VARIABLES WHICH INFLUENCE PROFESSIONAL SOCIALIZATION

IN THE NURSING STUDENT

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by
Deborah Johnson Danielson
August 1985
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An abstract of a Dissertation by
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August 1985
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The problem. The purpose of this study was to explore the relationships between professional socialization, critical thinking ability and type of educational preparation (baccalaureate or associate degree), and the effect selected demographic variables may have on the socialization process in the nursing student.

Procedure. The settings for this study were a four-year, church-related college and two community colleges. Eighty-nine students completed the questionnaires including forty-seven baccalaureate and forty-two associate degree students. The three instruments used were: (1) Watson-Glaser Critical Thinking Appraisal, Form A, (2) Nurses' Professional Orientation Scale, and (3) Demographic Questionnaire. The data was analyzed using means, standard deviations, t-tests, coefficients and multiple regression analysis.

Findings. The findings of this study are consistent with data found in the literature. The baccalaureate students' socialization scores more closely approximated those of the faculty than the associate degree students. The baccalaureate students also had higher critical thinking scores than did the associate degree students.

Conclusion. Based on the analysis of data, the following conclusions were drawn: (1) There was a small but definite correlation between the critical thinking appraisal scores and professional socialization scores of the two student groups. (2) There was a highly significant difference between the critical thinking appraisal scores of the two student groups. (3) There was a significant difference between the professional socialization scores of the two student groups. (4) The educational achievement and marital status of the students were found to be significant demographic variables in the socialization process. (5) Critical thinking ability and type of nursing program explained 7 percent of the variability in professional socialization significant at the .0458 level.

Recommendations. Further research could be conducted in (1) longitudinal studies of the socialization changes during the educational process, (2) the effect of work as a registered nurse and the socialization process, and (3) the relationship between critical thinking ability and clinical problem-solving ability.
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CHAPTER ONE

Introduction

Registered nurses in the United States are prepared in three different educational programs: the diploma program, the associate degree program and the baccalaureate degree program. The graduates of all three programs take the same licensing exam to ensure competency to practice nursing. Upon passing the exam the graduates are given the title of professional nurse and the legal responsibilities of a professional nurse.

The oldest type of nursing education is the diploma program. This program began in the late 1800's in hospitals as apprenticeship programs. The educational programs varied in length of apprenticeship and instructional material. During this apprenticeship the students were primarily responsible for staffing of the hospitals. Textbooks were non-existent. They were taught by other nurses or physicians. By 1900 the diploma program required three years of study and the number of schools had increased to 432 in the United States.¹

The first baccalaureate programs were established around the turn of the century. The purpose of these programs was to prepare nurse educators for diploma programs and administrators for hospitals. These programs consisted of a diploma program with additional preparatory courses taken from a college or university. It was not until after World War II that baccalaureate programs were established in significant degrees in universities.

Even though the diploma program was quite popular, questions regarding the ability of these programs to adequately prepare nurses soon arose. Early studies indicated that diploma programs were mediocre in producing nurses with consistent levels of clinical competence. This mediocrity was due to the fact that hospitals were concerned with providing immediate nursing care rather than education.

The 1923 Goldmark Report found poor quality education in hospital programs. It emphasized the need for significant changes in nursing, particularly the need for

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college education. Because of the controversial nature of that suggestion and because of the economic impact of World War II and the great depression little enough was done until 1948 when the Brown Report again recommended this change with increased urgency. It reaffirmed that hospital based nursing education was unsound and suggested that nursing education be placed within the framework of higher education.\(^1\) It also recommended that the term "professional" be used only with those nurses who have graduated from a designated professional school, and that basic schools of nursing in colleges and universities should be developed.\(^2\)

In an attempt to solve the nursing shortage and the problems in nursing education, Montag suggested a new nursing education program.\(^3\) Based on the assumptions that nursing education should take place in colleges, that there was a need for both professional and technical levels of nursing practice, and that students could be prepared for technical nursing in less than three years, Montag founded the associate degree program. The intent of this program was to prepare technical nurses at the junior college level

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\(^2\)Ibid.

\(^3\)Mildred Montag, *The Education of Nursing Technicians* (New York: Putnam's, 1951), pp. 3-5.
who would work under the supervision of professional nurses.\textsuperscript{1} Despite Montag's efforts to prepare a different type of nurse, the associate degree graduates were required to take the same state licensing exams as the diploma and baccalaureate graduates to ensure at least minimal competency.

Thus, beginning in the late 1950's a conflict arose in distinguishing between professional and technical nursing practice. Progress toward solving this conflict has been slow. It was not until 1965 that the American Nurses' Association (ANA) took an official stand on the issue. The report stated the following:

Education for those who work in nursing should take place in institutions of learning within the general system of education . . . minimum preparation for beginning professional nursing at the present time should be baccalaureate degree education in nursing . . . minimum preparation for technical nursing practice at the present time should be associate degree education in nursing.\textsuperscript{2}

Since the 1965 ANA position paper there has been a major shift in nursing education programs. In 1966 there were 218 associate degree, 707 diploma, and 210

\textsuperscript{1}Peggy Bensman, "Have We Lost Sight of the AD Philosophy," \textit{Nursing Outlook}, 25 (1977), 511-13.

baccalaureate degree programs. In 1976 there were 642 associate degree, 390 diploma and 314 baccalaureate degree programs.  

While the nursing profession has seen relative success in meeting its objective of placing nursing education within the framework of collegiate education it has experienced only limited acceptance of its official position that a distinction should be made between professionally and technically prepared nurses. However, the American Nurses' Association continues to advocate that there are differences in practice and roles of professional and technical nurses. Entry into practice would be at the professional level for baccalaureate graduates and associate degree nurses would be called technical nurses. The diploma programs would be gradually phased out and the nurses possessing a diploma degree would be "grandfathered" in at the baccalaureate level. A major rationale for this change is that the scope of nursing practice has expanded so greatly there is now a need for two categories of nurses. Since the American Nurses' Association position focuses on the associate degree and the baccalaureate degree it is crucial to increase understanding of attributes of students

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Nursing education is a primary arena for this delineation of practice and roles. Because the philosophies of the associate degree and baccalaureate degree program are varied one would presume that graduates are prepared to function differently. Many employers, however, are not differentiating between them in relation to position, roles, or salary which leads to role confusion and high job attrition in the registered nurse.

While it may be true that all students of nursing are not being prepared for the same type of practice, there are certain skills and attitudes that must be developed during their education to alleviate the role confusion. The connection of these skills and attitudes is an important emphasis in nursing education. Student nurses must learn more than a set of skills and a scientific knowledge base during their education program. This knowledge and skill is not sufficient to enable them to give optimum nursing care unless the students are able to analyze their responses in the nursing setting. In the course of practice, student nurses will react as a person as well as a provider of services. They must learn to think like nurses and to think of themselves as nurses. It is necessary for the students to learn the culture and norms of the nursing profession. This learning process by which the culture and its norms are transmitted is known as professional socialization. In
attaining professional socialization the students must abandon any of the public views of nursing and ascribe to the views of the profession.

Many authors have asserted that professional socialization is one of the most important concepts in nursing education. In 1957 Merton, Reader and Kendall discussed role socialization studies of medical students.\(^1\) A number of socialization studies have since followed this original work. Corwin and Davis and Oleson conducted the major studies regarding professional socialization of nursing students.\(^2\) These studies have been cited as references in many other research projects.\(^3\)

This investigation was an attempt to analyze the role socialization of students enrolled in an associate degree

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program and those enrolled in a baccalaureate degree program. Critical thinking ability and selected demographic variables were considered as variables that influence students' socialization process. The demographic variables were: age, marital status, socioeconomic status, educational experience, work experience, and future goals in nursing.

Critical thinking ability is a student characteristic that is of interest to educators. It is a composite of attitudes, knowledge and skills. Nursing educators agree that professional education should be concerned with problem-solving strategies and theoretical knowledge that enables one to develop critical thinking skills.\(^1\) Since problem solving is a part of professional education it may be that critical thinking ability is a significant variable in professional socialization.

Rationale of the Study

Knowledge about the process of professional socialization is significant to nursing education. Nursing education is accountable to the profession of nursing for the socialization of nursing students into the roles and values of the profession. The increasing diversity of

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nursing services and the multiple levels of education have led nursing leaders to ask questions about the individual differences between students enrolled in the associate degree and baccalaureate degree programs. Unless it can be demonstrated that the graduates from the two programs are different there should be no distinction made between them.

In this study critical thinking ability, type of educational preparation and selected demographic variables were considered as major variables influencing students' professional socialization. The information concerning these variables may have subsequent implication for new knowledge and application of that knowledge to nursing theory and practice. It is possible that the role of the nurse could be redefined based on the student characteristics.

The findings will provide insight into such areas as student selection, utilization of faculty and curriculum evaluation that will aid educators in facilitating the socialization process. The demographic findings that appear to have a positive effect on the socialization process can be utilized in the student recruitment and selection process. The degree of critical thinking ability could also be incorporated into the selection process.

The faculty can be utilized in ways that would influence socialization by role modeling or by using specific teaching methodologies. The findings can be
applied to curriculum development. Course planning can be designed in such a manner that certain role behaviors would be expected at different points in the curriculum. Students' learning experiences can be developed to promote the professional role model. These experiences could include preceptorships or other alternative teaching methods. Problem-solving strategies could be included in nursing courses to enhance critical thinking ability. All of these specific instructional techniques could be utilized effectively in contributing to the professional socialization of the nursing student.

**Statement of the Problem**

The purpose of this study was to explore (1) the relationships between professional socialization, critical thinking ability and type of educational preparation, and (2) the effect selected demographic variables may have on the socialization process in the nursing student. The following research questions were posed:

1. Is there a relationship between critical thinking ability and professional socialization?
2. Is there a relationship between critical thinking ability and type of educational preparation?
3. Is there a relationship between professional socialization and type of educational preparation?
4. Is there a relationship between selected demographic variables and professional socialization?
5. Will critical thinking ability and type of educational preparation predict a greater amount of the variance in professional socialization than either variable alone?

**Definition of Terms**

In this investigation certain terms were defined in the following manner:

**Professional socialization:** Process by which students develop attitudes, beliefs and behaviors associated with the nursing profession as measured by the Nurses' Professional Orientation Scale (NPOS).

**Critical thinking ability:** Ability to recognize a problem and to logically determine a solution to that problem by using inferences, abstractions and generalizations as measured by the Watson-Glaser Critical Thinking Appraisal (Form A).

**Type of educational preparation:** The baccalaureate degree nursing program and the associate degree program.

**Socioeconomic status:** Educational and occupational background of parents of students.

**Work experience:** Health care or non-health care.

**Health care occupation:** Those occupations listed as health care in the Dictionary of Occupational Titles.
CHAPTER TWO

Review of Literature

The purpose of this chapter is to review the literature related to professional socialization, critical thinking ability, type of educational preparation and selected demographic variables, the major variables in the study. Each variable will be defined and discussed. The chapter will conclude with a statement of the conceptual framework for this study, which is a synthesis of the review of literature.

Professional Socialization

Professional socialization can be generally defined as the process by which the knowledge, skills and attitudes characteristic of a profession are acquired. The process involves the internalizing of the values and norms of a profession into one's own behavior and concept of self. Moore states that professional socialization "involves acquiring requisite skills and also the sense of occupational identity and internalization of occupational norms typical of the fully qualified practitioner."\(^1\) Super

describes professional socialization as when a person "tries on" a job.\textsuperscript{1} Simpson, using the term occupational socialization, defines it as "the emparting of skills and knowledge to do the work of an occupation, of orientations that inform behavior in a professional role, and of identities and commitments that motivate the person to pursue the occupation."\textsuperscript{2} She states that socialization occurs in professional education and continues to transitions and situational changes of the individual.

Professional socialization has been investigated in nursing and nursing education. Olesen and Whittaker view professional socialization as multidimensional.\textsuperscript{3} They state that many sources of information other than faculty sources are present in professional socialization and that the years that a student is becoming socialized into the role of a professional is a time of developmental socialization—acquiring an adult role and self. They also maintain that all students do not start at the same place in respect to their qualifications or awareness of the profession. Kramer views professional socialization as a "process of both

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\textsuperscript{2}Ida Simpson, From Student to Nurse (New York: Cambridge Univ. Press, 1979), pp. 6-7.

internal and external changes in an individual which result in altered images, expectations, skills and norms."¹

The theoretical base used by many authors concerning professional socialization is role theory.² This theory suggests that an individual will perform certain behaviors under certain conditions. Conway defines role theory as a "collection of concepts and a variety of hypothetical formulations that predict how actors will perform in a given role, or under what circumstances certain types of behavior can be expected."³ Biddle states that role theory is "a science concerned with the study of behaviors that are characteristic of persons within contexts and with various processes that presumably produce, explain or are affected by those behaviors."⁴

The basic concept of role theory is role. Role is defined as the set of prescriptions defining what the


behavior of a person should be.\(^1\) Roles are mutual, reciprocal or complementary relationships and indicate the position of self and the other person or group in such relationships. A variety of roles is known to and employed by most people and these roles act as guides to action in both social and occupational situations. Haas considers role to be "a set of standards and procedures which define the rights and obligations of persons in certain social situations sanctioned by interacting members and authorized by the larger society or particular segments of it."\(^2\)

Bradbury, Heading and Hollis, in a discussion of role theory, state that role can be described in different ways.\(^3\) Role is distinguished from the social positions of individuals. Any behavior that an individual normally performs is part of the role. Role also describes the rights, rules and obligations which an individual occupies in a social position.

Biddle gives five propositions that define role. They


are:

1. Role theorists assert that "some" behaviors are patterned and are characteristic of persons with contexts (i.e., form roles).

2. Roles are often associated with sets of persons who share a common identity.

3. Persons are often aware of roles and to some extent roles are governed by the fact of their awareness.

4. Roles persist, in part, because of their consequences and because they are often imbedded within larger social systems.

5. Persons must be taught roles (must be socialized) and may find either joy or sorrow in the performances thereof.¹

Brimm describes socialization as preparing people for roles so they will know what is expected of them, will meet the expectations and will desire to practice the expected behavior and pursue the appropriate ends.² Professional socialization is a part of this adult socialization.

Simpson proposed a three-dimensional conception of professional socialization.³ The dimensions are: education, orientations and relatedness to the occupation. Education is necessary for the individual to become aware of the behaviors of the professional role. Orientations

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¹Biddle, pp. 6-7.


³Simpson, From Student to Nurse, pp. 13-14.
provide a way in which the individual is able to learn the role. The individual is able to perceive others' expectations and make decisions regarding these expectations. The concept of relatedness to the occupation refers to variables which assist in motivating the individual to continue in the occupation.

Professional socialization has been described as the process of role taking or role acquisition. Mead defines role acquisition as simply "taking the role of others."¹

Brimm views role acquisition as probably the most important aspect of socialization.² The individual is said to learn the behavior appropriate to the position in a group through interaction with others holding normative beliefs about what the role should be. The communicated knowledge of others' expectations for the individual is indispensable in being able to predict how others will react to guide the individual's performance successfully. Learning the role of the other becomes very important. The self-other relationships help to motivate the individual to live up to the expectations and standards encountered in the interaction with the environment.

Brimm also discusses three characteristics of

²Brimm, p. 30.
interpersonal relationships as having special value in socialization of the individual to socializing agents.\(^1\) The first characteristic is that of the formality or institutionalization of the relationship. This can be assessed by determining the nature of the roles regulating the interpersonal relationship. The individual will often have a specific role in the relationship for example, instructor-student. This relationship may be formal in the sense that the socializing agent constitutes a formal organization. Even so much socialization still occurs through informal processes outside of the specified role. The author points out that a "great deal of indirect, unplanned training takes place through informal discussion and perhaps unconscious identification with role models."\(^2\)

The second characteristic of the relationship is quality. The amount of power and affectivity of the relationship influences the quality. Power is degree of dominance of the socializing agent over the individual and affectivity is whether a highly affective relationship exists between the agent and the individual. A situation of high power, high affectivity in adults is necessary for socialization.

The third characteristic is the question of whether the

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\(^1\)Brimm, p. 33.

\(^2\)Brimm, p. 35.
individual is alone or in a group. Group relationships also influence the individual's socialization process.

Role theory was used as the framework for this study because it takes into account this lifelong socialization process. It recognizes that life experiences influence the students' reactions to the role of a profession. When students enter a nursing program perceptions about the nurse's role in today's society are not generally reliable and may be distorted. The students acquire the knowledge, skills and attitudes to assume the role of the nurse through the study of nursing theory and interaction with nurse educators and practicing nurses. Since the socialization process is the means whereby the expectations of the role of the professional nurse are transmitted it is necessary to examine the variables which influence this process.

In 1955, a structure for differentiation of nurse role was developed by Habenstein and Christ. The three role types were professionalizer, traditionalizer and utilizer. It was from this value system that one of the first studies regarding professional socialization of nurses was done by Corwin in 1961. This study explored whether career aspirations were influenced by (a) the type of role conception held, (b) the certainty with which the role

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conception is held, and (c) role frustration. Three conflicting conceptions of nursing were identified. They are:

1. Bureaucratic—refers to the administrative rules and regulations which describe the nurse's job in a specific hospital; it suggests primary loyalty to the hospital administration.

2. Professional—refers to the occupational principles which transcend the location of a specific hospital.

3. Service—refers to nursing conceived as a sentimental calling and suggests primary devotion to the patient as a person.\[1\]

The study focused on how the three different types of training influenced these role conceptions. The sample consisted of 169 staff nurses and sixty-seven junior and senior student nurses with either degree or diploma training. The questionnaire consisted of three Likert-type scales constructed to measure bureaucratic, professional and service. The findings indicated the students in degree programs hold less bureaucratic role ideas than diploma graduates. The degree graduate nurses were more frustrated with the professional role than the diploma graduate nurses. The diploma graduate nurses aspired for promotions within the hospital setting while the degree graduate nurses chose teaching as a future ambition.

Corwin and Taves, using the same framework,

\[1\]Corwin, pp. 70-73.
investigated role deprivation of nursing students and staff nurses.\textsuperscript{1} The define role deprivation as the extent an ideal role is perceived not to be operating in the actual practice. The findings were that degree nurses were likely to maintain their professional role conception even if there was a deprivation of it. The authors interpret this finding due to the fact that degree nurses have low identification with the hospital and feel their professional role is often undermined in the hospital.

Corwin, Taves and Haas also speak of professional disillusionment.\textsuperscript{2} In a sample of fifty-two staff nurses, twenty-three head nurses and 163 junior and senior nursing students enrolled in two degree and one diploma nursing school, they found the students had unrealistic impressions of the nursing role and were disillusioned with their jobs after graduation.

The Corwin tool served as a framework for many other studies. A synthesis of these studies follows.

Kramer studied role conception and role deprivation in baccalaureate degree nurses after graduation.\textsuperscript{3} She found

\textsuperscript{1} Corwin and Taves, p. 225.

\textsuperscript{2} Ronald Corwin, Marvin Taves, and Eugene Haas, "Professional Disillusionment," Nursing Research, 10, No. 3 (1961), 141-44.

\textsuperscript{3} Marlene Kramer, "Role Models, Role Conceptions, and Role Conflict," Nursing Research, 17, No. 2 (1968), 115-20.
that in fifty-nine nurses there was a significant increase in the bureaucratic component and role deprivation was higher for those nurses who retained instructor role models than those who shifted to work-centered models.

Knox developed a questionnaire that measured (a) the subject's loyalty to the ideals of bureaucratic, professional and service roles, (b) the discrepancy between the subject's ideal role conception and perception of practices in the hospitals, and (c) the subject's perception of faculty role conceptions.\(^1\) Two hundred fifty-three students completing the first year of the nursing major and 153 senior students were tested. It was found that senior students had higher professional conceptions and lower bureaucratic conceptions than the beginning students. Both groups perceived that hospital practices were more bureaucratic than they thought they should be. The nursing faculty influenced both groups on their formation of an ideal role. Conclusions of the study suggest that students acquire professional conceptions, sustain service conceptions and reject bureaucratic conceptions during school. It also seems that role deprivation and disillusionment begin during the school period.

Davis tested 460 students and faculty in associate and baccalaureate degree programs. It was found that associate degree students had higher means on bureaucratic role conceptions than did the baccalaureate students. The baccalaureate students had higher means on professional and service role conceptions.

In 1973, Bevis, using a modification of the Corwin Role Conception Instrument, attempted to determine if a relationship existed between the role conception held by nurses and their participation in continuing education programs. The sample consisted of 106 women graduates of baccalaureate programs. It was found that when professional and service components were high, so were the continuing education scores. Bevis also suggested that the Corwin tool be further validated due to changing attitudes in nursing.

The purpose of Jones' study was to examine whether students in different types of nursing programs developed different role conceptions. One hundred thirty-nine senior

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1Carolyn Davis, "Anticipatory Socialization: Its Effect on Role Conceptions, Role Deprivations, and Adaptive Role Strategies of Graduating Student Nurses in Selected Associate Degree and Baccalaureate Degree Programs," Dissertation Abstracts International, 33 (1973), 4358-B (Syracuse Univ.).

2Bevis, pp. 207-14.

students from a two-year, three-year, four-year and five-year program were tested. The students who attended the shorter programs had a more bureaucratic orientation for nursing while students in longer programs believed in a more professional role.

Minehan compared the Corwin scale with her new instrument that measured bureaucratic, professional, and service-traditional role concepts.\(^1\) Both questionnaires were given to forty-two registered nurses. Between-scale overlap was found which suggests that beliefs about nurse role conceptions have shifted and that the framework of the questionnaires needed to be reviewed. Since the role conceptions of nurses in the 1970's are different from those in the 1950's, the Corwin framework and questionnaire no longer serve the designed purpose.

An extensive study of professional socialization was carried out using a field design from 1960 to 1963 by Olesen and Whittaker.\(^2\) The sample consisted of forty-nine women in a baccalaureate program. Through observation the authors identified the term "studentmanship." This is described as the processes by which the students psych out the program and assume a set of acceptable behaviors which will help

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\(^1\) Paula Minehan, "Nurse Role Conceptions," *Nursing Research*, 26, No. 5 (1977), 374-79.

\(^2\) Oleson and Whittaker, pp. 19-15.
them successfully go through the program. This behavioral adaptation was necessary to the process of socialization. These behaviors made the students more aware of their abilities about perceiving interpersonal relationships from a professional framework. It allowed the student to "become" by assuming the required level of socialization before integrating it. The authors discussed the cyclic feelings the students frequently encountered. When the students realized that nursing was more complicated and more emotionally draining than they believed, they became depressed and developed low self-esteem. It was only after working through these feelings that the students gained a revised image of nursing.

Davis and Olesen found that students in a baccalaureate program characterized nursing in terms of advanced professional images and rejected bureaucratic images. However, the students did not achieve greater consensus among themselves concerning what they believed did or did not characterize nursing.¹

In 1974, Brown, Badders, and Oberman replicated the Davis and Olesen study. They reported the socialization process is loaded with interconflicts and ambivalence that possibly plague nurses years after formal education has been

¹Davis and Oleson, pp. 8-15.
completed.¹

Kramer, McDonnell and Reed suggested that for socialization to occur a positive relationship must exist between faculty and hospital nursing staff and nursing students. The self-actualizing values for which students enter nursing should be reinforced by both groups. The strong self-concept helps the student to adapt more readily to the role of the nurse.²

Most of the studies on professional socialization of the nursing student have been descriptive in nature. They have attempted to examine more completely the potentially interactive effects of individual characteristics and the socialization experiences of nursing students. The following review of literature will present the major variables of this study, demographic variables, type of educational preparation and critical thinking ability.

**Demographic Variables**

The effect of demographic variables has been investigated by a number of authors. The demographic variables in this study were age, sex, marital status,

¹Julia Brown, Yvonne Badders and Mary Oberman, "Baccalaureate Students' Images of Nursing: A Replication," *Nursing Research, 23*, No. 1 (1973), 53-59.

²Marlene Kramer, Catherine McDonnell and John Reed, "Self-Actualization and Role Adaptation of Baccalaureate Degree Nurses," *Nursing Research, 21*, No. 2 (1972), 111-23.
educational experience and work experience.

**Age**

In 1974, Stromberg studied 430 students to determine the relationship between image of nursing and sex role identity of female senior nursing students in diploma, associate degree and baccalaureate degree programs. The results indicated that students over twenty-three had higher mean scores pertaining to occupational, educational, and social role characteristics than did the students under twenty-three years of age.\(^1\)

Another investigation was done by Tetreault in a baccalaureate nursing program to determine what institutional and demographic factors might influence students' professional attitude. The students between the ages of twenty-four and twenty-six years scored the highest on the professional attitude test.\(^2\)

Eller administered a professionalism scale to 358 senior nursing students from associate, diploma and baccalaureate degree programs. Students in all age groups

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\(^1\) Marilyn Stromberg, "The Relationships Between Image of Nursing and Sex Role Identity for Seniors in Diploma, Associate Degree and Baccalaureate Nursing Programs," Dissertation Abstracts International, 35 (1974), 1768-B (Northern Illinois Univ.).

perceived themselves to be slightly oriented toward a professional nursing role.¹

Jones studied the role conception of students in two-, three-, four-, and five-year programs. She found that age did not directly influence role conceptions.²

**Sex**

Since few males have traditionally entered the nursing profession, sex and professional socialization has seldom been studied. Meleis and Farrell found that when senior nursing students were asked to identify forces that enhance the image of nursing they unanimously named admission of males to the profession as a significant force.³ Silver and McAtee claimed that males perceive themselves and their roles differently than women thereby having a different effect on the image of nursing.⁴

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¹Vercie Eller, "Role Orientation Toward Professional Nursing of Students Completing Associate Degree, Diploma, and Baccalaureate Nursing Education Programs," Dissertation Abstracts International, 37 (1976), 2770-B (North Carolina State Univ. at Raleigh).

²Jones, pp. 135-38.


⁴Henry Silver and Patricia McAtee, "Health Care Practice: An Expanded Profession of Nursing for Men and Women," American Journal of Nursing, 72, No. 1 (1972), 78-80.
Marital Status

Very few of the studies considered the relationship between marital status and professional socialization.¹ None of the studies found a significant relationship between the two variables.

Socioeconomic Status

The socioeconomic variable in this study was operationalized as the occupation and educational background of parents.

Stromberg found that significantly higher means of professional image scores were obtained by students whose families were identified in lower-middle levels of socioeconomic status than from students whose families were in middle-upper levels of socioeconomic status.²

Tetreault investigated the attitudes of students toward nursing.³ Hogan's professional attitude scale was given to 157 female students enrolled in a baccalaureate nursing program. It was found that parent's level of education had no effect on the professional attitude of the students.

Stoller studied fifty-seven nursing students in a diploma program. Thirty-four were beginning students and

¹Warner and Jones, pp. 185-89; Oleson and Whittaker, pp.
²Stromberg, p. 1768-B.
³Tetreault, pp. 49-53.
twenty-three were seniors. The students were asked to respond to twenty-one statements describing attitudes toward the nursing role. It was found that having a mother who was a nurse did not influence student definitions of the role of the nurse.¹

Warner and Jones investigated 279 nursing students in a four-year program.² The purpose of the study was to view the effects of demographic characteristics on the socialization process. The demographic variables were mother's education, father's education and whether or not the student had a health professional in the family. A role conception scale measuring the bureaucratic, professional and service components of nursing was used to collect data. It was found that students with a health professional in the family never became as professionally oriented as other students. Mother's education did not influence the students' socialization experience. Students with a father that had twelve or less years of education became more professionally oriented at the junior level and then had a dramatic decrease in professional orientation between the junior and senior year. Students with highly educated fathers were less professionally oriented at the junior year


²Warner and Jones, pp. 185-89.
but increased their orientation by the time of graduation. The authors speculated that having a health professional in the family kept the student "in the real world" of nursing so they never attained the idealistic view of the professional role.

Educational Experience

No studies were found that considered students' previous educational experience and professional socialization. It would seem that those students who have degrees in other areas or college credits would have a more professional view of nursing than those students who have no academic experience.

Work Experience

Eller, in a study described earlier, found that students with no previous experience in nursing viewed their role orientation as similar to those who had some experience as nursing assistants or licensed practical nurses and registered nurses.¹

Davis tested 220 students and forty faculty in seven associate degree nursing programs and 240 students and 140 faculty in seven baccalaureate programs. Three conceptions, three role deprivations and three adaptive role strategies were investigated. There was no significant correlation

¹Eller, p. 2770-B.
between students' work experiences in nursing and any of the nine scales.¹

Stoller's study of role conceptions (described earlier) found that freshmen with previous hospital experience differ from those without in their anticipation of greater detachment in their relationship with patients.²

**Type of Educational Preparation**

Because there are three different types of educational programs for nursing an important question is which program results in greater professional socialization. The hospital-based diploma program has rarely encountered socialization incongruencies because the training was in the apprenticeship mode. With the movement of nursing education into colleges in the 1900's and into community colleges in the 1950's professional socialization became a relevant issue. No longer were the students receiving extensive clinical experience and exposure to the routine activities of the hospital and nursing functions. There were more classroom learning and simulated laboratory experiences. Therefore, due to the educational changes over the years, the assessment and development of professional socialization of nursing students has become an area of interest and

¹Davis, p. 4358-B.

²Stoller, pp. 2-14.
research.

The Davis and Olesen study indicated that students developed a more professional image of nursing as they progressed through a baccalaureate program. However, there was no consensus among the students of what they believed characterized nursing. They found that the students' ratings of value were influenced by their instructors.¹

In 1974, operating upon the assumption that faculty strongly influence student perceptions of their professions, Crocker and Brodie developed an instrument which was felt could be used to study the process of professional socialization.² The primary purpose was to measure the congruence between nursing students' perceptions and faculty views of the professional nursing role. The sample consisted of 488 students in a baccalaureate nursing program. On each of sixty items there was a significant shift toward agreement with faculty perception of the trait's importance as the students rose in class rank. The researchers concluded that this may indicate that the student's views are molded by actual clinical experiences, or that the faculty who teach students basic skills and

¹Davis and Olesen, pp. 8-15.

procedures also indoctrinate them with their own professional views.

Richards examined the psychological profiles of 361 students in different programs. While she found no statistically significant difference on intelligence and personality scores, she did discover the baccalaureate students had a significantly more professional orientation than did diploma and associate degree students. Baccalaureate students also saw their instructors as having a more professional ideal of nursing practice.¹

Eller administered a professionalism scale to 358 senior nursing students in all three programs. She found that the baccalaureate students were more professionally-oriented toward nursing than were associate degree and diploma students.²

Ventura studied the question, "Do student nurses enrolled in different education programs differ in related social behaviors?" Three hundred forty-four students were given the California Psychological Inventory. The hypothesis that there would be no significant difference in social behavior factors was not supported. Significant

¹Mary Ann Bruegal Richards, "A Study of Differences in Psychological Characteristics of Students Graduating from Three Types of Basic Nursing Programs," Nursing Research, 21, No. 3 (1972), 258-61.

²Eller, p. 2770-B.
differences were found on seven social behavior scales: Dominance, Responsibility, Socialization, Self-Control, Good Impression, Achievement via Conformance and Achievement via Independence. Of particular interest is the fact that baccalaureate students scored significantly higher on the socialization scale than associate degree students.¹

Goldstein investigated differences between seniors in associate degree and baccalaureate programs in self-actualization as measured by the Personal Orientation Inventory.² Baccalaureate graduates were higher on all scales. The author stated that the study indicated that the two programs were fulfilling their defined function—preparation of practitioners of nursing for specifically recommended roles. However, the source of this difference was not isolated from the obtained results.

In a study of 220 baccalaureate nurses, Kramer and Baker found that one-half had left hospital nursing and one-third had left nursing altogether. The highest dropout rate was among graduates with a high professional role

¹Marlene Ventura, "Related Social Behaviors of Students in Different Types of Nursing Education Programs," International Journal of Nursing Studies, 13, No. 1 (1976), 3-10.

orientation.¹

Kramer has been instrumental in making nurses aware that a high professional role orientation is distressing in some instances.² Nurses who are educated in professional ideals place a high value on individualized holistic patient care. These nurses emphasize decision-making and problem-solving skills. However, organizations require nurses to delegate their duties to lesser trained personnel and to submit to external supervision. This division of labor causes role conflict among these nurses and many of them leave nursing.

Goff studied the relationships between nursing education, nurses' image of nursing and job satisfaction.³ Using 875 diploma and baccalaureate degree nurses in the United States Air Force, the study concluded that for diploma nurses, the images of nursing in the first two years of practice does not differ from that in subsequent years. For baccalaureate nurses, the image of nursing begins much higher than for diploma nurses, but by the beginning of the

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²Kramer, pp. 40-42.

third year in practice, has adjusted to the same level. Both groups had similarly lower levels of job satisfaction in the first two years of practice and higher levels thereafter.

Murray tested the hypothesis that one of the reasons why nurses leave their jobs is that they find it difficult to meet public expectations.\(^1\) Two hundred forty-six students and nurses answered a questionnaire based on Habenstein and Christ's dimensions—professional, traditional and a third dimension they called personality dimension. Role conflict was highest among second- and third-year students because they were unable to cope with the public demands.

Murray and Morris compared the degree of professional autonomy among senior nursing students in diploma, associate degree and baccalaureate degree programs.\(^2\) Autonomy was measured by the Pankratz Nursing Questionnaire. There were eighty students from the associate degree program, eighty-five students from the diploma program and fifty-nine students from the university program. The results indicated that senior students in the baccalaureate program scored


\(^{2}\)Louisa Murray and Donald Morris, "Professional Autonomy among Senior Nursing Students in Diploma, Associate Degree and Baccalaureate Nursing Programs," *Nursing Research*, 31, No. 5 (1982), 311-13.
significantly higher (p=.01) than students in the diploma or associate degree programs. Implications are that baccalaureate education develops professional autonomy.

In general, baccalaureate students tend to score higher than other students on measure of professional socialization even if not always significantly. Implications from the literature indicate that baccalaureate nursing education inculcates professional socialization. In view of the American Nurses' Association recommendation that the baccalaureate degree become the entry level of practice by 1985, these programs need to continue to strengthen their emphasis on professional socialization.

**Critical Thinking Ability**

The writer proposes that critical thinking ability is a key intervening variable in professional socialization of the nursing student. Many philosophers of education take critical thinking to be a central ideal of educational endeavor. Critical thinking has been prized from the time of the Ancient Greeks. Since that time educators have stressed the need to teach people how to think. Drews states that critical thinking is needed in order to function in a continually complex world.¹ Scheffler holds that

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"critical thought is of the first importance in the conception and organization of educational activities."\(^1\)

Critical thinking can generally be defined as the ability to logically assess solutions to problems. Dressel and Mayhew have operationally defined critical thinking as the ability to (1) define the problem, (2) select pertinent information for the solution of a problem, (3) recognize stated and unstated assumptions, (4) formulate and select relevant and promising hypotheses, and (5) draw valid conclusions and judge the validity of inferences.\(^2\) These are essentially the same steps in Dewey's reflective thinking.

Dewey stated that a student must be confronted with a specific problem situation and seek the solution to the problem in order to truly learn critical thinking.\(^3\) He defined critical (reflective) thinking as the careful and persistent examination of an action, proposal, belief, analysis or use of knowledge in the light of the grounds which justify it and its probable consequences. Were a

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teacher to follow this point of view, he would teach that knowledge and skills peculiar to discussing controversial social issues, engaging in literary criticism, criticizing expository discourse, analyzing and evaluating mathematical proofs and judging the soundness of scientific experiments are some of the intellectual processes.¹

Watson and Glaser viewed critical thinking as a composite of attitudes, knowledge and skills. This composite includes:

1. Attitudes of inquiry that involve an ability to recognize the existence of problems and an acceptance of the general need for evidence in support of what is asserted to be true;

2. Knowledge of the nature of valid inferences, abstractions, and generalizations in which the weight or accuracy of different kinds of evidence are logically determined; and

3. Skills in employing and applying the above attitudes and knowledge.²

Summarily, critical thinking is concerned with the specific skills of assimilating and processing information and evaluating ideas.

Nursing education has a great stake in the development of critical thinking, for the success of the nurse's daily work depends to a large extent on their ability to think


constructively and to arrive at reasonable alternatives quickly. Nursing care is planned and carried out within the framework of the nursing process which Yura and Walsh describe as "the core process by which the purposes of nursing are fulfilled."¹

The nursing process is an orderly, systematic manner of determining the client's problems, making plans to solve them, initiating the plan or assigning others to implement it, and evaluating the extent to which the plan was effective in resolving the problems.² The first phase of the process involves collecting relevant data and making a nursing diagnosis, defined by Gordon as a "diagnosis made by professional nurses, describing actual or potential health problems which nurses by virtue of their education and experience are capable and licensed to treat."³ This nursing diagnosis serves as the basis for planning, which includes setting goals, establishing priorities and determining methods to resolve the problems. The plans are then implemented and the results evaluated. While interpersonal and technical skills are crucial to collecting


²Yura and Walsh, p. 28.

data and carrying out the plan, cognitive skills are involved in all four phases of the nursing process. "Application of nursing process in clinical practice necessitates interaction between substantive nursing knowledge and higher cognitive skills."¹

The nursing process is essentially the same as the problem-solving process which Johnson, Davis and Bilitch define as analyzing a problem situation, collecting relevant information, defining the exact problem, deciding a plan of action, carrying out the plan and evaluating the result.² Gover states that improved nursing performance and professionalism will occur through nurses who are knowledgeable problem solvers.³ At the heart of nursing practice is the nursing process, which is in essence the problem-solving process. Kenworthy points out that problem solving relates to a situation in which critical thinking


takes place.\footnote{Leonard Kenworthy, \textit{Social Studies for the Seventies} (Waltham, MA: Blaisdell, 1969), p. 92.} Critical thinking is a broader term. Critical thinking ability appears to involve the same cognitive skills necessary in carrying out the nursing process. Since this process is the foundation of nursing education programs and is the basis for competence in the student and practicing nurse, there may be a relationship between critical thinking ability and how the student nurse socializes to the nurse role.

Several studies have been done in an attempt to compare the effect of educational preparation on the ability to identify patient problems and interventions. A limitation to these studies has been the difficulty in devising a method to measure nursing performance in a clinical setting. Patient problems cannot be duplicated and the thinking process cannot be observed directly. Even with this limitation-causing variable, valuable information can be gleaned from the research.

Frederickson and Mayer compared the differences in the way baccalaureate degree and associate degree graduates solved nursing problems.\footnote{Keville Frederickson and Gloria Helen Gilbert Mayer, "Problem-Solving Skills: What Effect Does Education Have?" \textit{American Journal of Nursing}, 77 (1977), 1167-69.} The sample consisted of twenty-eight baccalaureate and twenty-seven associate degree
graduates. They viewed three films about nursing problems and orally gave their responses to each problem. In addition, the students completed the Watson-Glaser Critical Thinking Appraisal. There was a statistically significant difference on the Watson-Glaser test but not significant differences in the process the students used in solving the nursing problems.

Mandrillo developed a test to assess cognitive skills in relating scientific knowledge to patient problems.¹ The test was given to 155 graduating baccalaureate and 106 graduating associate degree nursing students. The baccalaureate students were found to score significantly higher than the associate degree students on cognitive abilities and recall of knowledge.

Gray et al. attempted to differentiate between technical and professional nursing practice by comparing the responses of twenty-two associate degree students and twenty-two baccalaureate students to essay questions based on clinical situations.² Responses to the questions were coded as being expected of all nurses, only technically-

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prepared nurses, or only professionally-prepared nurses. The majority of responses were coded as expected of all nurses; however, some differences were noted. The authors summarized the results as "technical practitioners showed concern for meeting patients' immediate health needs" and "although the professional practitioners have these concerns they indicated, in addition, plans for initiation of nonprescribed nursing actions, they asked questions to ascertain from the patient possible causes for presenting problems and they anticipated long-term needs of patient and/or family." These needs were not necessarily directly related to the presenting problem and they reflected the nurse's knowledge and leadership concerns.

Frederickson administered the Watson-Glaser Critical Thinking Appraisal to forty-four baccalaureate students in the first nursing course and again upon completion of the final nursing course.\(^1\) Results showed that a significant difference existed between the scores of the students when they entered the program and when they completed the nursing courses. Students who obtained higher critical thinking scores on completion of the program received a higher grade point average in the nursing courses than students with low critical thinking scores. Academic success in nursing

\(^1\)Keville Frederickson, "Critical Thinking Ability and Academic Achievement," New York State Nurses' Association Journal, 10, No. 1 (1979), 40-44.
courses cannot be predicted on the basis of an initial
evaluation of critical thinking; however, one can state that
critical thinking ability is an indicator of academic
success after admission to the courses.

Scoloveno administered the Watson-Glaser Critical
Thinking Appraisal and the Revised Nursing Process
Utilization Inventory to ninety baccalaureate, ninety-three
associate and ninety-seven diploma students.1 The purpose
of the study was to determine differences in the problem-
solving ability of senior students in the three programs.
It was found that (1) baccalaureate students scored
significantly higher (p=.01) on the Revised Nursing Process
Utilization Inventory than did associate or diploma
students, and (2) baccalaureate students obtained higher
scores on the Watson-Glaser Critical Thinking Appraisal than
did associate or diploma students.

Polifroni administered the Watson-Glaser Critical
Thinking Appraisal and the Nursing Process Utilization
Inventory to ninety generic baccalaureate students, eighty-
five students from three programs (generic baccalaureate
programs for inservice students), and eighty-three students
who were registered nurses returning for a baccalaureate

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degree. The conclusions were (1) generic baccalaureate students and inservice students scored higher on the critical thinking appraisal than did upper division registered nurse program students and (2) generic baccalaureate students and inservice students scored higher on the Nursing Process Utilization Inventory than did the upper division registered nurse students. This study supports the idea of the baccalaureate degree as a means of professionalizing nursing and nursing education.

Gunning studied sixty-six senior students in two baccalaureate programs regarding the relationship between field independence/dependence, critical thinking ability and clinical problem-solving ability. Data showed (1) a significant relationship between field independence and clinical problem-solving ability, (2) no significant relationship between critical thinking ability and clinical problem-solving ability, and (3) a significant relationship between field independence and critical thinking ability.

Ketefian studied the relationship between critical

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1Elizabeth Polifroni, "Problem-Solving Ability of Senior Nursing Students in Pre-Service and In-Service Baccalaureate Programs," Dissertations Abstracts International, 42 (1981), 1395-B (Rutgers Univ., The State Univ. of New Jersey).

thinking ability, educational preparation and level of moral judgment in seventy-nine nurses.\(^1\) It was found that (1) there was a positive relationship between critical thinking ability and moral reasoning, (2) there was a difference in moral reasoning between professional and technical nurses, and (3) critical thinking ability and educational preparation together predicted greater variance in moral reasoning than either variable alone.

**Summary**

Major studies investigating the role socialization process of nursing students were presented and discussed. Findings of the studies revealed that the students changed in their perceptions of the professional role as they progressed through their educational program.

Demographic variables were assessed for their effect on the socialization process. They were found to be significant in some studies and not significant in other studies.

The type of program and role modeling by faculty were found to be important in the socialization process as were individual attributes such as critical thinking ability. It was also found that the tools used by Habenstein and Christ, \(^1\)Shake Ketefian, "Critical Thinking, Educational Preparation and Development of Moral Judgment Among Selected Groups of Practicing Nurses," *Nursing Research*, 30, No. 2 (1981), 98-103.
Corwin, and Davis and Olesen were no longer applicable for current use. The Nurses Professional Orientation Scale developed by Brodie and Crocker was chosen for use in this study. It contains current definitions of nursing and the roles of nurses that the other tools did not have.

**Conceptual Framework**

The purpose of this study is to investigate demographic variables, type of educational preparation, critical thinking ability and professional socialization in the nursing student. It is proposed that professional socialization is the dependent variable with demographic variables, type of educational preparation and critical thinking ability as the major independent variables.

Professional socialization can be thought of as the acquisition of values, attitudes, morals, knowledge and skills of a profession. A review of the literature indicates professional socialization is needed for the student to be able to deliver quality, ethical and accountable service to clients.

In this study the demographic variables of age, sex, marital status, socioeconomic status, educational experience and work experience were believed to influence the student's role conception of a nurse. Individuals have been socialized from birth to entry into the professions and this process continues throughout their life span. All life experiences have affected the manner in which learning
experiences are interpreted by individuals during their role conception process. Cultural expectations and personal values will not be forgotten during formal education and will effect the individual's behavior toward a profession.

Type of educational preparation also influences the socialization process of the nursing student. Professional nurses who have a longer, more liberal education are viewed to place more value on self-directed, autonomous nursing practice than do nurses with other degrees. Technical nurses are seen to lean more heavily upon the directions of others to guide their nursing practice. Educators claim that the different educational programs prepare their students for different roles but employers expect all nurses to perform the same duties. This confusion causes role conflict in the new graduate which can result in "burn out," job attrition and decrease in the quality of nursing care.

Critical thinking ability is viewed as a student attribute that is necessary to the problem-solving strategies of the nursing process. The nursing courses in the professional and technical program curricula prepare students to identify certain problems and problem-solving strategies. Technical nurses ideally are prepared to identify specific, concrete problems that are most likely physiological in nature. In contrast, professional nurses ideally are prepared to recognize a wider range of problems that are abstract and complex. The professional nurse is
perceived to more likely recognize psychosocial problems as well as physiological problems.

Technical nurses are described as having a wide range of established interventions to use in solving problems. In contrast, professional nurses are able to modify and create ways to solve problems based on known interventions. They are not restricted in their ability to analyze the problem and develop interventions.

Nursing is moving in the direction of distinguishing between professional and technical nursing practice. During the 1978 American Nurses' Association convention resolutions were passed delineating in 1980 the two categories that will be identified and by 1985 the minimum preparation for entry into practice will be the baccalaureate degree in nursing. Nurse educators need to understand the demographic and educational variables on the socialization process. This knowledge can then be considered in making organization plans and curriculum designs, in student recruitment and in student selection. This study is an attempt to determine the relative importance of the influence of the variables type of educational preparation, critical thinking ability and demographic variables on the professional socialization of a group of nursing students.
CHAPTER THREE
Design of the Study

Many variables may influence professional socialization; therefore, it is unrealistic to try to establish causal relationships between any one variable and professional socialization. What is important is to identify and arrange those variables associated with professional socialization in a systematic form. The purpose of this study is to explore the variables, professional socialization, critical thinking ability, type of educational preparation and selected demographic variables to determine if associative relationships do occur. Because of the nature of the problem, a nonexperimental descriptive design was used. This approach allows one to explore by natural observation and without manipulation of the characteristics present within the research subjects. This type of design also allows one to gather information where knowledge is limited.¹ The design is limited in that causal relationships cannot be determined.

because of the difficulty in controlling extraneous variables. In this study the concept of professional socialization was considered. It would be erroneous to believe that one could control all the variables affecting professional socialization in nursing students; however, certain variables can be investigated in depth by the descriptive method. The variables in this study are critical thinking ability, type of educational preparation and selected demographic variables.

**Population and Sample**

The population consisted of nursing students attending a four-year, church-related college and two community colleges. The community colleges have small classes necessitating the use of two schools to obtain an adequate sample size for data analysis. The sample was a convenience sample consisting of students enrolled in the senior class of the four-year college and students in the last class of the nursing program in the community college. The investigation occurred in May and June of 1984.

**Description of Instruments**

The three instruments used in this study were:

1. Watson-Glaser Critical Thinking Appraisal, Form A,
2. Nurses' Professional Orientation Scale (NPOS), and
3. Demographic Questionnaire. The students were asked to first complete the NPOS and Demographic Questionnaire. They
were then given the Watson-Glaser Critical Thinking Appraisal.

**Critical Thinking Ability**

Critical thinking ability was operationally defined as the score obtained on the Watson-Glaser Critical Thinking Appraisal, Form A. The form was developed by Watson and Glaser in the 1930's and has undergone over thirty years of research and development. It has been identified as a test that pioneered in the measurement of critical thinking.\(^1\) It is a multiple choice test requiring approximately forty minutes to complete. The tool consists of five subtests and the total score yields a level of competency in critical thinking. The five subtests are defined as follows:

- **Inference**--Discriminating among degrees of truth or falsity of inferences drawn from given data.
- **Recognition of Assumptions**--Recognizing unstated assumptions or presuppositions in given statements or assertions.
- **Deduction**--Determining whether certain conclusions necessarily follow from information in given statements or premises.
- **Interpretation**--Weighing evidence and deciding if generalizations or conclusions based on the given data are warranted.
- **Evaluation of Arguments**--Distinguishing between arguments that are strong and relevant and those that

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are weak or irrelevant to a particular question at issue.¹

Norms have been established with other four-year college nursing students.

Reliability of the instrument was established by split-half examination. Split-half reliability coefficients using the Spearman-Brown formula were calculated for ten of the critical thinking appraisal norm groups. The coefficients ranged from .69 to .85. The coefficients for the nursing student norm group was .72.²

The validity of the Critical Thinking Appraisal has been examined in a number of different settings with test users who had a variety of needs and purposes in mind.³ In examining the test's content validity, it should be noted that there is not agreement on the definition of critical thinking. There is a frame of reference from which teachers in institutional programs attempt to develop or improve critical thinking ability. The content validity is the extent to which the Critical Thinking Appraisal measures the

¹ Watson and Glaser, p. 2.

² Watson and Glaser, p. 6.

objectives of these programs.\textsuperscript{1} Construct validity of the Critical Thinking Appraisal has been established in instructional settings. Students in upper division college courses performed at higher levels on the Critical Thinking Appraisal than did lower division students.\textsuperscript{2}

**Professional Socialization**

Professional socialization was operationally defined as the score on the Nurses' Professional Orientation Scale. The NPOS was developed in 1974 by Crocker and Brodie to assess student nurses' views of the professional nursing role. The authors state that the primary objective was "to construct a homogeneous scale which could measure the congruence between student nurses' perceptions and faculty views of the professional nursing role."\textsuperscript{3}

A pool of 112 items describing a behavior frequently displayed by nurses in their work roles was initially given to ninety-four nursing faculty members from three participating universities. Scoring weights were assigned by determining the proportion of the faculty that endorsed a particular response. This proportion was rounded to the

\textsuperscript{1}Watson and Glaser, p. 10.


\textsuperscript{3}Crocker and Brodie, p. 233.
nearest 10 percent and this weight was assigned to that response.\(^1\) For example, if a student selected an item that 90 percent of the faculty selected, the score was nine for that item. If a student selected an item that 20 percent of the faculty selected, then the score was two for that item. A high score could only be achieved if the students selected items rated high by the faculty.

The tool was then given to 448 students randomly divided into two groups. An item-analysis, cross-validation design was used to test each item. If a significant positive correlation (.05) between class rank and item score was found, the item was retained. Sixty items were retained for use in the final scale based on 244 students. The second group of 244 students was used to test the reliability and validity of the scale. The validity was tested by computing means and standard deviations of freshman, sophomore, junior and senior students. Each class mean was progressively higher than that of the class below.\(^2\)

The reliability of the NPOS was computed by using responses of the cross-validation group. The internal consistency coefficient of this scale computed with the generalized coefficient alpha formula was \(r = .89\).

Following the work by Crocker and Brodie, Boss updated

\(^1\)Crocker and Brodie, p. 233.
\(^2\)Crocker and Brodie, p. 234.
the scoring scheme in 1979.¹ Nursing faculty from National League for Nursing accredited diploma, associate and baccalaureate degree programs were tested to re-assign faculty weights for the scoring of each item. The overall number of faculty was 1,038. Faculty from all three programs were used because it provided a larger sample size. When faculty groups were compared, there was no difference on total score among the faculties of the three programs.

In 1979, Lynn obtained the copyright ownership of the NPOS. She developed two new scoring schemes for the tool; however, they were not used in this study.

The NPOS is one of the most recent tools that appropriately assesses the professional socialization of nursing students. Other tools reviewed were outdated in their definitions of nursing and expectations of nurse behaviors. They did not include the expanded role of the nurse or legal definitions of nursing practice. The NPOS took into consideration these changing perceptions of the nursing role. When Boss updated the tool she also found an internal consistency of .89 using a generalized coefficient alpha formula. Anastasi states that a coefficient of .90 is

¹Barbara Boss, "Revised Faculty Scoring Scheme for the Nurses' Professional Orientation Scale," (unpublished, 1979).
ideal for an attitude test. The reliability studies that were done by Boss are the most recent investigation of professional socialization of nursing students. For these reasons the NPOS was selected for use in this study.

Sample Items

The NPOS is composed of fifty-nine items describing nursing characteristics and behaviors. The subject rates these items as to importance in professional nursing practice on a five-point Likert scale ranging from undesirable to extremely important. Sample items are:

1. Quietly and obediently takes doctor's orders.
2. Has a strong loyalty to the facility in which he/she works.
3. Able to direct other people's activities.
4. Understands underlying emotional causes of patient behavior.
5. Tried to consider several alternatives before receiving a decision.
6. Is willing to function as a counselor for a patient who wants to discuss his troubles.
7. Popular with patients.
8. Takes a leadership role in local, state, or national professional organizations.

---

9. Always presents a neat appearance while on duty.

10. Understands scientific reason for patient illness.

The scale was scored using the weighted scores as developed by Crocker and Brodie and updated by Boos. The score is based on a total sum of all the weighted items and not on the individual scores of the fifty-nine items. These scores are students' perceptions of the nursing profession as evaluated by a national faculty sample. The proportion of faculty that selected a response was rounded to the nearest 10 percent and this weight was assigned to that response. For example, if a student selected a response that 90 percent of the faculty selected, then a score of nine was given to that item.

**Demographic Questionnaire**

The third tool for this study was a demographic questionnaire (Appendix A). It was adapted from other studies reviewed.\(^1\) The demographic questionnaire was used to gather information regarding the variables of age, sex, marital status, number of children, socioeconomic status, educational background, work experience of the students and their future goals in nursing. Socioeconomic status was determined by the highest educational achievement and

\(^1\)Judith Bell, "Professional Role Socialization of the Student Nurse," Diss., Univ. of Nebraska, 1981, p. 152; Jones, pp. 135-38; Warner and Jones, pp. 185-89.
occupation of the parents of the sample students.\textsuperscript{1} The parents' occupations were then categorized into two groups—health related and non-health related. The Dictionary of Occupational Titles was used to determine entry into the two groups.\textsuperscript{2}

The demographic variables chosen were based on the literature review. Other authors have found that these characteristics may affect the process of professional socialization. Another reason for use of a demographic questionnaire is that there are several differences in the students of the two programs. Many of the associate degree students are older, married and have children. The baccalaureate students may have other college degrees or advanced courses in areas other than nursing.

**Method of Data Collection**

Permission was obtained from Lynn to use the NPOS with certain restrictions. These restrictions included: (1) the NPOS may not be published in any project report, thesis or dissertation in complete or abridged form, and (2) copyright must be honored (Appendix B). Permission from Boss was

\textsuperscript{1}August Hollingshead and Frederick Redlick, Social Class and Mental Illness: A Community Study (New York: Wiley, 1958), pp. 387-94.

obtained to use the Nursing faculty scoring scheme (Appendix C).

Permission was also obtained from the baccalaureate program and the two associate degree programs to include their students in the study. A personal presentation regarding the purpose of the study, data collection and methodology was made to the directors of the nursing programs and/or faculty representatives. Verbal permission was received from the directors of the associate degree nursing programs and a written permission was received from the Dean of Students of the baccalaureate degree program (Appendix D).

The data was collected during the last semester of the last year of the three programs. A portion of class time was utilized for administering the questionnaire to the baccalaureate students. The associate degree students were requested to remain after class to complete the questionnaires. The students were asked to fill out a written participation form. The written form gave the following explanation:

My name is Deborah Danielson. I am conducting research designed to maintain the high quality of the nursing program and facilitate the success of its graduates. One aspect of this research is to analyze the socialization process of the nursing student. I will ask you to complete a questionnaire which will consist of the Nurses' Professional Orientation Scale and a personal data sheet. These will be given in conjunction with the Critical Thinking Appraisal.
Your confidentiality will be maintained and the scores you earn will in no way influence your academic standing. You will have an opportunity to ask questions about the study and your participation in it. You may withdraw this consent and stop participation in the study at any time. It is expected that the project will be 60 minutes in duration.

Fully understanding the foregoing information, it is my desire to participate in this project and I consent thereto.

If the students agreed, they were given the NPOS and the Demographic Questionnaire. After completing these tools they were given instructions for completing the Watson-Glaser Critical Thinking Appraisal. Following completion of the questionnaires, each student was encouraged to ask questions concerning any items on the questionnaires.

The NPOS and the Critical Thinking Appraisal were hand scored by the researcher. The information from the demographic questionnaire was categorized according to the responses. Data from the demographic questionnaire and scores from the NPOS and Critical Thinking Appraisal were entered into the computer. Data was analyzed through correlations, ANOVA, and multiple regression statistical tests. The Statistical Package for the Social Sciences provided the statistical program for the data analysis.

**Summary**

This chapter contained the research design and a description of the questionnaires used in the study. The next chapter contains the analysis of the data.
CHAPTER FOUR

Analysis of the Data

Description of Sample

The sample consisted of forty-seven students enrolled in the baccalaureate nursing program and forty-two students enrolled in the associate degree program. No modifications to the methodology described in Chapter Three were made.

All but one of the students was female. The male was a baccalaureate student. The large number of women is consistent with other nursing school applicants.

The students ranged in age from twenty to forty-three years in the baccalaureate program with a mean age of 22.9 years. The age range for the associate degree was twenty-one to fifty with a mean age of 29.5 years (Table 1).

Table 1

Age Range

<table>
<thead>
<tr>
<th>Age</th>
<th>Students in Baccalaureate Program</th>
<th>Students in Associate Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>20-34</td>
<td>21-50</td>
</tr>
<tr>
<td>Mean</td>
<td>22.9</td>
<td>29.5</td>
</tr>
<tr>
<td>Mode</td>
<td>22.0</td>
<td>21.0</td>
</tr>
</tbody>
</table>
Thirty-one (66 percent) of the baccalaureate students were single. Fifteen (31 percent) were married and one (2 percent) was divorced. None were widowed. Thirteen (31 percent) of the associate degree students were single, twenty-five (59.5 percent) were married, three (7.1 percent) were divorced and one (2.4 percent) was widowed.

There were forty-four (93.6 percent) baccalaureate students who were without children, two (4.3 percent) had one child and one (2.1 percent) had three children. There were twenty (47 percent) associate students who had no children, six (14.3 percent) had one child, seven (16.7 percent) had two children, four (9.5 percent) had three children, three (7.1 percent) had four children, one (2.4 percent) had five children and one (2.4 percent) had six children.

The educational background of the groups of students were similar. Of the forty-seven baccalaureate students, two (4.3 percent) had graduate degrees. Nine (19.1 percent) had bachelors degrees in an area other than nursing. The remaining thirty-six (76.6 percent) had some college training which meant their college preparation up to the semester in which the study took place. Thirty-six (85.7 percent) of the associate degree students had some college training while four (9.5 percent) had a bachelors degree and two (4.8 percent) had a graduate degree (Table 2).
Table 2

Past Educational Achievement

<table>
<thead>
<tr>
<th>Education</th>
<th>Baccalaureate Frequency</th>
<th>Students Percent</th>
<th>Associate Frequency</th>
<th>Students Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Degree</td>
<td>2</td>
<td>4.8</td>
<td>2</td>
<td>4.3</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>4</td>
<td>9.5</td>
<td>9</td>
<td>19.1</td>
</tr>
<tr>
<td>Some College</td>
<td>36</td>
<td>85.7</td>
<td>36</td>
<td>76.6</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100.0</td>
<td>47</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The work experience of the students was defined by whether or not the student had previous experience in a health related or non-health related field or if they had done volunteer work in a health related field. Four (8.5 percent) of the baccalaureate students had worked in a health related field. Four (8.5 percent) had worked in a non-health related field. Thirty-eight (80.9 percent) of the students had worked in both fields and one (2.1 percent) of the associate degree students had worked in a health related field while thirty (71.4 percent) had worked in both health and non-health related areas. None of the associate degree students had done volunteer work in a health related field.

The socioeconomic status was determined by the highest educational achievement and occupation of the students' parents. The occupations were then categorized as health
related or non-health related as defined by the Dictionary of Occupational Titles.

Among the baccalaureate students there were eighteen or 38 percent of the fathers earning a college degree or higher as compared to seven (16.7 percent) in the associate degree program (Table 3). There were four (8.5 percent) of the fathers in the baccalaureate program working in a health related field. None of the fathers worked in a health related field in the associate degree program (Table 4).

There were fifteen mothers (31.9 percent) in the baccalaureate program who had a college degree and five mothers (11.9 percent) in the associate degree program with a college degree (Table 3). Ten, or 21.3 percent, of the mother in the baccalaureate program worked in a health related field while only two, or 4.8 percent, of the mothers in the associate degree program worked in health related fields (Table 4).
Table 3  
Socioeconomic Status - Education of Parents

<table>
<thead>
<tr>
<th>Education</th>
<th>Baccalaureate Frequency</th>
<th>Students Percent</th>
<th>Associate Frequency</th>
<th>Students Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Father</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>8</td>
<td>17.8</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>10</td>
<td>21.3</td>
<td>3</td>
<td>7.1</td>
</tr>
<tr>
<td>Some College</td>
<td>5</td>
<td>10.6</td>
<td>3</td>
<td>7.1</td>
</tr>
<tr>
<td>High School</td>
<td>19</td>
<td>40.4</td>
<td>16</td>
<td>38.1</td>
</tr>
<tr>
<td>Some High School</td>
<td>3</td>
<td>6.4</td>
<td>7</td>
<td>16.7</td>
</tr>
<tr>
<td>Junior High</td>
<td>2</td>
<td>4.3</td>
<td>7</td>
<td>16.7</td>
</tr>
<tr>
<td>Less Than Junior High</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>47</td>
<td>100.0</td>
<td>42</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Mother</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>2</td>
<td>4.3</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>13</td>
<td>27.7</td>
<td>3</td>
<td>7.1</td>
</tr>
<tr>
<td>Some College</td>
<td>14</td>
<td>29.8</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>High School</td>
<td>18</td>
<td>38.3</td>
<td>24</td>
<td>57.1</td>
</tr>
<tr>
<td>Some High School</td>
<td>0</td>
<td>0.0</td>
<td>5</td>
<td>11.9</td>
</tr>
<tr>
<td>Junior High</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
<td>7.1</td>
</tr>
<tr>
<td>Less Than Junior High</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>47</td>
<td>100.0</td>
<td>42</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 4
Socioeconomic Status - Occupation of Parents

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Baccalaureate Frequency</th>
<th>Students Percent</th>
<th>Associate Frequency</th>
<th>Students Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Related</td>
<td>4</td>
<td>8.5</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Non-Health Related</td>
<td>43</td>
<td>91.5</td>
<td>42</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
<td>42</td>
<td>100.0</td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Related</td>
<td>10</td>
<td>21.7</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Non-Health Related</td>
<td>37</td>
<td>78.7</td>
<td>40</td>
<td>95.2</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
<td>42</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Future goals in nursing was included as a variable that might influence the socialization process. The students were requested to indicate their future goal in nursing after graduation from nursing school and if they intended to further their education. Twenty-one (44.7 percent) of the baccalaureate students chose clinical nurse specialist as a future goal while thirty-one (73.8 percent) of the associate degree students chose staff nurse as their goal (Table 5). Twenty-five (53.2 percent) of the baccalaureate students stated they desired to achieve a master's degree in
nursing. Nineteen (45.2 percent) of the associate students wanted to continue their education toward a bachelor's degree (Table 6).

Table 5
Future Goals in Nursing of the Two Groups of Students

<table>
<thead>
<tr>
<th>Future Goals</th>
<th>Baccalaureate Students</th>
<th>Associate Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Staff Nurse</td>
<td>14</td>
<td>29.8</td>
</tr>
<tr>
<td>Head Nurse</td>
<td>4</td>
<td>8.5</td>
</tr>
<tr>
<td>Supervisor</td>
<td>5</td>
<td>10.6</td>
</tr>
<tr>
<td>Clinical Specialist</td>
<td>21</td>
<td>44.7</td>
</tr>
<tr>
<td>Instructor</td>
<td>3</td>
<td>6.4</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 6

Further Education Desired of the Two Groups of Students

<table>
<thead>
<tr>
<th>Further Education</th>
<th>Baccalaureate Frequency</th>
<th>Baccalaureate Percent</th>
<th>Associate Frequency</th>
<th>Associate Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student did not complete item</td>
<td>0</td>
<td>0.0</td>
<td>16</td>
<td>38.1</td>
</tr>
<tr>
<td>BSN</td>
<td>19</td>
<td>40.4</td>
<td>19</td>
<td>45.2</td>
</tr>
<tr>
<td>MA</td>
<td>25</td>
<td>53.2</td>
<td>6</td>
<td>14.3</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>4.3</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Certification</td>
<td>1</td>
<td>2.1</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>47</strong></td>
<td><strong>100.0</strong></td>
<td><strong>42</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Professional Socialization

Professional socialization, the dependent variable, was operationally defined as the score on the Nurses' Professional Orientation Scale. The tool was scored using the scoring weights from the nursing faculty scoring scheme derived by Boss. The mean score for the baccalaureate students was 208.6 with a standard deviation of 38.089. The median score was 219. The mean score for the associate degree students was 193.6 with a standard deviation of 23.2. The median score was 192.5. The baccalaureate degree students agreed more closely to the faculty sample than did the associate degree students.
Critical Thinking Ability

Critical thinking ability was viewed as a key independent variable. It was operationally defined as the score received on the Watson-Glaser Critical Thinking Appraisal, Form A. This appraisal form assesses the students' ability to perform inference, recognition of assumptions, deduction, interpretation and evaluation of argument, all of which are aspects of critical thinking. There were eighty items on the test and each item was valued at one point if answered correctly. The maximum raw score was eighty. The raw scores were converted to percentile scores from percentile norms given in the critical thinking appraisal manual. The norms used in this study were on nursing students in baccalaureate programs at universities in the Midwest. No student refused to complete the tool.

In this study the mean critical thinking appraisal score for the baccalaureate students was 47.0 with a standard deviation of 25.1. The median score was 45. The mean score for the associate students was 19.2 with a standard deviation of 22.6. The median score was 15. The baccalaureate students had a higher level of critical thinking ability than did the associate degree students.

Relationship of the Variables

The five research questions posed in Chapter One were:

1. Is there a relationship between critical thinking ability and professional socialization?
2. Is there a relationship between critical thinking ability and type of educational preparation?

3. Is there a relationship between professional socialization and type of educational preparation?

4. Is there a relationship between selected demographic variables and professional socialization?

5. Will critical thinking ability and type of educational preparation predict a greater amount of the variance in professional socialization than either variable alone?

The first question was tested by comparing the socialization scores and critical thinking appraisal scores of the two groups of students. The Pearson Correlation Coefficient between the two variables was .22586 with a significance of .0166. This analysis indicates that there is a small but definite correlation between critical thinking ability and professional socialization scores.

The second question was tested by comparing the critical thinking ability scores of the two groups of students. A comparison of the scores was made to measure the differences in critical thinking ability between the two groups. To analyze the difference between the student group scores, a t-test was conducted.

The results of this test (Table 7) indicated a highly significant difference between the critical thinking appraisal scores of the associate degree and baccalaureate
degree students at a level of less than 1 percent. The baccalaureate students' scores were significantly higher than the associate degree students' scores. This is evident from the higher group mean of baccalaureate students which is significant at a level of less than 1 percent.

Table 7

t-Test Analysis for Critical Thinking Scores of Baccalaureate and Associate Degree Students

<table>
<thead>
<tr>
<th>Baccalaureate</th>
<th>Associate</th>
<th>t-Test</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>47</td>
<td>25.1</td>
<td>19.2</td>
<td>22.6</td>
</tr>
</tbody>
</table>

The third question was tested by comparing the mean socialization scores of the two groups of students. The results of this analysis (Table 8) indicated a significant difference between the scores of the baccalaureate and associate degree students at a significance level of .0261.

Table 8

t-Test Analysis for Professional Socialization Scores of Baccalaureate and Associate Degree Students

<table>
<thead>
<tr>
<th>Baccalaureate</th>
<th>Associate</th>
<th>t-Test</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>208.6</td>
<td>38</td>
<td>193.6</td>
<td>23.2</td>
</tr>
</tbody>
</table>
The fourth question was tested using multiple regression analysis. The demographic variables educational achievement, father's education and marital status were significant at a level of .05. Father's education negatively correlated with the socialization scores. Educational achievement and marital status positively correlated with professional socialization. The students who were married and had higher levels of education achieved higher socialization scores (Table 9).

Table 9
Effects of Demographic Variables on Socialization Scores

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>R Square</th>
<th>F Score</th>
<th>Significance</th>
<th>t-Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Achievement</td>
<td>.0682</td>
<td>6.37</td>
<td>.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father's Education</td>
<td>.1058</td>
<td>5.09</td>
<td>.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td>.1316</td>
<td>4.29</td>
<td>.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother's Education</td>
<td>.1441</td>
<td>3.54</td>
<td>.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Goal in Nursing</td>
<td></td>
<td></td>
<td></td>
<td>3.58</td>
<td>.0006</td>
</tr>
<tr>
<td>Further Education</td>
<td></td>
<td></td>
<td></td>
<td>3.12</td>
<td>.0025</td>
</tr>
</tbody>
</table>

The students also were requested to indicate their future goals in nursing and further education after their
graduation from the nursing program. This data was analyzed using a t-test. The analysis indicated that the baccalaureate students had higher goals in nursing and education than the associate degree students. (Table 9).

The fifth question was studied using multiple regression analysis. In this procedure selected independent variables are entered into a regression equation with the dependent variable to determine which is explaining the most variance. In this study the dependent variable was professional socialization and the independent variables were critical thinking ability, type of nursing education program and demographic variables. The results of this analysis are presented in Table 10.

Table 10

Multiple Regression Values

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>F Score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1(^a)</td>
<td>.0510</td>
<td>4.677</td>
<td>3.3%</td>
</tr>
<tr>
<td>Step 2(^b)</td>
<td>.5531</td>
<td>4.882</td>
<td>2.9%</td>
</tr>
<tr>
<td>Step 3(^c)</td>
<td>.0692</td>
<td>3.197</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

\(^a\)Step 1 = Critical thinking appraisal scores.
\(^b\)Step 2 = Type of nursing program.
\(^c\)Step 3 = Critical thinking appraisal scores and type of nursing program.
Although the combination of critical thinking appraisal scores and type of nursing program explained only 7 percent of the variability in professional socialization, the F score was significant at the .0458 level.

All of the variables, including the demographic variables, were entered in a multiple regression analysis and ranked in predicting professional socialization. The demographic variable educational achievement was most significant at the .0134 level. The nursing program was the second most important explaining variable. Marital status was the final variable entered by this procedure with an F score of 6.15, significant at the .008 level (Table 11). None of the remaining variables satisfied the minimum criterion of significance at at least the 5 percent level to be considered in the analysis.

Table 11
Multiple Regression Values

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>F Score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1(^a)</td>
<td>.06821</td>
<td>6.36</td>
<td>.0134</td>
</tr>
<tr>
<td>Step 2(^b)</td>
<td>.13221</td>
<td>6.55</td>
<td>.0022</td>
</tr>
<tr>
<td>Step 3(^c)</td>
<td>.17837</td>
<td>6.157</td>
<td>.0008</td>
</tr>
</tbody>
</table>

\(^a\)Step 1 = Educational achievement.

\(^b\)Step 2 = Type of nursing program.

\(^c\)Step 3 = Marital status.
Discussion of Findings

The findings for each of the five questions are presented. The first question was tested by use of a Pearson Correlation Coefficient to compare socialization scores and critical thinking appraisal scores of students enrolled in a baccalaureate and associate degree nursing program. The correlation between the scores of the two groups of students indicated a small relationship between critical thinking ability and professional socialization.

The second and third question were tested by use of t-tests to compare critical thinking appraisal scores and professional socialization scores of the students enrolled in the two nursing programs. Significant differences were found between the two groups of students. The baccalaureate students had significantly higher scores on the Critical Thinking Appraisal and Nurses' Professional Orientation Scale than the associate degree students.

Of the demographic variables analyzed, only marital status, educational achievement, and father's education were found to significantly affect the socialization scores as indicated by multiple regression analysis. If the students were married their scores tended to be higher. Also, if the students had higher education beyond their nursing program, the socialization scores were higher.

Contrary to other research data found in the literature review, in this study father's education was negatively
correlated with professional socialization. Perhaps this can be explained by the fact that the more education the fathers had, the lower the students' socialization scores. It may be that the students having more highly-educated fathers do not have the idealistic role concept of a professional as do those students with less-educated fathers.

When considering both critical thinking ability and type of nursing program as predicting professional socialization, there was only a 7 percent variability in the socialization scores. There are several reasons why these two variables may not be predicting a greater amount of variance in professional socialization. The conceptual framework of this study may have been inaccurate. This is highly speculative in that there is sufficient literature to say that critical thinking ability and type of nursing education are important concepts in socialization.

It is possible that the critical thinking appraisal form did not adequately measure critical thinking ability of the nursing students in this study. There may be more effective ways to measure critical thinking ability.

The conclusions of this study are based on the responses of a small, relatively homogeneous sample of nursing students. More consideration may need to be given to the impact of a larger sample size on the variables.
CHAPTER FIVE
Summary, Conclusions and Recommendations

Summary

The purpose of this study was to investigate the relationships of critical thinking ability, demographic variables, type of nursing education program and professional socialization in the nursing student.

When students begin professional nursing programs their perceptions regarding the nursing role are often distorted. Their images of the nursing role may be based more on laymen's views or media's assessment of the nurse. But as students move through the educational curriculum, study nursing theory and interact with educators and practicing nurses, they become socialized to the role of the nurse. The students acquire the values, attitudes, knowledge and skills to assume the professional nurse role. Therefore, if the socialization process is the means whereby the normative expectations of the role set of the professional nurse are transmitted, then it behooves educators to examine the process and whether it is successful.

Professional socialization was defined as the process by which students acquired the knowledge, skills and
attitudes necessary to become a professional nurse. This process was conceptualized in the role theory framework. According to role theory, the student learns the behavior appropriate to the position in a group through interaction with others holding normative beliefs about what the role should be and which persons will be rewarded for appropriate behavior. Thus the students respond to behaviors in the way they believe their actions are being evaluated by others. The students' major task then is to learn the role of the other. The role is portrayed by faculty, practicing nurses and other students. The students are expected to incorporate these behaviors into their perception of the professional nurse role.

In this study certain variables, critical thinking ability, demographic variables and type of nursing program were viewed to influence the professional socialization of the nursing student. Critical thinking ability was defined as the composite of attitudes, knowledge and skills which include (1) attitudes of inquiry, (2) knowledge of the nature of valid inferences, abstractions, and generalizations, and (3) skills in applying the above attitudes and knowledge. Socialization involves organized thought processes which depend to a great extent on the students' critical thinking ability. The educational process is an important means by which critical thinking ability is developed and professional socialization
stimulated. Professional nursing education claims to accomplish these important tasks; therefore, it is logical to postulate that the nature of educational preparation will affect the degree of critical thinking ability and professional socialization.

A descriptive, nonexperimental design was used to investigate the problem for study. The following research questions were postulated:

1. Is there a relationship between critical thinking ability and professional socialization?

2. Is there a relationship between critical thinking ability and type of educational preparation?

3. Is there a relationship between professional socialization and type of educational preparation?

4. Is there a relationship between selected demographic variables and professional socialization?

5. Will critical thinking ability and type of educational preparation predict a greater amount of the variance in professional socialization than either variable alone?

The sample consisted of eighty-nine nursing students enrolled in either a baccalaureate nursing program or an associate degree program during the spring semester of 1984. Professional socialization was measured by the Nurses' Professional Orientation Scale. Critical thinking ability was measured by the Watson-Glaser Critical Thinking
Appraisal (Form A). A demographic questionnaire was used to collect information necessary for the analysis of the demographic variables.

Findings and Interpretations

The findings of this study showed type of nursing education to be positively correlated with professional socialization. In the multiple regression analysis the educational achievement of the student, nursing program and marital status explained the most variance among the variables entered into the equation. Low positive correlations were found between critical thinking ability and professional socialization. The baccalaureate students scored significantly higher on the Nurses' Professional Orientation Scale than the associate degree students. These results indicate that the baccalaureate students' scores more closely approximated the faculty scores than the associate degree students. As the students were exposed to the nursing curriculum and faculty role models their socialization scores became more attuned to the faculty sample scores. It would seem that the longer exposure to the curricula and faculty in the four-year program assisted the students' socialization to the professional nurse role.

In this study the baccalaureate students had higher critical thinking appraisal scores than the associate degree students. From this finding it can be concluded that curricular practices appear to influence the critical
thinking ability of nursing students in the two program types. The baccalaureate students appeared to have a better foundation in general education and problem-solving theory.

Education and critical thinking ability accounted for 7 percent of the variance in professional socialization. The demographic variables of age, marital status, number of children, past educational background, work experience in health or non-health related fields, socioeconomic status and future goals in nursing were analyzed for their influence on socialization.

The age, number of children, or work experience had no effect on the socialization scores of the students. Marital status was found to positively correlate with the socialization scores. The past educational background was found to be a significant factor in the socialization process. The more education the students had prior to their nursing education, the higher their socialization scores. Based on the findings of this study the educational level of the students is important in socializing them to the professional nurse role.

The socioeconomic status was determined by the educational level and occupation of the parents of the students. The data analysis indicated that the occupation of the parent, health or non-health related, had no influence on the students' socialization scores. Father's education was found to negatively correlate with the
socialization scores of the students.

Future goals in nursing were tested using data regarding the students' career aspirations after graduation. The analysis indicated that the baccalaureate students had higher career aspirations than did the associate degree students. The baccalaureate students indicated interest in enrolling in graduate programs and desired employment in clinical specialist positions or in nursing education. The associate degree students were satisfied to remain in staff nurse positions at their current educational level.

**Implications for Nursing**

The findings of this study are consistent with existing theory and empirical data found in the literature. In this study the baccalaureate students' socialization scores more closely approximated those of the faculty rather than the associate degree students. This finding is generally supported by the research of Davis and Oleson, Jones, and Crocker and Brodie.¹

Regarding the effect of education on the critical thinking scores, the findings of this study generally supported the findings of Frederickson and Mayer, Polifroni

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¹Davis and Oleson, pp. 8-15; Jones, pp. 135-38; Crocker and Brodie, pp. 233-35.
and Scoloveno.¹ The baccalaureate students had higher scores than did the associate degree students.

The findings of this study can be applied in the following areas: (1) curriculum development, (2) faculty utilization, and (3) student selection.

From the study it was concluded that critical thinking ability is influenced by clinical experience and course content in the nursing program. The baccalaureate students appeared to have a better foundation in general education. The conclusion in the literature that higher education contributes to problem-solving and critical thinking ability of students has been documented in this study.

Applying these findings to curriculum development can be a unique opportunity for nurse educators. Nursing instructors need to emphasize critical thinking in classes by providing stimulating problem-solving experiences to students and encouraging questioning by the students. The students should be rewarded for displaying critical thinking behaviors as they are a necessary quality for today's nurses.

Clinical experiences that utilize faculty as role models should be developed. The nursing faculty need to evaluate how they present the nursing role to students so as

¹Frederickson and Mayer, pp. 1167-69; Polifroni, p. 1395-B; Scoloveno, p. 1396-B.
not to perpetuate reality shock in the nursing graduate. The nursing faculty must find a way to create a nursing curriculum that teaches students how to be professional and cope with the changes of the real world of nursing.

Many nurses leave nursing after a short time period. One reason for this attrition may be that the nurses have ineffective problem-solving skills and therefore experience stress in daily nursing practice. The enhancement of critical thinking ability and clinical problem-solving skills of students may reduce this stress.

The findings of this study can also be applied to the student selection process. The students with previous college educations should be considered as desirable applicants to nursing programs. Their past educational experience has contributed to the socialization process and may allow for easier transition to the nurse role.

Knowledge of a student's critical thinking ability may assist in identifying those students who may have difficulty in the nursing program. To predict these students, educators must know what factors including individual attributes such as critical thinking that are associated with success or failure in the educational program.

Nurse educators need to assess all aspects of curricula and socialization processes to ensure that students understand the professional role and have the knowledge and skills to work together to plan, implement and evaluate
patient care to ensure cost-effective, quality health care delivery.

Recommendations for Further Study

This study has served the purpose of posing associations between certain variables and in this way may serve as a basis for further, more controlled research. Recommendations are based upon the findings as well as the recognition that this study could not consider all the variables that may be influencing professional socialization of the nursing student. Recommendations for future research include:

1. A longitudinal study of the same groups of students needs to be conducted to determine if socialization changes during the educational process.

2. More investigation with demographic variables should be done to predict which students have the most difficulty with socialization and plan the curriculum and teaching modalities accordingly. Some of the variables to be included are methods of learning, personality attributes, and attitudes and values of the student toward nursing care.

3. It is recommended that future research be conducted on registered nurses in the work setting and the concept of socialization.

4. The concept of critical thinking ability warrants further study. It is recommended that the relationship between critical thinking ability and clinical problem-
solving ability (nursing performance) be researched.

5. Further research needs to be conducted regarding the two types of education--associate and baccalaureate degree. The knowledge base, skills and competencies of the two program types need to be differentiated.

This study seems to indicate that further investigation is needed to validate relationships that may exist with professional socialization in the nursing student. It is recognized that type of education and critical thinking are in no way the only variables that influence professional socialization. However, they do show significant associations with socialization that warrant further investigation.
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BIBLIOGRAPHY

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APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE
Demographic Questionnaire

1. Please indicate your level in nursing school.
   a. Sophomore
   b. Junior
   c. Senior

2. Please indicate your current age. ____________

3. Please indicate your sex.
   a. Male
   b. Female

4. Please indicate your marital status.
   a. Single
   b. Married
   c. Divorced
   d. Widowed

5. Please indicate the number of children you have, if any. ____________

6. Please indicate your highest educational achievement at this time.
   a. Graduate professional training
   b. Standard college or university graduation
   c. Some college training
   d. High school graduate

7. Please indicate the letter(s) that describe(s) your work experience(s). Include full- or part-time experience.
   a. Have worked in a health-related field
   b. Have worked in a nonhealth-related field
   c. Have worked in both health- and nonhealth-related fields
   d. Have done volunteer work in health-related field

8. Please indicate the letter that best describes the highest degree completed by your father.
   a. Graduate professional training
   b. Standard college or university graduation
   c. Partial college training
   d. High school graduate
   e. Partial high school
   f. Junior high school
   g. Less than seven years of school

9. What is the occupation of your father? ____________
10. Please indicate the letter that best describes the highest degree completed by your mother.
   a. Graduate professional training
   b. Standard college or university graduation
   c. Partial college training
   d. High school graduate
   e. Partial high school
   f. Junior high school
   g. Less than seven years of school

11. What is the occupation of your mother? ______________

12. Please indicate your future goal in nursing after you graduate from nursing school.
   a. Staff nurse
   b. Head nurse
   c. Supervisor
   d. Clinical specialist
   e. Nursing instructor
   f. Further education in nursing (please indicate what degree or certification you desire ______________)
APPENDIX B

LETTER OF PERMISSION TO USE NURSES' PROFESSIONAL ORIENTATION SCALE
July 25, 1983

Deborah J. Danielson
7183 S.E. 6th Avenue
Runnels, Iowa 50237

Dear Ms. Danielson:

I certainly agree with your assessment of the need to study the socialization process as it relates to current thinking and educational preparation. Further, I would be more than happy for you to use the Nurses' Professional Orientation Scale (NPOS) in your dissertation research if you agree in writing to the following conditions:

1. In recognition of the copyright of the NPOS, at the bottom of each page the following credit line must be printed: © 1982, Mary R. Lynn. All rights reserved. May not be reproduced or distributed without written permission from the copyright holder.

2. The NPOS may not be published or included in any project report, thesis, or dissertation in either complete or abridged form. You may, however, publish 10 sample items, properly credited to their source.

3. At the completion of your study you must send me a complete copy of the report of your study and preferably also a copy of your data.

4. You must score the NPOS in the manner reported by Crocker and Brodie (Journal of Applied Psychology, 1974, 59, 233-235) or negotiate with me any alterations in scoring. That is, you must use either an established scoring scheme for the NPOS, or develop one of your own in a manner exactly like that of the developers, or submit an alternate method to me for approval.

When I was at the University of Florida we were able to provide free scoring services. Currently, with our limited computer access, such services cannot be provided. I can assist you in scoring the NPOS, however, through discussion or sharing previous scoring programs with you, should such be necessary. There is no cost involved in using the NPOS.
The original reliability and validity data is reported in the Crocker and Brodie reference previously mentioned. Additional reliability/data and alternate scoring techniques were reported in my dissertation (abstract enclosed). Although the NPOS has been used in numerous dissertations, none of the investigations, to my dismay, have re-estimated the reliability.

The NPOS was a portion of Dr. Barbara Boss's dissertation research, so I will include a copy of her dissertation abstract too. Norms, per se, have not been developed for the NPOS.

Good luck in the development of your proposal. I look forward to hearing from you. Should you wish to reach me by telephone, you may call me at 601-467-5883 (direct office number), or 601-332-1396 (home). I do not mind being called at home, but I am often difficult to reach at either number.

Sincerely,

Mary R. Lynn, R.N., Ph.D.
Associate Professor
Graduate and Undergraduate Studies

MRL/kc

Encls.
APPENDIX C

LETTER OF PERMISSION TO USE NURSING FACULTY
SCORING SCHEME
Ms. Deborah Danielson, R.N., M.N.
7183 S.E. 6th Avenue
Runnels, Iowa 50237

October 17, 1982

Dear Ms. Danielson:

Enclosed you will find the Nursing Faculty Scoring Scheme. I have also enclosed the description of the sample (pages 38-40) from my dissertation should you need this information in the future.

You will notice that the scoring scheme is derived from all faculty (A.D., B.S. and Diploma). The justification for use of this particular scheme is it provides a larger sample size in view of the fact that when faculty groups were compared, there was no difference on total score among the faculties of the three educational programs. That portion of the analysis (page 46) is enclosed for your information should you need it later on. Faculty did not differ significantly when the subscales composing the NPOS were compared (pages 58, 59). Factors, II, III, IV concern the NPOS. This further supporting the use of all faculty combined to derive the scoring weights. Do not feel badly if you do not understand pages 58 and 59. I just wanted you to have evidence should someone complain about the combination of all faculty.

Also I need to point out that the scoring scheme was derived from a proportionally but randomly split sample of each of the three faculty groups. The total number of faculty was 500. The other 538 faculty were used as a cross validation sample in my dissertation.

I enclosed a copy of the title page of the dissertation, should you need that also. I should mention that the scoring scheme derivation was not part of my dissertation. It was independently derived apart from the dissertation, so should not be referenced as part of the dissertation, but as:

Boss, B.J. Revised Faculty Scoring Scheme For The Nurses' Professional Orientation Scale. Unpublished Scoring Scheme.

Best luck to you in completing your doctoral study. If I can answer any questions or be of further assistance, please contact me. I would be interested in receiving an abstract when your dissertation is complete.

Most sincerely yours,

Barbara J. Boss, R.N., Ph.D.
Associate Professor
Nursing of Adults
Graduate Studies

BJB/kc
Encls.
APPENDIX D

LETTER OF PERMISSION TO COLLECT DATA FROM GRAND VIEW COLLEGE NURSING STUDENTS
September 27, 1983

Ms. Deborah Danielson  
7183 S.E. 6th Avenue  
Runnells, Iowa 50237

Dear Ms. Danielson:

I have received your letter of September 24 relative to using Grand View College nursing students as subjects in obtaining data for your doctoral research. I see no problems in the research design you describe in your letter, and therefore you are granted permission to carry out data collection as you have proposed.

Sincerely,

Edwin D. Heusinkveld  
Dean of Students

EDM:jz