales. None of the correlation coefficients indicated a significant relationship between the two variables (see Table 10).

Table 10. Correlation coefficients of grade point average and perceived influence of six reference groups

<table>
<thead>
<tr>
<th>Reference Group</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation Coefficient</td>
<td>-0.004</td>
<td>0.045</td>
<td>-0.061</td>
<td>-0.035</td>
<td>-0.026</td>
<td>-0.092</td>
</tr>
</tbody>
</table>

"A = nursing profession; B = agency for whom they work; C = immediate work group; D = nursing administration; E = nursing school; and F = physicians.

Nursing practice setting related to perceived influence of reference groups (r75)

ANOVA was done to determine the significant relationships of hospital non-hospital setting and each of the six reference groups. Mean differences were not significant for four of the data sets, the nursing profession (F = 1.26), the employing agency (F = 1.14), their nursing administration (F = 0.49), and physicians (F = 2.77). Significant differences in mean scores for two reference groups were seen in nurses in hospital compared to non-hospital settings. Hospital nurses scored their immediate work group and their nursing school higher as to their influence on subjects' nursing behavior (see Tables 11 and 12).
The hypothesized model was supported. Nurses working in the non-hospital setting are more autonomous and their nursing practice is less influenced by their immediate work group and their nursing school.

Table 11. ANOVA: Perceived influence of immediate work group as a function of practice setting

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>1</td>
<td>27.85</td>
<td>27.85</td>
<td>9.04</td>
<td>0.003</td>
</tr>
<tr>
<td>ERROR</td>
<td>279</td>
<td>859.77</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>280</td>
<td>887.62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOSP</td>
<td>218</td>
<td>7.977</td>
<td>1.675</td>
</tr>
<tr>
<td>NONHOSP</td>
<td>63</td>
<td>7.222</td>
<td>2.012</td>
</tr>
</tbody>
</table>

POOLED STDEV = 1.755 INFLUENCE SCORE 6.80 7.20 7.60 8.00

Table 12. ANOVA: Perceived influence of nursing school as a function of practice setting

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>1</td>
<td>20.22</td>
<td>20.22</td>
<td>4.75</td>
<td>0.030</td>
</tr>
<tr>
<td>ERROR</td>
<td>277</td>
<td>1179.43</td>
<td>4.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>278</td>
<td>1199.64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOSPITAL</td>
<td>217</td>
<td>7.180</td>
<td>2.023</td>
</tr>
<tr>
<td>NONHOSP</td>
<td>62</td>
<td>6.532</td>
<td>2.201</td>
</tr>
</tbody>
</table>

POOLED STDEV = 2.063 INFLUENCE SCORE 6.40 6.80 7.20

Nursing position related to influence of reference groups (r76)

ANOVA's were used on each pair of data of three levels of nursing position and six significant reference groups. In this study, influence of five reference groups was not a function of nursing position; these were nursing profession \( (F = 0.83) \), employing agency \( (F = 0.51) \), nursing
administration ($F = 0.44$), nursing school ($F = 0.42$), and physicians ($F = 1.17$). Significance was found at the .01 level relating three levels of nursing position and the perceived influence of the immediate work group as a reference group (see Table 13). This supported the hypothesized model that staff nurses have less autonomy and are more influenced by others in their immediate work group than are supervisors, managers, directors and others.

Table 13. ANOVA: Perceived influence of immediate work group as a function of nursing position

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>30.08</td>
<td>15.04</td>
<td>4.88</td>
<td>0.008</td>
</tr>
<tr>
<td>ERROR</td>
<td>278</td>
<td>857.54</td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>280</td>
<td>887.62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>-------------------------------------------+-------------</td>
</tr>
<tr>
<td>BASED ON POOLED STDEV</td>
</tr>
<tr>
<td>STAFF</td>
</tr>
<tr>
<td>MGR SUP</td>
</tr>
<tr>
<td>OTHERS</td>
</tr>
</tbody>
</table>

Nursing education related to professional development activities ($r83$)

Chi-square was used to compare actual with expected frequencies when relating these sets of categorical data. The only professional development activity for which the relationship with nursing education was not statistically significant was the number of courses taken since graduation; $X^2 = 9.529$, with df = 6. All other chi-square distributions showed statistically significant relationships between nursing education and the professional activities which were measured including: membership in the American Nurses Association (significant at the .05 level), see
Table 14: membership in other professional nursing association (significant at the .001 level), see Table 15; number of journals read monthly (significant at the .05 level), see Table 16; and enrollment in higher degree program (significant at the .05 level), see Table 17. The hypothesized model was supported. Graduation from a baccalaureate nursing program related significantly to ongoing professional development activities.

Table 14. Chi-square analysis: Nursing education and American Nurses Association membership

<table>
<thead>
<tr>
<th>ANA MEMBERSHIP</th>
<th>DIPLOMA</th>
<th>ADN</th>
<th>BSN</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>52</td>
<td>117</td>
<td>82</td>
<td>251</td>
</tr>
<tr>
<td></td>
<td>48.95</td>
<td>113.93</td>
<td>88.12</td>
<td>251.00</td>
</tr>
<tr>
<td>YES</td>
<td>3</td>
<td>11</td>
<td>17</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>6.05</td>
<td>14.07</td>
<td>10.88</td>
<td>31.00</td>
</tr>
<tr>
<td>ALL</td>
<td>55</td>
<td>128</td>
<td>99</td>
<td>282</td>
</tr>
<tr>
<td></td>
<td>55.00</td>
<td>128.00</td>
<td>99.00</td>
<td>282.00</td>
</tr>
</tbody>
</table>

CHI-SQUARE = 6.340 WITH D.F. = 2
CELL CONTENTS -- ACTUAL COUNT EXPECTED FREQUENCY

Academic achievement related to professional development activities (r84)

ANOVA was used to determine if professional development activities were a function of academic achievement (GPA). Nonsignificant relationships were found with ANA membership \( (F = 2.37) \), number of courses since graduation \( (F = 0.04) \), and enrollment in higher degree programs \( (F = 0.11) \). Two professional development activities were associated with GPA in the nursing education program. Membership in professional
organizations was significant at the .0001 level and number of journals read monthly was significant at the .05 level (see Tables 18 and 19).

Table 15. Chi-square analysis: Nursing education and professional organization membership

<table>
<thead>
<tr>
<th>OTHER ORG MEMBERSHIP</th>
<th>DIPLOMA</th>
<th>ADN</th>
<th>BSN</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>48</td>
<td>97</td>
<td>50</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>38.03</td>
<td>88.46</td>
<td>68.46</td>
<td>195.00</td>
</tr>
<tr>
<td>YES</td>
<td>7</td>
<td>31</td>
<td>49</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>16.97</td>
<td>39.49</td>
<td>30.54</td>
<td>87.00</td>
</tr>
<tr>
<td>ALL</td>
<td>55</td>
<td>128</td>
<td>99</td>
<td>282</td>
</tr>
<tr>
<td></td>
<td>55.00</td>
<td>128.00</td>
<td>99.00</td>
<td>282.00</td>
</tr>
</tbody>
</table>

CHI-SQUARE = 27.238 WITH D.F. = 2
CELL CONTENTS -- ACTUAL COUNT
EXPECTED FREQUENCY

Table 16. Chi-square analysis: Nursing education and number of journals read monthly

<table>
<thead>
<tr>
<th>MONTHLY JOURNALS</th>
<th>DIPLOMA</th>
<th>ADN</th>
<th>BSN</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>15</td>
<td>22</td>
<td>17</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>10.53</td>
<td>24.51</td>
<td>18.96</td>
<td>54.00</td>
</tr>
<tr>
<td>ONE</td>
<td>24</td>
<td>61</td>
<td>32</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>22.82</td>
<td>53.11</td>
<td>41.07</td>
<td>117.00</td>
</tr>
<tr>
<td>TWO</td>
<td>14</td>
<td>32</td>
<td>30</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>14.82</td>
<td>34.50</td>
<td>26.68</td>
<td>76.00</td>
</tr>
<tr>
<td>THREE OR MORE</td>
<td>2</td>
<td>13</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>6.83</td>
<td>15.89</td>
<td>12.29</td>
<td>35.00</td>
</tr>
<tr>
<td>ALL</td>
<td>55</td>
<td>128</td>
<td>99</td>
<td>282</td>
</tr>
<tr>
<td></td>
<td>55.00</td>
<td>128.00</td>
<td>99.00</td>
<td>282.00</td>
</tr>
</tbody>
</table>

CHI-SQUARE = 15.011 WITH D.F. = 6
CELL CONTENTS -- ACTUAL COUNT
EXPECTED FREQUENCY
These findings support the hypothesized model that nurses with higher levels of academic achievement continue to engage in ongoing professional development activities more than those with lower levels.

Table 17. Chi-square analysis: Nursing education and enrollment in higher degree education program

<table>
<thead>
<tr>
<th>HGED PROGRAM</th>
<th>ALL</th>
<th>DIPLOMA</th>
<th>ADN</th>
<th>BSN</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENROLLMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td>43</td>
<td>114</td>
<td>77</td>
<td>234</td>
<td>234.00</td>
</tr>
<tr>
<td></td>
<td>45.64</td>
<td>106.21</td>
<td>82.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>12</td>
<td>14</td>
<td>22</td>
<td>48</td>
<td>48.00</td>
</tr>
<tr>
<td></td>
<td>9.36</td>
<td>21.79</td>
<td>16.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>128</td>
<td>99</td>
<td>282</td>
<td>282.00</td>
</tr>
<tr>
<td></td>
<td>55.00</td>
<td>128.00</td>
<td>99.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CHI-SQUARE = 6.146 WITH D.F. = 2

CELL CONTENTS --ACTUAL COUNT
EXPECTED FREQUENCY

Table 18. ANOVA: Membership in professional organizations as a function of grade point average in nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>1</td>
<td>2.549</td>
<td>2.549</td>
<td>16.58</td>
<td>0.000</td>
</tr>
<tr>
<td>ERROR</td>
<td>278</td>
<td>42.726</td>
<td>0.154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>279</td>
<td>45.275</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PRO ORG MEMBER

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th>GPA</th>
<th>3.30</th>
<th>3.40</th>
<th>3.50</th>
</tr>
</thead>
</table>
| INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV
| NO         | 194  | 3.2874 | 0.4175 |     |      |      |      |
| YES        | 86   | 3.4942 | 0.3270 |     |      |      |      |

POOLED STDEV = 0.3920

+ + + (+ * -)
Table 19. ANOVA: Number of journals read monthly as a function of grade point average in nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>3</td>
<td>1.417</td>
<td>0.472</td>
<td>2.97</td>
<td>0.032</td>
</tr>
<tr>
<td>ERROR</td>
<td>276</td>
<td>43.857</td>
<td>0.159</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>279</td>
<td>45.275</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>NO. OF JOURNALS</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th>+</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>54</td>
<td>3.2639</td>
<td>0.3457</td>
<td></td>
<td>(-----*--)</td>
</tr>
<tr>
<td>ONE</td>
<td>116</td>
<td>3.3233</td>
<td>0.4393</td>
<td>(-----*--)</td>
<td></td>
</tr>
<tr>
<td>TWO</td>
<td>76</td>
<td>3.3849</td>
<td>0.3861</td>
<td>(-----*--)</td>
<td></td>
</tr>
<tr>
<td>3 OR MORE</td>
<td>34</td>
<td>3.5074</td>
<td>0.3548</td>
<td></td>
<td>(-----*--)</td>
</tr>
</tbody>
</table>

POOLED STDEV = 0.3986

GPA   3.30  3.45  3.60

Practice setting related to professional development activities (r85)

Chi-square analysis was used to demonstrate the relationships between these pairs of categorical data. No relationship was found to exist between hospital non-hospital setting and membership in professional organizations, number of journals read monthly, enrollment in higher degree programs, or plans to enroll (see Table 20).

Table 20. Chi-square analysis: Practice setting and four professional development activities

<table>
<thead>
<tr>
<th></th>
<th>X²</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFESSIONAL MEMBERSHIP</td>
<td>2.145</td>
<td>1</td>
</tr>
<tr>
<td>JOURNALS READ MONTHLY</td>
<td>8.324</td>
<td>4</td>
</tr>
<tr>
<td>HG ED ENROLLMENT</td>
<td>1.838</td>
<td>1</td>
</tr>
<tr>
<td>PLANS TO ENROLL IN HG ED</td>
<td>0.596</td>
<td>1</td>
</tr>
</tbody>
</table>

The hypothesized model that nurses in the non-hospital setting demonstrate a higher level of professional development activities was not supported.
Nursing position related to professional development activities (r86)

Chi-square analysis was used to measure the relationships between the sets of categorical variables of nursing position (staff, manager/supervisor/director, other) and professional development activities. Two relationships were found to be independent of one another; nursing position and number of academic courses (X² = 4.929 with df = 4); and nursing position and higher degree program enrollment (X² = .950 with df = 2). Nursing position and membership in a professional nursing organization were found to be contingent upon one another at the .001 level of significance (see Table 21). The relationship between nursing position and number of journals read monthly was significant at the .01 level (see Table 22). The hypothesized model statement was supported.

Staff nurses are less involved in professional development activities than nurses in manager/supervisor/director, or other positions.

Table 21. Chi-square analysis: Nursing position and membership in professional nursing organizations

<table>
<thead>
<tr>
<th>PROFESSIONAL ORGANIZATION MEMBERSHIP</th>
<th>STAFF NURSE</th>
<th>MNGR SUPER NURSE</th>
<th>OTHER DIREC.</th>
<th>OTHER</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>168</td>
<td>19</td>
<td>8</td>
<td></td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>153.36</td>
<td>24.98</td>
<td>16.65</td>
<td>195.00</td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>53</td>
<td>17</td>
<td>16</td>
<td></td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>67.64</td>
<td>11.02</td>
<td>7.35</td>
<td>86.00</td>
<td></td>
</tr>
<tr>
<td>ALL</td>
<td>221</td>
<td>36</td>
<td>24</td>
<td></td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>221.00</td>
<td>36.00</td>
<td>24.00</td>
<td>281.00</td>
<td></td>
</tr>
</tbody>
</table>

CHI-SQUARE = 23.941 WITH D.F. = 2
CELL CONTENTS -- ACTUAL COUNT
EXPECTED FREQUENCY
Table 22. Chi-square analysis: Nursing position and number of professional nursing journals read monthly

<table>
<thead>
<tr>
<th>NURSING JOURNALS READ</th>
<th>STAFF NURSES</th>
<th>MNGR SUPER DIRECT.</th>
<th>OTHER</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>45</td>
<td>4</td>
<td>4</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>41.68</td>
<td>6.79</td>
<td>4.53</td>
<td>53.00</td>
</tr>
<tr>
<td>ONE</td>
<td>99</td>
<td>6</td>
<td>12</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>92.02</td>
<td>14.99</td>
<td>9.99</td>
<td>117.00</td>
</tr>
<tr>
<td>2 OR MORE</td>
<td>77</td>
<td>26</td>
<td>8</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td>87.30</td>
<td>14.22</td>
<td>9.48</td>
<td>111.00</td>
</tr>
<tr>
<td>ALL</td>
<td>221</td>
<td>36</td>
<td>24</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>221.00</td>
<td>36.00</td>
<td>24.00</td>
<td>281.00</td>
</tr>
</tbody>
</table>

CHI-SQUARE = 18.999 WITH D.F. = 4

CONTENTS — ACTUAL COUNT
EXPECTED FREQUENCY

Age related to professional role (r91)

The correlation coefficient of age and professional role was 0.218 which is statistically significant at the .01 level. This supports the hypothesized model that older more mature nurses demonstrate higher levels of professional role.

Nursing education related to professional role (r93)

An ANOVA was done to examine the significance of relationship between the three levels of nursing education (diploma, ADN, BSN) and professional role. The relationship was significant at the .025 level (see Table 23). This supports the hypothesized model statement that RNs who continue their education and earn the baccalaureate nursing degree demonstrate higher
levels of professional role socialization than nurses without their degree.

Table 23. ANOVA: Professional role score as a function of nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>971</td>
<td>486</td>
<td>4.28</td>
<td>0.015</td>
</tr>
<tr>
<td>ERROR</td>
<td>279</td>
<td>31663</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>281</td>
<td>32634</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV**

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th>PRO ROLE</th>
<th>POOL ED STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLOMA</td>
<td>55</td>
<td>127.27</td>
<td>8.73</td>
<td>126.0</td>
<td>10.65</td>
</tr>
<tr>
<td>ADN</td>
<td>128</td>
<td>130.16</td>
<td>11.05</td>
<td>129.0</td>
<td></td>
</tr>
<tr>
<td>BSN</td>
<td>99</td>
<td>132.47</td>
<td>11.08</td>
<td>132.0</td>
<td></td>
</tr>
</tbody>
</table>

Inasmuch as nursing education was the primary predictor factor of professional role in this study, further ANOVAs were done with this factor and the six subscores of professional role. A significant difference was found for four of the subscales. Differences for consumer control (Table 24), critical thinking (Table 25), and impatience with change (Table 26), were significant at the .01 level with BSN nurses demonstrating higher levels. Difference in superordinate purpose was significant at the .05 level with BSN nurses showing lower levels of the variable than the other two groups (see Table 27). Differences on the compassion and indifference to credentials subscales were not significantly different.

The hypothesized model statement was supported. Nurses with BSN degrees demonstrated higher professional role scores overall and in the areas of consumer control, critical thinking, and impatience with change. The hypothesis was not supported that BSN nurses demonstrate higher levels
of superordinate purpose, that of the well-being of the people, a common goal which fosters mutually supportive relationships between disciplines and between research, education, and service. Also not supported were the hypotheses that BSN nurses have higher levels of indifference to credentials and compassion.

Table 24. ANOVA: Consumer control as a function of nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>163.75</td>
<td>81.88</td>
<td>9.74</td>
<td>0.000</td>
</tr>
<tr>
<td>ERROR</td>
<td>279</td>
<td>2345.57</td>
<td>8.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>281</td>
<td>2509.32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN

LEVEL    N MEAN STDEV BASED ON POOLED STDEV
DIPLOMA  55 19.436 2.814 + + + +-
ADN       128 19.953 2.783 (-*-*)
BSN       99 21.343 3.088 (-*-*)

POOLED STDEV = 2.899
SCORE 19.0 20.0 21.0 22.0

Table 25. ANOVA: Critical thinking as a function of nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>110.69</td>
<td>55.35</td>
<td>7.23</td>
<td>0.001</td>
</tr>
<tr>
<td>ERROR</td>
<td>279</td>
<td>2135.58</td>
<td>7.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>281</td>
<td>2246.27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

LEVEL    N MEAN STDEV
DIPLOMA  55 23.764 2.252 (-*-*)
ADN       128 24.133 2.813 (-*-*)
BSN       99 25.303 2.957 (-*-*)

POOLED STDEV = 2.767
SCORE 23.20 24.00 24.80 25.60
Table 26. ANOVA: Impatience with change as a function of nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>116.93</td>
<td>58.46</td>
<td>6.81</td>
<td>0.001</td>
</tr>
<tr>
<td>ERROR</td>
<td>279</td>
<td>2394.88</td>
<td>8.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>281</td>
<td>2511.80</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLOMA</td>
<td>55</td>
<td>21.109</td>
<td>2.462</td>
<td>(-----*-----)</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>128</td>
<td>22.148</td>
<td>3.007</td>
<td>(-----*-----)</td>
<td></td>
</tr>
<tr>
<td>BSN</td>
<td>99</td>
<td>22.919</td>
<td>3.063</td>
<td>(-----*-----)</td>
<td></td>
</tr>
</tbody>
</table>

POOLED STDEV = 2.930

Table 27. ANOVA: Belief in a superordinate purpose as a function of nursing education

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>86.1</td>
<td>43.0</td>
<td>3.45</td>
<td>0.033</td>
</tr>
<tr>
<td>ERROR</td>
<td>279</td>
<td>3481.3</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>281</td>
<td>3567.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLOMA</td>
<td>55</td>
<td>22.582</td>
<td>2.787</td>
<td>(-----*-----)</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>128</td>
<td>22.758</td>
<td>3.267</td>
<td>(-----*-----)</td>
<td></td>
</tr>
<tr>
<td>BSN</td>
<td>99</td>
<td>21.556</td>
<td>4.173</td>
<td>(-----*-----)</td>
<td></td>
</tr>
</tbody>
</table>

POOLED STDEV = 3.532

Academic achievement related to professional role (r94)

The correlation coefficient between level of academic achievement (measured by grade point average) and professional role score = .268 which is significant at the .01 level. This supports the model that academic achievement relates to level of professional role.
Practice setting related to professional role (r95)

ANOVA was conducted to measure the degree of relationship between professional role and two levels of nursing practice setting (hospital, nonhospital). The relationship was significant at the .005 level (see Table 28). This supports the hypothesized model that nurses working outside the hospital setting demonstrate higher professional role levels.

Table 28. ANOVA: Professional role as a function of practice setting

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>1</td>
<td>962</td>
<td>962</td>
<td>8.48</td>
<td>0.004</td>
</tr>
<tr>
<td>ERROR</td>
<td>279</td>
<td>31659</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>280</td>
<td>32621</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LEVEL N MEAN STDEV INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV
HOSP 218 129.40 10.72 (-----*-----)
NONHOSP 63 133.84 10.43 (-----*-----)

POOLED STDEV = 10.65 PRO ROLE 130.0 132.5 135.0

Nursing position related to professional role (r96)

ANOVA was done to relate professional role scores to three levels of nursing position (staff nurse, manager/supervisor/director, and other). See Table 29. The relationship was not significant. The hypothesized model that nurses in manager/supervisor/director, and other positions demonstrate higher professional role scores than staff nurses was not supported.

Influence of reference groups related to professional role (r97)

Correlations of professional role scores with scores of each of six identified reference groups showed no significance. The correlation coefficients for nursing profession was -0.027; for employing agency,
-0.114; for the immediate work group, -0.120; for nursing administration, -0.124; for nursing school, -0.111; for physicians, 0.160. The hypothesized model that nurses who identify more closely with the nursing profession have higher professional role levels was not supported.

Table 29. ANOVA: Professional role as a function of nursing position

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>2</td>
<td>313</td>
<td>157</td>
<td>1.35</td>
<td>0.262</td>
</tr>
<tr>
<td>ERROR</td>
<td>278</td>
<td>32308</td>
<td>116</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>280</td>
<td>32621</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INDIVIDUAL 95 PCT CI'S FOR MEAN BASED ON POOLED STDEV**

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
<th>(+)</th>
<th>(-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAFF</td>
<td>221</td>
<td>129.86</td>
<td>10.67</td>
<td>(--*-------)</td>
<td></td>
</tr>
<tr>
<td>MGR etc</td>
<td>36</td>
<td>132.11</td>
<td>12.38</td>
<td>(------------*-------------)</td>
<td></td>
</tr>
<tr>
<td>OTHER</td>
<td>24</td>
<td>132.83</td>
<td>9.12</td>
<td>(---------------*-----------------)</td>
<td></td>
</tr>
</tbody>
</table>

**POOLED STDEV = 10.78**

**PRO ROLE 130.0 132.5 135.0**

**Professional development activities related to professional role (r98)**

ANOVA's were done to measure the relationship between professional role as a function of each of the professional development activities. Nonsignificant relationships were found with membership in the American Nurses Association, membership in other professional organizations, number of academic courses taken since graduation, and plans to continue formal education. This study demonstrated that professional role as a function of enrollment in higher degree programs was significant at the .01 level (see Table 30) and as a function of the number of professional journals read, professional role was significant at the .05 level (see Table 31). This supports the hypothesized model that nurses who engage in more professional development activities have higher professional role levels.
Table 30. ANOVA: Professional role score as a function of enrollment in an higher degree program

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>1</td>
<td>807</td>
<td>807</td>
<td>7.10</td>
<td>0.008</td>
</tr>
<tr>
<td>ERROR</td>
<td>280</td>
<td>31828</td>
<td>114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>281</td>
<td>32634</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>HgEd PROGRAM</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>234</td>
<td>129.65</td>
<td>10.70</td>
</tr>
<tr>
<td>YES</td>
<td>48</td>
<td>134.15</td>
<td>10.49</td>
</tr>
</tbody>
</table>

POOLED STDEV = 10.66

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

| PRO ROLE | 130.0 | 132.5 | 135.0 |

Table 31. ANOVA: Professional role score as a function of number of journals read monthly

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR</td>
<td>3</td>
<td>997</td>
<td>332</td>
<td>2.92</td>
<td>0.035</td>
</tr>
<tr>
<td>ERROR</td>
<td>278</td>
<td>31638</td>
<td>114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>281</td>
<td>32634</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

<table>
<thead>
<tr>
<th>MONTHLY JOURNALS</th>
<th>N</th>
<th>MEAN</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>54</td>
<td>129.15</td>
<td>8.88</td>
</tr>
<tr>
<td>1</td>
<td>117</td>
<td>129.14</td>
<td>10.13</td>
</tr>
<tr>
<td>2</td>
<td>76</td>
<td>131.26</td>
<td>12.45</td>
</tr>
<tr>
<td>3 OR MORE</td>
<td>35</td>
<td>134.77</td>
<td>10.74</td>
</tr>
</tbody>
</table>

POOLED STDEV = 10.67

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

| PRO ROLE | 129.5 | 133.0 | 136.5 |

In summary, the data analysis demonstrated that variables that interrelate significantly with professional role socialization of registered nurses include age, BSN degree, academic achievement, nursing practice setting, enrollment in a higher degree program, and reading professional journals. Variables that did not relate significantly to role socialization include socioeconomic status, nursing position, the
nursing profession as a significant reference group, professional association membership, and number of academic courses taken since graduation.
CHAPTER 5. SUMMARY AND DISCUSSION

Discussion

This dissertation investigated a preliminary level of theory construction; a factor-isolating and factor-relating model of professional role socialization of registered nurses was developed. An analytical conceptual diagram illustrated the relationships between factors in the model.

Questionnaires were mailed to every spring 1988 graduate of diploma nursing programs, associate degree nursing programs (ADN), and baccalaureate nursing programs for registered nurse students (BSN) in one midwestern state twenty four months after graduation.

The questionnaire included two instruments. The first included questions about demographic variables including gender, age, socioeconomic status, and educational background. It also included questions about grade point average, significant reference groups, nursing position, type of employing agency and professional development activities. The second instrument was Stone's (1979) Health Care Professional Attitude Inventory as modified for nursing by Therese Lawler (1988). This instrument contained 38 items which measured the professional role as defined by Matthew P Dumont (1970). It measured six characteristics of professionalism including; (a) assurance of maximum consumer control; (b) indifference to credentials and other "artifacts of authority" (P. 24); (c) a sense of superordinate purpose of the well-being of the people which fosters mutual support between disciplines and among service, education, and research; (d) an attitude of criticism which guides the questioning
and the searching for evidence and alternatives; (e) impatience with change which underlies an ethic of personal responsibility; and (f) a sense of compassion for humankind.

Of the 308 survey responses which were returned, 282 questionnaires were usable for data analysis; 55 from diploma nurses, 128 from ADNs, and 99 from BSNs. Data from the questionnaires were coded and analyzed utilizing chi-squares, correlation, and analysis of variance, depending upon the type of measurement scale for the constructs. The following discussion presents the implications of the major findings as they relate to the model.

**Discussion Of Findings**

**Age**

The mean age of subjects was 32.6 years. This observation agreed with the findings of Minnick, Roberts, Curran, and Ginzberg (1989) who reported that a high percent of graduates from nursing programs were older, nontraditional learners. Age was a significant factor related to choice of nursing education program. Diploma nursing programs attracted traditional students directly from high school. Whereas older adult learners were more likely to choose the shorter, more concentrated ADN programs located in state-subsidized community colleges which have lower tuition and are more accessible to lower socioeconomic groups. Graduates of BSN programs for registered nurse students were only slightly older than ADN graduates.

In their nursing education programs, older mature students earned higher grade point averages than their younger counterparts and they
maintained higher levels of professional role after two years in practice. The positive relationship between age and level of professional role agreed with several other studies (Ahmadi, Speedling, & Kuhn-Weisaman, 1987; Grady, 1980; Ketefian, 1985; McCain, 1985). This supports the model.

**Socioeconomic status**

The subjects came from diverse socioeconomic backgrounds. Almost half (48.5%) represented the first generation in their families to participate in higher education. Forty seven percent reported that the primary wage earner of their family of origin was in a professional or managerial occupation. This finding looks different from Kramer's (1966) study in which 54% of her nurse subjects reported that their parents were in professional or managerial occupations. It is difficult to know if this difference is significant. The category may have included different occupations in the two studies. In the present study, farming was included in the category of professional and managerial occupations, it is unknown if Kramer included farming in this category. This study validated Williams' (1988) more recent finding that students of nursing come from lower socioeconomic backgrounds than in the past.

There was no relationship between nurses' socioeconomic background and their commitment to life long learning as demonstrated through their continuing their education to complete a BSN degree. In addition, women who came from families in which their parents worked in blue collar positions and held a high school diploma or less, earned the same grades as more affluent students with better educated parents. Thus, the absence
of a relationship between socioeconomic status and socialization factors of education and academic achievement in the model was supported.

Nursing education

The three types of nursing education were compared. In contrast to the others, BSN education related significantly higher with nursing practice setting, position, influence of reference groups, professional development activities, and professional role level. The BSN nurses worked in the nonhospital setting and practiced in manager, supervisor, director or other than staff nurse positions where they could exercise greater autonomy and independent nursing decisions. They were less influenced by physicians as significant reference groups. They belonged to the American Nurses' Association and other professional organizations, they read more professional nursing journals on a regular basis and continued their formal education by enrolling in higher degree programs. BSN nurses also demonstrated higher professional role scores than nurses without BSN degrees. This supported the relationships hypothesized in the model.

Brief, Aldag, VanSell, and Melone (1979) found that graduates of generic, four year BSN programs demonstrated distinctly different role socialization than diploma and ADN graduates. This investigation suggests that completion of a BSN degree by a diploma or ADN graduate resocializes the registered nurse to the professional role and this resocialization persists beyond graduation. This conclusion differs from the finding of Ketefian (1985) whose subjects' professional role scores rose while they were enrolled in BSN degree programs but did not endure after graduation.
Ketefian did not use the same instrument for collection of data on professional role conception which may contribute to the difference in findings.

**Academic achievement**

The mean cumulative grade point average reported by the nurse subjects was 3.35 or B+ suggesting that overall grades in nursing programs may be somewhat inflated. Graduates who earned higher grade point averages in their nursing education programs practiced more in non-hospital settings, they held manager, supervisor, director, or other than staff nurse positions where they could exercise autonomous, independent judgements. They belonged to professional organizations and read more professional nursing journals on a regular monthly basis.

The choice of significant reference group was not related to academic achievement. Membership in the ANA, enrollment in higher degree programs, and taking academic courses also showed no relationship.

Nurses with higher academic achievement demonstrated higher professional role levels. The investigator did not find any other studies that related the level of academic achievement to professional role conception. The relationship hypothesized in the model was supported; nurses with higher academic achievement seek independence in their practice and demonstrate higher levels of professional role socialization.

**Practice setting**

Seventy-eight percent of the subjects reported that they practiced in the hospital setting compared to another study that found that 65% of nurses work in hospitals (Aiken, Blendon, & Rogers, 1983). This
discrepancy may be due to the fact that the subjects in this study had graduated only two years previously. In her study, Kramer (1966) found that most neophyte nurses choose to practice in the hospital setting.

Nurses who practiced in hospital settings indicated that they were more highly influenced by their immediate work group and by their nursing schools. This influence probably reflects their interdependency upon each other and their receptivity to sanctions of rewards and punishment from peers in the hospital setting where more nursing actions are interdependent or dependent rather than independent. Nurses may feel a general sense of powerlessness in the bureaucratic hospital setting and the peer relationship may provide them a sense of security in an otherwise alienating environment.

Practice setting did not relate significantly to professional development activities. Practice setting was associated with professional role. Hospital nurses demonstrated lower levels of professional role than did non-hospital nurses. This finding differed from Ketefian's (1985) investigation in which there was not a significant difference in professional role scores of community health nurses compared to hospital nurses.

Nursing position

Subjects reported that 79% were in staff nurse positions, 12% were in manager/supervisor/director positions; and 9% were in other positions. Staff nurses identified that they were more influenced by their immediate work group while this reference group's influence on managers/supervisors/directors was less. Staff nurses are more interdependent on peers and are
therefore more responsive to sanctions imposed by them. There was no difference in influence of other reference groups related to nursing position. Fewer staff nurses were members of professional nursing associations than managers/supervisors/directors or nurses in other positions. Staff nurses also read fewer professional nursing journals than these other groups. This further supports the model that staff nurses were more socialized to conforming to values of their immediate social group rather than with standards of the broader nursing profession. Nursing position did not relate significantly to other professional development activities including the taking of academic courses and higher degree program enrollment.

Nursing position then, does interact with other factors which in turn are associated with professional role and so is indirectly related to professional role socialization. Therefore, the hypothesized relationship in the model was partially supported. However, nursing position was not found to be directly associated with professional role socialization.

Reference groups

In 1959, Benne and Bennis found that nurses reported that their greatest loyalty was to the nursing profession. Thirty years later, subjects in this investigation also identified that they was most highly influenced by the nursing profession. However, this reference group's influence did not relate to professional role score. Rather, this response seems to reflect a strong sense of identification with the idea of being a professional nurse. The hypothesized relationship between
perceived influence of the nursing profession and professional role socialization was not supported.

**Professional development activities**

Two professional development activities were associated with professional role. These were enrollment in higher degree programs and the number of professional nursing journals read regularly. Both of these activities promote professionalism, accountability, critical thinking, and independent decision making. This supports the hypothesized relationship. On the other hand, membership in professional organizations and taking courses outside of formal program enrollment were not related to professional role socialization.

**Conclusions**

In conclusion, this dissertation began the process of constructing a preliminary model of professional role socialization of nurses. The model isolated selected factors and related them to role socialization of registered nurses.

The professional role was found to be associated with socialization factors of age, nursing education, academic achievement, practice setting, and some professional development activities (p. < .05). Nurses with higher professional role scores were more likely to be older, BSN-RN program graduates, with high grade point averages, who practiced in nonhospital settings, and who maintained current professional values and practice standards by reading nursing journals and enrolling in formal academic programs.
Professional role was not associated with socioeconomic background, nursing position, or perceived influence of reference groups. Nor was the professional role associated with the following professional development activities; enrollment in individual courses, membership in American Nurses' Association, and membership in other professional organizations.

This research supported some of the links in the hypothesized preliminary role socialization model while other links were not supported. Thus, a revised preliminary professional nurse role socialization model was proposed which reflects the following thesis. The professional role of the registered nurse is associated with many socialization factors. One socialization factor is participation in ongoing professional development activities (see Figure 9, r65). These professional development activities include reading professional nursing journals and enrolling in higher education programs. Age is a variable that interrelates with other socialization factors and also relates to professional role directly (see Figure 9, r21, r31, r41, r51, and r61). For the older motivated registered nurse, factors that promote autonomy, personal accountability, and independent nursing judgements lead to socialization into the professional role. These factors include practice setting and academic achievement. The relationships between these factors and between them and professional role are represented in Figure 9 as r43, r53, r63, r54, and r64. Nurses come from diverse social backgrounds; their socioeconomic status is not associated with other professional role socialization factors. This model proposes that education is the key variable which links these other socialization factors as well as
associating directly with professional role (see Figure 9, r42, r52, and r62). Successful completion of a baccalaureate nursing program provides the foundation for the other socialization factors leading to internalization and enactment of the professional role for registered nurses.

Implications For Future Research

This dissertation constructed a preliminary model for isolating and relating significant salient factors to professional role socialization of nurses. This is the first step in theory development. Future research could further develop this theory by testing the model with causal links. The investigator recommends that future researchers extend and build on this elementary model to develop and test predictive and eventually prescriptive levels of professional role socialization theory to guide nursing practice.

This study measured professional role scores of different subjects after they completed ADN or diploma nursing education programs and after graduating from BSN programs for registered nurses. A longitudinal study of ADN and diploma nursing program graduates might isolate some additional factors that prompt them to continue their education to earn the BSN degree. A longitudinal study of RN subjects over time, before and after BSN education would also indicate individual changes in the level of professional role socialization related to the BSN education treatment variable.

This investigation measured attitudes, values, and perceptions related to professionalism. It did not measure professional behavior
Figure 9. Revised analytical conceptual sequential diagram for professional role socialization of nurses (variables in rectangles mean the variables are continuous, measured on interval or ratio scales with numbers in the data set; circled variables are discreet and are measured on categorical or ordinal scales; rij = hypothesized relationships between variables, these are expressed with the effect variable first and the predictor variable second; each variable is related to all variables that follow in the sequence)
directly. A study measuring behaviors indicated in Dumont's (1970) definition of a professional would demonstrate whether the reported professional role socialization is actually consistent with overt behavior. Such studies would measure the degree to which nurses actually assure maximum consumer control; the level at which they evaluate health professionals based on their efficacy in delivering needed service to all segments of society rather than on the basis of their credentials; the degree to which their sense of "superordinate purpose" (p. 30), the well-being of the people fosters their mutually supportive relationships with other disciplines and among service, education, and research; their impatience with change and ethic of responsibility as they direct their service delivery and involvement in political processes; and their demonstration of compassion for all of humankind.

In summary, this chapter presented discussion of the findings as related to the model. It discussed conclusions of the research. It proposed a preliminary model of professional role socialization of nurses. And, it provided implications for future research and theory development (Moore, 1983).
REFERENCES


Benne, K. D., & Bennis, W. (1959). The role of the professional


8 year survey finds hospitals train too many. (1934, October 6). *Newsweek*, p. 28.


Kanter, R. M. (1979, Oct.). You don't have to play by their rules. Ms, pp. 63-64, 107-109.


[Computer program]. State College, PA: Minitab INC.


Nayer, D. N. (1979). Nursing education: Where we've been and where we're going. Imprint, 26, 36-37, 69-70.


Thomas, E. J., & Biddle, B. J. (1966b). The nature and history of role theory. In B. J. Biddle & E. J. Thomas (Eds.), *Role


APPENDIX A: STONE'S HEALTH CARE PROFESSIONAL ATTITUDE INVENTORY
STONE'S HEALTH CARE PROFESSIONAL ATTITUDE

INVENTORY (MODIFIED FOR NURSING)

This inventory contains a series of statements about today's health care professions and health care delivery systems. These statements are not intended to elicit a right or wrong answer; rather to collect your perceptions on the accuracy and/or validity of each statement.

You are requested to read each statement. Then, utilizing the response scale below, indicate the degree to which you agree or disagree with each statement in respect to the health care professions and/or delivery systems.

Health care professionals, for the purpose of this inventory, include all registered nurses who function as members of the health care team. Health care delivery systems are those mechanisms and strategies designed to facilitate the delivery of health care to the consumer.

RESPONSE SCALE
Strongly Agree 1 2 3 4 5 Strongly Disagree

<table>
<thead>
<tr>
<th>Statements</th>
<th>Number from Response Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Current health care delivery systems adequately meet the needs of society.</td>
<td></td>
</tr>
<tr>
<td>2. The potential for a financially secure position is a major reason for pursuing a career in the health care professions.</td>
<td></td>
</tr>
<tr>
<td>3. There has been inadequate interaction between health care professionals and their client public in the development of health care delivery systems.</td>
<td></td>
</tr>
<tr>
<td>4. Students in the health care disciplines should be expected to emulate or model the role to their instructors.</td>
<td></td>
</tr>
<tr>
<td>5. Students in the health disciplines should incorporate the philosophy of their educational program into their practice.</td>
<td></td>
</tr>
<tr>
<td>6. Policies based solely on scientific methodology are most appropriate for the resolution of society's health care problems.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>7.</td>
<td>The introduction of nurse practitioners, physician's assistants and paramedical personnel has been of significant importance in improving the delivery of health care.</td>
</tr>
<tr>
<td>8.</td>
<td>Health care professionals such as nurses generally are impersonal and scientifically oriented.</td>
</tr>
<tr>
<td>9.</td>
<td>Health care professionals generally fail to show adequate interest in the health needs of consumers.</td>
</tr>
<tr>
<td>10.</td>
<td>Criticism of health care practices and procedures by persons outside the profession is usually acknowledged and acted upon by health care professionals.</td>
</tr>
<tr>
<td>11.</td>
<td>At this point in time, the consumers of health care have been adequately involved in the development of health care delivery systems.</td>
</tr>
<tr>
<td>12.</td>
<td>Certification of competence upon receipt of the professional degree is necessary to assure that behavioral sciences, basic sciences, and health care sciences were part of professional education.</td>
</tr>
<tr>
<td>13.</td>
<td>Education programs for health care professionals spend more time preparing students for careers in research and/or teaching than for careers as practitioners.</td>
</tr>
<tr>
<td>14.</td>
<td>Education programs for health care professionals have not been adequately responsive to the identified needs of local communities.</td>
</tr>
<tr>
<td>15.</td>
<td>Health care teams tend to become so busy coordinating care that they lose sight of patient needs.</td>
</tr>
<tr>
<td>16.</td>
<td>Priorities for the use of human and material resources in the health care professions are best achieved through centralized decision-making.</td>
</tr>
<tr>
<td>17.</td>
<td>Health care professionals have actively encouraged consumer participation in current delivery systems.</td>
</tr>
<tr>
<td>18.</td>
<td>Inefficient use of existing personnel poses a major problem for delivering adequate health care.</td>
</tr>
</tbody>
</table>
RESPONSE SCALE
Strongly Agree 1 2 3 4 5 Strongly Disagree

19. The desire for a position of status should be accorded little importance as a reason for pursuing a career in the health care professions.

20. In order to alleviate health manpower shortages in certain geographical areas, health care professionals should be encouraged to deliver health legislation.

21. Special economic interests have too often had a negative influence on public health legislation.

22. Education programs for health care professionals are currently designed to prepare professionals who will be able to appropriately respond to the needs of local communities.

23. Health care professional education programs offering certification, e.g., physician assistants, nurse practitioners, etc., are alternatives that will result in more effective health care.

24. Training greater numbers of health care professionals to deliver primary care is one alternative that will be beneficial in meeting the long-term health needs of society.

25. Health care professionals have been actively promoting change in the health care delivery systems for the improvement of health care for all citizens.

26. Health care is currently available to people at differing income levels on a selective basis.

27. Health care professionals have developed adequate self-evaluation of procedures and techniques in the delivery of health care.

28. Consumer involvement is essential to provide new alternatives in developing health care delivery systems.

29. Health care providers who work with professionals from other disciplines discover a common purpose in providing adequate health care for all citizens.
RESPONSE SCALE
Strongly Agree 1  2  3  4  5 Strongly Disagree

30. Societal class and social distinctions should be of no importance in a health care setting.  

31. Educational institutions have assumed a central role, not only in the education of professionals, but in determining the nature and quality of health care and services provided to the community.  

32. The health care professional such as a nurse should be concerned solely with clinical practice and not with social change in his or her community.  

33. Nursing educators are considered alternate rather than ultimate sources of information for their students.  

34. Consumer-oriented agencies should play a minimal role in establishing standards or criteria to assess the quality of care provided to health care consumers.  

35. The greatest need for improvement in health care education concerns knowledge and skills about delivery of health care rather than in expanding knowledge about disease.  

36. The existing forms of health care delivery systems allow professional personnel to efficiently deliver health care services to meet the needs of individual consumers.  

37. The inability to change the attitudes of people is a greater obstacle to effecting change in the delivery of health care services than a lack of adequate finances.  

38. When cost accounting and systems research techniques are applied to health care, it can be concluded that the health care needs of some citizens have not been adequately served.
APPENDIX B: PERSONAL DATA QUESTIONNAIRE (FOR ADN OR DIPLOMA GRADUATES)
Personal Data Questionnaire (for ADN or Diploma Graduates)

Please answer each of the following questions by circling the correct response or writing in the response where appropriate.

1. What is your gender?
   1. Male
   2. Female

2. What is your age? ________

3. What is the highest degree or amount of schooling achieved by either of your parents?
   1. Professional or graduate degree (master's or doctorate)
   2. College or university graduate
   3. Community college graduate or Partial college
   4. Trade (technical) school graduate
   5. High school graduate or equivalent
   6. Partial high school
   7. Less than high school

4. Please identify the usual occupation of your mother or father (whomever you regarded as primary wage earner of your family).
   1. Professional, administrator
   2. Manager, (office, department, farm), or proprietor, (small business, farm owner operator)
   3. Clerical & kindred worker (secretary, sales, bookkeeper, accountant, etc.)
   4. Craftsman, foreman (plumber, factory machine operator, carpenter, electrician, etc.)
   5. Service worker (bartender, fire worker, police, barber, truck driver, etc.)
   6. Semi-skilled labor (custodian, repairman)
   7. Manual labor (farm, warehouse laborer, handyman)

5. Identify the type of nursing program from which you graduated.
   1. Three year diploma program
   2. Associate degree in nursing program
   3. BSN degree

6. What was your overall grade point average in your nursing program? (A=4.0, B=3.0, C=2.0, D=1.0).
   1. 3.75 to 4.00  4. 3.00 to 3.24  7. 2.25 to 2.49
   2. 3.50 to 3.74  5. 2.75 to 2.99  8. 2.00 to 2.24
   3. 3.25 to 3.49  6. 2.50 to 2.74  9. 1.75 to 1.99
   10. Less than 1.74
7. When did you graduate from your nursing program?  
month_________________ year_________________

8. Nurses have loyalties to a number of different groups. For each of 
the following groups, rate how much your nursing behavior is 
influenced by the group's judgement of what is "right and proper for 
you to do." Rate each group's influence on a scale of one to ten 
(please circle your response).

<table>
<thead>
<tr>
<th>Does not influence your nursing behavior</th>
<th>Definitely influences your nursing behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The nursing profession</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>B. The agency you work for</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>C. Your immediate work group</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>D. Your nursing administration</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>E. The nursing school from</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>which you graduated</td>
<td></td>
</tr>
<tr>
<td>F. physicians</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

9. Circle the response that best describes the type of nursing position 
you currently occupy.
1. Staff nurse
2. Supervisor
3. Assistant head nurse or head nurse
4. Instructor/professor
5. Administrator/director
6. School nurse
7. Office nurse
8. Clinical nurse specialist
9. Other (please specify)_________________________

10. Circle the one answer that best describes the type of agency for whom 
you work.
1. Hospital
2. Community Health Agency
3. Nursing Education Program (for CNA, LPN, ADN, diploma, BSN, 
other)
4. Nursing Home
5. School
6. Clinic or physician's office
7. Other (please specify)_________________________

11. Are you currently a member of the American Nurses Association?
1. no
2. yes

12. Do you belong to other professional nursing organizations?
1. no
2. yes (which one(s))_________________________________
13. How many nursing journals do you usually read every month?
   1. 0, none
   2. 1
   3. 2
   4. 3
   5. 4 or more

14. How many formal academic courses have you taken since graduating from your nursing program?
   1. no courses
   2. 1 course
   3. 2 courses
   4. 3 courses
   5. 4 or more courses

15. Have you enrolled in a bachelor's degree program?
   1. no
   2. yes

16. If you answered no to question 15, do you plan to go on to school to earn your bachelor's degree?

17. If you answered yes to either questions 15 or 16, are you majoring in nursing or do you plan to major in nursing (BSN)?
   1. no
   2. yes

18. How many continuing education hours did you earn last year?
   1. none
   2. one to ten
   3. eleven to twenty
   4. twenty or more
APPENDIX C: PERSONAL DATA QUESTIONNAIRE (FOR BACCALAUREATE GRADUATES)
Personal Data Questionnaire (for Baccalaureate Graduates)

Please answer each of the following questions by circling the correct response or writing in the response where appropriate.

1. What is your gender?
   1. Male
   2. Female

2. What is your age? __________

3. What is the highest degree or amount of schooling achieved by either of your parents?
   1. Professional or graduate degree (master's or doctorate)
   2. College or university graduate
   3. Community college graduate or partial college
   4. Trade (technical) school graduate
   5. High school graduate or equivalent
   6. Partial high school
   7. Less than high school

4. Please identify the usual occupation of your mother or father (whomever you regarded as primary wage earner).
   1. Professional or administrator
   2. Manager (office, department, farm) or proprietor (small business, farm owner, operator)
   3. Clerical & kindred worker (secretary, sales, bookkeeper, accountant, etc)
   4. Craftsman, foreman (plumber, factory machine operator, carpenter, electrician, etc)
   5. Service worker (bartender, fire worker, police, barber, truck driver, etc.)
   6. Semi-skilled labor (custodian, repairman, etc)
   7. Manual labor (farm or warehouse laborer, handyman, etc)

5. Identify your nursing educational experience. Circle all that apply.
   1. Associate degree in nursing
   2. Three year diploma nursing school graduate
   3. Baccalaureate degree in nursing

6. What was your overall grade point average in your BSN program?
   (A=4.0, B=3.0, C=2.0, D=1.0, F=0.0)
   1. 3.75 to 4.00 4. 3.00 to 3.24 7. 2.25 to 2.49 10. Less than
   2. 3.50 to 3.74 5. 2.75 to 2.99 8. 2.00 to 2.24 1.74
   3. 3.25 to 3.49 6. 2.50 to 2.74 9. 1.75 to 1.99


7. When did you graduate from your basic nursing program (ADN or Diploma)?
   year____________________

8. When did you graduate from your baccalaureate nursing program?
   month____________________ year____________________

9. Nurses have loyalties to a number of different groups. For each of
   the following groups, rate how much your nursing behavior is influenced by
   the group's judgement of what is "right and proper for you to do." Rate
   each group's influence on a scale of one to ten (please circle your
   response).

<table>
<thead>
<tr>
<th>Does not influence</th>
<th>Definitely influences</th>
</tr>
</thead>
<tbody>
<tr>
<td>your nursing</td>
<td>your nursing</td>
</tr>
<tr>
<td>behavior</td>
<td>behavior</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>A. The nursing profession</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>B. The agency you work for</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>C. Your immediate work group</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>D. Your nursing administration</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>E. The nursing school from which you graduated</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>F. physicians</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

10. Circle the response that best describes the type of nursing position
    you currently occupy.
    1. Staff nurse
    2. Supervisor
    3. Assistant head nurse or head nurse
    4. Instructor/professor
    5. Administrator/director
    6. School nurse
    7. Office nurse
    8. Clinical nurse specialist
    9. Other (please specify)__________________________

11. Circle the one answer that best describes the type of agency for whom
    you work.
    1. Hospital
    2. Community Health Agency
    3. Nursing Education Program (for CNA, LPN, ADN, diploma, BSN, other)
    4. Nursing Home
    5. School
    6. Clinic or physician's office
    7. Other (please specify)__________________________
12. Are you currently a member of the American Nurses Association?
   1. no
   2. yes

13. Do you belong to other professional nursing organizations?
   1. no
   2. yes (which one(s))

14. How many nursing journals do you usually read every month?
   1. 0, none
   2. 1
   3. 2
   4. 3
   5. 4 or more

15. How many formal academic courses have you taken since graduating from your baccalaureate nursing program?
   1. no courses
   2. 1 course
   3. 2 courses
   4. 3 courses
   5. 4 or more courses

16. Have you enrolled in graduate school?
   1. no
   2. yes

17. If you answered no to 16, do you plan to enter graduate school?
   1. no
   2. yes

18. If you answered yes to either questions 16 or 17, are you majoring in nursing or do you plan to major in nursing in graduate school?
   1. no
   2. yes

19. How many continuing education hours did you earn last year?
   1. none
   2. one to ten
   3. eleven to twenty
   4. twenty one or more
APPENDIX D: STONE'S PERMISSION LETTER
December 13, 1988

Sharon Hillery, RN, MSN
University of Dubuque
2000 University Avenue
dubuque, IA  52001

Dear Ms. Hillery:

I am happy to grant you permission to use the "Health Care Professional Attitude Inventory" as modified by Dr. Therese G. Lawler.

I also an enclosing validity and reliability data related to the original instrument and a copy of a paper written by Dr. Samuel Hughes, who used my instrument in a study at the University of Texas at Arlington.

If I can be of further help, please do not hesitate to contact me.

Sincerely,

Howard L. Stone, Ph.D., director
Medical Education Research and Development

HLS:aer
Enclosures
APPENDIX E: LAWLER'S PERMISSION LETTER
October 27, 1988

Therese G. Lawler, Ed.D., R.N.
Professor of Nursing
School of Nursing
East Carolina University
Greenville, NY

Dear Dr. Lawler:

I am a Ph.D. candidate at Iowa State University and am preparing for my dissertation in the study of Professionalization of Nurses. I read your article in the May/June 1987 Nurse Educator and am very interested in considering your instruments for my data collection tools. Would you please send me a copy of your modification of Stone's Health Care Professional Attitude Inventory and the revised subscale from Carwin's Nursing Role Conception Scale. Could you also include any validity and reliability findings that you or other researchers have found who have used the tools.

I would also ask that you grant me permission to use your tools for my study. If I decide to use them I will send you my results and any additional validity and reliability data I collect.

Sincerely,

Sharon Hillery, R.N., M.S.N.
Associate Professor

[Handwritten note]: Permission granted.

Therese Lawler
10/31/88
207 Country Club Dr
Peosta, IA 52068

Dear (Director Name):

I really appreciate your agreeing to serve on a panel of doctorally prepared Iowa nurse educators to review my research data collection instrument. The purpose of my dissertation is to analyze factors affecting professional role socialization of nurses. I am comparing professional role scores of ADN and diploma nurses to scores of RNs who have continued their educations and earned the BSN degree. Data will be collected on the enclosed mailed questionnaire.

Please review the questionnaire and make any suggestions that would improve it for clarity, readability, comprehensiveness and characterization of the professional role. There are two parts to the questionnaire. The first 17 items were developed by me to collect data related to variables of age, gender, socioeconomic status of family of origin, academic ability, type of nursing education (ADN, Diploma, BSN), significant reference groups, nursing position, practice setting, and professional development activity.

The second part of the instrument is an inventory of 38 items developed by Dr. H.L. Stone (1977) to measure the professional role concept of health care practitioners. The instrument was modified by Dr. Therese Lawler (1988) for use with nurses. The inventory was developed to measure six characteristics of the professional role as it was defined by Matthew P. Dumont.

Dumont identified six principles to serve as the code of conduct for new professionals to produce social change in our current society. These characterizations of the new professional are: (a) they must assure maximum participation and control by the consumer; (b) they should be indifferent to credentials and other "artifacts of authority". Rather, professionals should be evaluated by their efficacy in delivering needed service to all segments of society; (c) professionals across all disciplines should have a sense of "superordinate purpose", that of the well-being of the people, a common goal which fosters mutually supportive relationships between disciplines and between research, education, and service; (d) an attitude of criticism should guide their searching, questioning, and skepticism to discover evidence and alternatives; (e) they should be impatient with change as they employ an "ethic of responsibility" directing both their delivery of service and their involvement in the political processes to meet the very survival needs of society; and (f) they should be driven by a sense of compassion for humankind.
Please look at the instrument to see if these six characteristics are addressed by the 38 items. If you could possibly return the questionnaire to me with your comments in ten days, I would really appreciate it. Thank you so much for your time in sharing your expertise. I know how busy you are and I rally appreciate your helping me in this way.

Sincerely,

Sharon Hillery
Dear (Name):

I am a nursing educator who is currently completing my doctoral study in Higher Education. I am asking for your cooperation in helping complete my dissertation research while adding to the body of nursing knowledge. My research project is an analysis of factors affecting professional role socialization of Registered Nurses. The subjects for this study are 1988 graduates of Iowa ADN, Diploma, and BSN programs for Registered Nurses. I will mail the enclosed questionnaire to these subjects to collect the data for the study.

This study has been approved by the Iowa State University Human Subjects in Research Committee. The questionnaires will be completed anonymously. There will be no request for names of respondents nor of their educational programs. Questionnaires will be coded for sending follow-up letters only. The code book of subjects' names and all completed questionnaires will be kept in a locked office of the secretary to the college dean. They will be accessible only to myself as the investigator. The code book and questionnaires will be shredded after the research project is completed. I will not identify individual subjects or educational programs in any publication resulting from this research project.

In order for your graduates to have an opportunity to participate, I am asking that you send me a list of names and addresses of your spring 1988 graduates. I would like to contact all of those who successfully passed the NCLEX to become Registered Nurses. These graduates will serve as the subjects in my dissertation project. I hope that you will participate so that a representative cross section of Iowa nurses can be contacted to provide data for analysis on this important issue to Iowa nursing. I have enclosed a stamped, self-addressed envelope for you.

If you would like to talk to me further about my dissertation project, I would look forward to visiting with you about it. My daytime phone number is (319) 589-3233. In the evening, I can be reached at home at (319) 556-5502. Please call me collect.

Sincerely,

Sharon M. Hillery, M.S.N., R.N.
207 Country Club Dr.
Peosta, IA 52068
APPENDIX H: FOLLOW-UP POSTCARD TO SUBJECTS
Dear Registered Nurse:

I need your help! My wife has been working on her Ph.D. for over six long years. She needs to complete her dissertation research in order to graduate. About 2 weeks ago, she sent you a questionnaire on professional role socialization of nurses. Would you please complete the questionnaire now and return it to her if you haven't already done so. We would really like to get on with the other areas of our lives and your returning the questionnaire will help our whole family accomplish that goal.

Most Sincerely,
The husband of Sharon Hillery,
207 Country Club Dr,
Peosta, IA 52068
207 Country Club Dr
Peosta, IA 52068
June, 1990

Dear Baccalaureate Nurse:

Like you, I am a registered nurse. I am currently enrolled in an educational program to earn my Ph.D. degree. In order to complete my degree requirements, I am conducting a dissertation research project on the factors affecting the professional role socialization of nurses. The nurses I am studying are graduates of nursing education programs throughout Iowa. Your nursing program has cooperated in my research by helping me to locate you as a graduate of their program.

I am asking you to participate by completing the enclosed questionnaire. It will take approximately 30 minutes to complete. Questionnaires will be coded for sending follow-up letters only. All data reported in the questionnaire will be kept confidential. Only I as the research investigator, will have access to the data. I will not identify individual nurses or educational institutions in any publications that result from the research project. Your questionnaire will be destroyed when I complete the project.

Please answer every item on the questionnaire. Interpret the title "health care professional" to mean members of the nursing team. Please return the completed questionnaire in the enclosed self addressed envelope within ten days.

I really appreciate your participation in this research project. It will add to the body of nursing knowledge and it will help me to fulfill the requirements of my doctoral degree so I can graduate.

Sincerely,

Sharon Hillery R.N., M.S.N.