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AUTHOR Schwirian, Patricia M.; And Others
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ABSTRACT

As part of the three-phase national study to provide information to form a basis for predictions about successful nursing performance, a review was conducted of the performance of nursing school graduates at their first jobs. In March, 1976, questionnaires were mailed tc a cohort of 1975 graduates who were selected by school officials as having special ability and to a sample of graduates chosen at random. The 914 responding graduates were then asked to provide the names of their immediate superiors whc were subsequently sent questionnaires requiring them to rate the graduates on the same activities on which the graduates had evaluated themselves. Based on the responses of these twc groups, information was derived in the five fcllowing areas: (1) the relationship between the type of educaticnal program and the graduate's type of employment, and the extent of congruence in job perfcrmance appraisal by the employer and graduate; (2) variables which influence choice cf a particular educational program and a particular job; (3) motivational and other characteristics of graduates according to their prenursing background, present position and performance, and future aspirations; (4) extra-job professional activities of the graduates; and (5) differential perceptions of quality of basic education relative to present performance. (EIG)

Prediction of Successful Nursing Performance

PART III AND PART IV

HEALTH MANPOWER REFERENCES

DHEW Publication No. HRA 79-15

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE ■ HEALTH RESOURCES ADMINISTRATION
BUREAU OF HEALTH MANPOWER ■ DIVISION OF NURSING
HYATTSVILLE, MARYLAND 20782

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Division of Nursing project officer is Susan R. Gortner, Ph.D., Chief, Nursing Research Branch.

The authors of Part III of this publication are:

Patricia M. Schwirian, Ph.D., Project Director
Charold L. Baer, R.N., M.S.
Susan M. Basta, R.N., M.S.
Jean G. Larabee, R.N., B.S.

The authors of Part IV are:

Patricia M. Schwirian, Ph.D.
Rosemary Jones, M.S.

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FOREWORD

The determination of effective clinical performance in nursing, particularly with regard to the ability of basic professional schools to select, retain, and graduate new professionals whose level of competence is considered safe and effective by initial employers, is of vital interest to the Division of Nursing. Such a determination serves a major objective of the Division to increase the quality of nursing practice through continually improved preparation of the beginning practitioner.

In 1967 the Division supported a significant research effort that summarized the literature through 1965 dealing with student admission, selection, and retention procedures; that effort has served as a major reference on the state of the art to investigators working in the field. The first major task of the present study was to conduct a comprehensive review of the 1965-1975 literature relevant to academic and clinical selection and prediction criteria in nursing that could serve as a reference for researchers and educators, and suggest areas for future research.

The second task was to develop, test, and administer a questionnaire to a representative sample of all basic professional schools of nursing to obtain information on (1) adequacy and use of known criteria for predicting successful nursing performance; (2) alternative criteria which the schools consider to be promising; (3) operational definitions of successful and effective nursing performance; and (4) identification of a cohort of 1975 graduating students considered to be highly effective performers. These students, and a randomly selected group of non-nominated graduates of the same school, were then followed up on the job early in 1976 to determine the relative effectiveness of school prediction criteria for later performance on the job. The information provided by the 151 participating schools and the results of the literature review are reported in a Division publication entitled *Prediction of Successful Nursing Performance, Part I and Part II* (DHEW Publication No. HRA 77-27).

This publication reports the results of phase three of the study, which followed up the nurse graduates' performance on the job, and presents in a final, supplemental report, some in-depth analyses of certain portions of the data useful to the Division for policymaking.

This study was carried out by the Ohio State University Research Foundation under the able direction of Dr. Patricia Schwirian. We hope the findings from the literature review and from the survey will assist others in approaching the difficult problem of prediction.

Jessie M. Scott

JESSIE M. SCOTT
Assistant Surgeon General
Director
Division of Nursing

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To all the nurse graduate and supervisor respondents, I give my greatest thanks. In our zeal to do the best possible data collection job, my staff and I developed a questionnaire of formidable proportions, and we well realize the time, effort, and interest that all our respondents so graciously gave to our endeavor. I want to thank all of the staff and all those who served as research associates over the course of the project: Jane Heffernan, Sue Basta, Jean Larabee, Foye Shellhorn, Charold Baer, Ann Yersavich, and Rosemary Jones. I also express my appreciation to the staff of the Division of Computing Sciences of the Ohio State University College of Medicine, and to my faculty colleagues and administrators in the School of Nursing who provided much collegial support. Finally, deepest gratitude to Dr. Susan R. Gortner, our project officer, whose support, creativity, and enthusiasm was unfailing.

PATRICIA M. SCHWIRIAN, Ph.D.
Project Director
Associate Professor
School of Nursing
The Ohio State University

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Part III

EVALUATION AND PREDICTION OF THE PERFORMANCE OF RECENT NURSE GRADUATES

I. BACKGROUND AND SCOPE OF THE TOTAL STUDY

Nurses constitute one of the largest single groups of practicing professionals in the health care delivery system. Moreover, they bear the primary responsibility for the direct care of clients in almost all health subsytems. Therefore, the assurance of the highest possible quality of preparation and performance for members of this vital health profession is essential. The Division of Nursing of the Department of Health, Education, and Welfare, in its continuing commitment to the assurance of such quality, has conducted and supported a wide range of educational and research endeavors for nurses, nurse educators, and nurse researchers. In 1974 the Division of Nursing determined that there was a need for a national study focused on three primary goals: "(1) to reassess the state of the art on the prediction of nursing clinical performance; (2) to obtain current information from nursing educational programs about prediction criteria in use by them; and (3) to evaluate the relative merits of the schools' predictive criteria through the review of the actual performance of graduates of these schools in the first job after graduation."[1] Subsequently, a contract was issued by the Division of Nursing, and it was awarded to the Ohio State University Research Foundation for execution of the study, Prediction of Successful Nursing Performance. This research effort was initiated in June 1974 and was conducted in three general phases corresponding to the three primary goals of the Division of Nursing contract.

Phase 1 of the study was a comprehensive critical review of the 1965-1975 research literature related to the identification and utilization of predictors of nursing success. "Prediction of Successful Nursing Performance, Part I: A Review of Research Related to the Prediction of Successful Nursing Performance, 1965-1975," is a summary of the major findings and trends in the reviewed literature. The report also includes an extensive annotated bibliography and recommendations for future research efforts of potential promise.

Phase 2 of the study was the development and administration of a mailed questionnaire to a stratified random sample of 10 percent of all State-accredited basic professional schools of nursing in the United States. These data provided information on: (1) the adequacy and use of known criteria for predicting successful performance in nursing school; (2) alternative predictive criteria considered promising by the schools; (3) the operational definitions of "a successful nurse" and of "effective nursing performance"; and (4) a cohort of students who graduated in spring 1975, who were considered by their school administrators and/or faculty to have the most potential for being successful in nursing practice. The description and analysis of those findings are reported in "Prediction of Successful Nursing Performance, Part II: Admission Practices, Evaluation Strategies and Performance Prediction Among Schools of Nursing." Both this report and the report of Phase 1 are published in one volume by the Division of Nursing under the title: *Prediction of Successful Nursing Performance. Part I and Part II.* (DHEW Publication No. HRA 77-27).

Phase 3 of the study was the development and administration of mailed questionnaires to the spring 1975 graduates who had been selected by the schools which had participated in phase 2. The sample of 1975 nurse graduates who were identified as potential respondents for phase 3 were selected in two ways: (1) nomination by their school administration/faculty as "promising" and "most promising" among the graduates; and (2) random selection by the research project staff from the entire list of graduates of each school's spring 1975 graduating class. The goal of phase 3 was to ascertain the relative success of the selected nurse graduates. Success was ascertained via self-appraisals provided by the nurse graduates and performance appraisals provided by the graduates' immediate superiors. The major

[1] U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Nursing. "SF 83 Supporting Statement: Prediction of Successful Nursing Performance" (Washington, D.C.), p. 2.

sources of input for the development of the graduate and employer questionnaires were from the literature review done in phase 1 and from the responses of the participating schools of nursing in phase 2 of the study.

The participating nurse graduates provided extensive data regarding their basic demographic characteristics, prenursing and nursing education, employment since graduation from nursing school, professional plans and aspirations, and appraisals of their own performance as nurses. The responding graduates were asked to identify their immediate superior and give permission to ask that person to participate in the study. The participating immediate superiors provided some basic data regarding their demographic characteristics and professional backgrounds, and appraisals of the performance of the nurse graduates who had identified them as their immediate superior.

The performance appraisal data were then analyzed and compared with the "success predictions" of the 1975 nurse graduates which had been made by the schools' administrators and/or faculty in phase 2 of the study. The results, as reported here in Part III, describe the conduct and findings of the final phase (phase 3) of the study.

In March 1977 a report of the general findings of the study (particularly those from phase 3) were presented by the Project Director to members of the Division of Nursing staff and several invited nurse administrators and educators from the Washington, D.C. area. In a smaller meeting following that presentation, it was determined that the Division—for purposes of policy planning—needed some in-depth analyses of certain portions of the data which had been gathered and described as part of the original scope of work of the contract. Subsequently a supplemental agreement was developed describing the modified scope of work which would encompass the conduct of the secondary analysis required to meet the information requirements of the Division. The results of that analysis are presented here as Part IV.

The purpose of this last report is to address five question areas of interest to the Division. We wished to determine:

1. the relationship between the type of educational program and the utilization of the graduate on the job, and the extent of congruence in job performance appraisal by employer and newly employed graduates;
2. variables which influence choice of a particular educational program and a particular job;
3. motivational and other characteristics of graduates according to their prenursing perceptions and background, their present position and performance, and their future professional educational and employment aspirations;
4. the extra-job professional activities among recent graduates, and the relationship of such activities with prediction categories; and
5. differential perceptions of quality of basic education relative to present performance.

II. THE NURSE GRADUATES

Response Rates of Nurse Graduate Sample

The data in tables 1-4[1] show the distribution of response rates among the sampled nurse graduates according to four stratifying characteristics: type of nursing program from which they graduated, geographic region, nomination status, and type of financial support for the school from which they graduated.

A total of 914 nurse graduates returned usable questionnaires, producing an overall response rate of 30.4 percent. There were significant differences in response rates according to school type, region, and nomination status, but no difference by type of financing; graduates from associate degree programs had a significantly lower rate of response than either diploma or baccalaureate nurse graduates. Higher percentages of responses were obtained from the West and Midwest than from the North Atlantic and South regions. (See list of regions below.) The response rate was highest among those graduates who had been nominated by the administrators/faculty of their schools as most promising (35 percent); it was somewhat lower among those who had been nominated as promising (31 percent); and it was the lowest (26 percent) among those who had not been nominated by their schools but had been randomly selected by the project staff from the schools' 1975 graduate class lists. Henceforth these groups will be referred to as most promising, promising, and nonselected.

Regions as Defined by the National League for Nursing

Region I, North Atlantic

Connecticut	Massachusetts	Pennsylvania
Delaware	New Hampshire	Rhode Island
District of Columbia	New Jersey	Vermont
Maine	New York	

Region II, Midwest

Illinois	Michigan	North Dakota
Indiana	Minnesota	Ohio
Iowa	Missouri	South Dakota
Kansas	Nebraska	Wisconsin

Region III, South

Alabama	Louisiana	South Carolina
Arkansas	Maryland	Tennessee
Canal Zone	Mississippi	Texas
Florida	North Carolina	Virgin Islands
Georgia	Oklahoma	Virginia
Kentucky	Puerto Rico	West Virginia

Region IV, West

Alaska	Guam	New Mexico
American Samoa	Hawaii	Oregon
Arizona	Idaho	Utah
California	Montana	Washington
Colorado	Nevada	Wyoming

[1] See tables in section V.

Demographic Characteristics of Responding Nurse Graduates

The data in tables 5-9 describe the basic demographic characteristics of the sample of 1975 graduates from the 151 basic schools of nursing in the United States which participated in the study. The group of graduates was overwhelmingly female (92 percent, table 5) and between 21 and 25 years of age (75 percent, table 6). About half were married and half were single (table 7); more than three-fourths had no children (table 8). More than 95 percent of the respondents were white, and 3 percent were black (table 9).

In order to determine the general nature of the graduates' socioeconomic backgrounds, they were asked to describe the occupation and education of their parents and their spouses (tables 10-15). Table 10 data show that more than half of the graduates' mothers were homemakers when the respondent attended high school. Of those mothers who were employed outside the home most held positions in the clerical occupations (13 percent) or semiskilled and unskilled labor (10 percent). Only about 5 percent were engaged in health professions — including nursing. Likewise, table 11 data indicate that very few of the respondents' fathers were employed as health professionals (<5 percent). The largest single occupational group was proprietor/manager/supervisor (19 percent), followed by semiskilled or unskilled labor (17 percent), skilled labor (14 percent), and non-health professionals (12 percent). As shown in table 13, the modal level of educational achievement among the respondents' mothers was graduation from high school (35 percent); another 30 percent of the mothers had taken some work beyond high school and about 10 percent had earned a baccalaureate degree or higher. For fathers (table 14) the modal educational level was graduation from high school (27 percent); about 2 percent of the fathers had taken post-high school work; and over 22 percent had earned baccalaureate degrees or higher. In general, both the occupational and educational status of the respondents' fathers were somewhat higher than those of their mothers.

Tables 12 and 15 show that, for those 434 nurse graduates who were married, the indicators of socioeconomic status for their spouses are considerably higher than for their parents. The largest single occupational group among spouses (table 12) was the non-health professionals (18 percent). The categories of skilled labor, proprietor/manager/supervisor, and student each had about 11 percent. The modal educational level among spouses (table 15) was the baccalaureate degree (31 percent); another 37 percent of the spouses had taken work beyond the high school diploma; and more than 13 percent held degrees beyond the baccalaureate level.

Educational Background and Performance of Nurse Graduates

Important elements which nursing students or graduates bring to their nursing education and subsequently to their nursing practice are their preceptions, skills, attitudes, and knowledge obtained during prior educational experiences. Tables 16-21 contain data related to the prenursing educational backgrounds of the nurse graduates in this study. Table 16 shows that the graduates were relatively evenly distributed in their origins from rural areas, smaller towns, and suburban areas (20 percent, 30 percent, and 34 percent, respectively). The smallest group (14 percent) came from large cities. Table 17 shows that less than one-third of the respondents had graduated in high school classes of fewer than 100, and about the same proportion had graduated in high school classes of more than 300.

Two indicators of prior academic achievement obtained from the recent nurse graduates were: rank in their high school graduating class and their final grade point average earned in nursing school. The data in table 18 show that more than three-fourths of the respondents ranked in the upper quarter of their high school graduating classes; in fact, 46 percent ranked in the top 10 percent. The data in table 19 indicate that this substantial level of academic achievement was maintained throughout nursing school since almost 75 percent of the respondents had graduated with a final cumulative grade point average (GPA) of 3.00 or better, based on a value of 4.00 for an A. Almost a third had achieved a final GPA of between 3.50 and 4.00. The interpretor of these data, however, should be reminded that, in keeping with the overall goal of the project, (to ascertain the relative success of the 1975 graduates consid-

ered by their school administrators/faculty to have the most potential for being successful in nursing practice) the sample was overloaded with those graduates nominated as promising and most promising. It should also be pointed out that by far the most often cited criterion for the nomination of the promising and most promising graduates was academic achievement in nursing school.[2]

While the majority of the respondents (63 percent) participated in continuous education through their most recently completed basic degree in nursing (e.g., high school, to college prenursing courses to baccalaureate nursing program; or high school followed immediately by entry into a diploma school of nursing) many respondents experienced a more interrupted educational pattern in terms of the completion of their highest level of nursing education. The data describing these educational patterns are shown in table 20. The "interim" educational institutions most commonly attended were colleges in which the students were enrolled in programs other than nursing programs (22 percent) and community colleges (17 percent). Almost 13 percent of the respondents had studied nursing as a major, and more than 15 percent had studied in other specific vocational areas. For almost 30 percent, the interrupted educational period was between 6 months and 2 years duration. Slightly more than 12 percent of the respondents obtained some sort of certificate or diploma before they entered their most recent nursing program, and 8 percent reported that they held academic degrees.

The last measure of achievement obtained from the responding nurse graduates was the set of performance scores on State Board Test Pool Examinations (SBTPE). While the actual purpose of these examinations is not the measurement of a graduate's academic achievement, but rather to serve as criteria whereby nurse graduates may or may not be registered to practice nursing, numerous studies have regularly shown positive significant relationships between SBTPE scores and a wide variety of other measures of prior academic achievement. The data in table 21 show the distribution of the 1975 nurse graduate respondents in three SBTPE score categories: scores of less than 400, scores of 400 through 599 and scores of 600 and higher. In the earlier nursing school phase (phase 2) of this study, the 151 participating schools were asked to provide the SBTPE scores (by categories) of their 1974 graduates. A comparison of the SBTPE data in table 21 from the sample of 1975 nurse graduates and the 1974 graduate SBTPE data obtained from the schools show that, among the 1975 graduates there were proportionately fewer in the "less than 400" category and more in the "600 or higher" category.[3] This difference, however, is consistent with our intentional "over sampling" of the graduates considered promising and most promising by their nursing faculty and/or administration. The nominations from the schools were most often based on the graduates' academic achievement in nursing school so, given the usual high positive correlation between nursing school grades and SBTPE performance, the differences between the two distributions (table 21 of this report and table 20 of the Part II report) would be expected.[4] In general, among this sample of 1975 nurse graduates approximately 5 percent obtained scores of less than 400, about 60 percent scored between 400 and 600, and approximately 35 percent obtained scores of 600 and higher.

Career Selection Decisions and Nursing School Experience

In order to develop a more complete picture of the experiences which the graduate nurses in the sample brought with them to their practice of the profession, questions included in the questionnaire sought information about their backgrounds which was not necessarily demographic nor related to prior academic performance, but nonetheless an important component of "who they were" when they became nurses. These questions, included in section III of the Graduates' Self-Appraisal questionnaire (see form in appendix B), had to do with their decisions to become nurses and some of their experiences while they were in nursing education programs.

The age at which the respondents said they decided to become nurses is the subject of the data presented in table 22. This variable has

[2] Patricia M. Schwirian, *Predictors of Successful Nursing Performance: Part I and Part II*. "Part II: Admission Practices, Evaluation Strategies and Performance Prediction Among Schools of Nursing." DHEW Publication No. HRA 77-27. Health Resources Administration, Division of Nursing, 1976.

[3] Ibid.

[4] Ibid.

been incorporated in a number of other studies of nursing students and those who intended to become nursing students. As noted in the literature review summary which was the initial phase of this project, the decision to become a nurse usually has been made at an earlier normative age than the career decisions of aspirants to other occupations.[5] The data in table 22 show that about one-quarter of the respondents decided to enter nursing even before they entered high school, almost 40 percent made this decision in high school, and more than one-third were relatively "late deciders"; i.e., more than 18 years of age. Compared to other studies that have included career decision age as a variable, the group of respondents in this study contained considerably more "late deciders" than reported by other investigators. Two alternative interpretations of these observed differences can be made: first, the prior studies focused on "beginners" or aspirants to nursing education, whereas the respondents in this study were "completers" of that process. At least one author would suggest that this observed difference was the result of a higher dropout rate among the "early deciders" because of disillusionment with "real nursing" that did not correspond to their immature over-idealized image of nursing which prompted them to make a too-early career decision; the alternative interpretation is that since the data from earlier studies were collected, more effective counseling has occurred in secondary and higher education, thereby informing students in general of a broader range of professional opportunities and resulting in their making their career decisions at a more mature phase in their lives.

The respondents were also asked to describe their reasons for choosing to enter nursing as a career. The data in table 23 show that the most common responses were to be of "service to others" and because of "personal interest and satisfaction." This relatively altruistic motivation to enter nursing has been reported by many researchers and is usually expected to be expressed by aspirants to the profession in general. Unlike the findings reported in some earlier studies, relatively few respondents (less than 10 percent) cited the influence of others as a significant motivational factor in their career choice. This could be reasonably expected in this group of respondents since the parents of relatively few of the respondents were employed in health occupations (tables 10 and 11), and parents are usually acknowledged to be the most influential contributor to a young person's career choice. More than 20 percent of the respondents cited the economic stability of the profession as a significant motivator; the appeal of the combination of marriage-family-career because of the potential flexibility of nurses' working hours was included in this motivational category.

While it was not anticipated that there would be a great deal of variability in nurse graduates' stated motivation for entering nursing, it was hypothesized that the reasons they would give for choosing the type of nursing program they attended (i.e., AD, diploma, or baccalaureate) would vary by school type. The data in table 24 show that this was the case. The graduates from associate programs were prompted almost entirely in their choice of school type by factors of the short length of program, the relatively lower cost of becoming a nurse, and the geographic proximity to their homes; less than 12 percent of the baccalaureate graduates cited these factors as major considerations in their selection of a baccalaureate program. Diploma graduates cited program quality most often as their basis for choosing that type of program (54 percent) and about a third indicated that time and cost had been important factors. The graduates from baccalaureate programs responded to this question in an entirely different way; reasons related to career advancement and opportunities were given most often (75 percent). The concerns that were classified in this group included, among others: the belief that baccalaureate graduates would probably get better jobs and advancements; that a bachelor's degree is, in itself, desirable for one who wishes to compete successfully in any job market; and the idea that eventually the baccalaureate degree in nursing will be the basic professional degree, and they wanted to be prepared for that eventuality. The only other reason for choosing a baccalaureate program which was given by any sizable number of baccalaureate graduates was the quality of the nursing program (28 percent).

Participating nurse graduates were also asked to give the reason(s) they had selected the

[5] Patricia M. Schwirian, *Predictors of Success in Nursing Performance, Part I and Part II*: "Part I: A Review of Research Related to Successful Nursing Performance, 1965-1975." DHEW Publication No. (HRA) 77-57. Health Resources Administration, Division of Nursing, 1976.

particular nursing school they attended. Reasons of expediency and geographic proximity still remained uppermost with the AD graduates, as shown in table 25, with geographic proximity being the overriding consideration (71 percent). Diploma graduates also considered nearness to home as an important factor in deciding which particular diploma school they would attend; the recommendations of others had also been an important choice factor for a quarter of the diploma graduates. It may be seen also in table 25 that, apparently, once the baccalaureate graduates made their decision to "go baccalaureate," they, too, were significantly influenced in their decision of which particular school to attend by the factors of cost and geographic proximity—29 percent and 46 percent, respectively, stated those reasons.

While it would have been impractical (if not impossible) for all of the respondents to provide open-ended narratives about their nursing education experiences, it was judged important to know what they perceived as the relative strengths and weaknesses of their preparation for nursing from the perspective of having already been in practice approximately one year. The responses to these questions were categorized and the distribution of categories of strengths and weaknesses by school type are shown in tables 26 and 27. The most marked between-school-type contrast of graduates' opinions regarding the strengths and weaknesses of their nursing preparation was in the area of clinical experience. Almost half the diploma graduates cited this as one of the strongest features of their nursing education and almost half of the graduates from AD and baccalaureate schools perceived it to be the weakest aspect of their educational experience. The most commonly cited program strength cited by AD graduates was the quality of course content (22 percent) and the baccalaureate graduates' most common responses were the broad knowledge base acquired in their programs (22 percent) and the quality of course content (18 percent). It is interesting to note that very few (less than 4 percent) of any of the schools' graduates cited leadership development as a program strength.

An inspection of the data in tables 26 and 27 shows that apparently there were very mixed opinions among the AD graduates and the baccalaureate graduates regarding the quality of course content; approximately the same percentage of respondents from both of these types of schools viewed the quality of course content as the schools' weak point, as had judged it the strong point in the preceding question. Course content was viewed as a program weakness by even more diploma graduates (36 percent); this was the only weakness mentioned by any sizable number of diploma graduates. It is also apparent that the baccalaureate graduates perceived deficiencies in their education for technical skills; 20 percent mentioned this area as a program weakness. Ten percent of the AD graduates identified technical skills as a weak preparation area while less than 3 percent of the diploma graduates did so.

When graduates were asked to give their suggestions for improvements in the nursing education program they had attended, their suggestions, as shown in table 28, displayed a high level of congruence with their perceptions of program strong points and weak points. AD and baccalaureate graduates suggested more clinical experience (47 percent and 45 percent, respectively) and about 15 percent of each of those two groups recommended improved course content. Interestingly, while more than a third of the diploma graduates (table 27) had identified course content as a program weakness, less than 6 percent (table 28) suggested its improvement when given the opportunity. A sizable proportion (approximately 15 percent) of each group was of the opinion that the programs from which they had graduated would benefit by an upgrading of the school faculty.

As a summary of the respondents' satisfaction or dissatisfaction with their nursing education institution and program, they were asked whether, if they had it to do over again, they would choose the same type of program and if they would choose the same nursing school. The data in table 29 show that about three-fourths of the respondents answered affirmatively to both questions. The patterns of satisfaction, however, differed by type of program: the highest percentage of graduates expressing satisfaction with their choice of program was among the baccalaureate graduates (95 percent); the lowest percentage was among the graduates of AD programs (64 percent). The reasons most commonly given by those students who would repeat their school program choice, if given the opportunity were: program quality and career

advancement among baccalaureate and diploma graduates, and career advancement and expediency (i.e., factors of time, money, and location) among the AD graduates. The most common reasons given by those graduates who said they would have chosen a different type of program were more limited career opportunities cited by AD and diploma graduates, and program quality which was cited by AD graduates.

It has been suggested by a number of observers and researchers (and already mentioned in this section) that the ideas of nursing which are held by young aspirants to the profession undergo a marked change as the young man or woman encounters the realities of nursing school and nursing practice. In order to examine this contention and its possible relation to the performance of recent nurse graduates, the respondents were asked what their ideas of nursing had been prior to entering nursing school, if their ideas had subsequently changed, and if so, how had they changed. The responses to these open-ended questions (section III, items 9, 10, and 11 on the Nurse Graduate Self-Appraisal Questionnaire) were classified and coded by the project staff. The tabulation of these categorized responses are included in tables 30 and 31. Almost a third of the respondents described their prenursing school images of nursing primarily in terms of being a profession, the central mission of which was service to others; almost 10 percent said they perceived nursing as a dignified profession; about 12 percent classified their image as romanticized and or idealistic. Slightly more than 5 percent reported that their idea of the nurse was that of acting as an assistant to the physician; 4 percent said they thought that nursing would be hard work; 3 percent thought it would be easy work.

Did the respondents perceive that their idea of nursing had changed since their prenursing school days? Sixty percent said they had changed; 35 percent said they had not changed, and 5 percent gave no information on the topic. In order to determine the nature of the idea changes that had occurred, the responses were classified by type of current image and whether these changes would be construed as positive, negative, or neutral in affect. The data in table 31 are presented in this format. The most commonly cited positive changes in the graduates' ideas of nursing were that they now perceived the practice of nursing in terms of nursing process constructs and the professional components of nurse functions. The most commonly mentioned negative idea change was that nursing practice has many more responsibilities and much heavier workloads than they had ever imagined before they entered the field.

It was of interest to determine the graduates' level of participation in various extracurricular experiences while they attended nursing school, so they were asked to cite their employment experiences and their participation in professionally related organizations during this period. These data are shown in tables 32 and 33. Well over two-thirds of the respondents had worked at some time during nursing school. The most common work experiences were in nursing-related jobs; 32 percent had experience as attendants, and 18 percent had worked as nursing assistants. The most common working experiences in non-health-related jobs were those in service (11.4 percent). The participation of respondents in nursing-related organizations is shown in table 33. Well over a third of the respondents had been members of the Student Nurse Association of their schools; among those participants about one-fourth had held at least one elected office in the organization.

Employment

The data in table 34 show that 84 percent of the nurse graduate respondents in this study were employed full time in nursing and another 8 percent were employed in nursing on a part-time basis, when they provided these data. What of those who were not employed in nursing? The data in table 35 show that among the 73 respondents who were not currently employed in nursing, the most common reasons given were: that they were students at the current time (32 percent), they were unable because of family responsibilities (29 percent), they were presently seeking employment (22 percent), and they were in the process of moving from their present location (18 percent).

The data obtained regarding the temporal patterns of these nurse graduates are not presented in tabular form in this report; however, in general, these respondents started working soon after graduation and have maintained relatively stable employment patterns. A majority of the new graduates (74 percent) began working at their present job within the

same year that they graduated, i.e., 1975. Almost half (49 percent) of the new graduates began working during the months of June, July, and August, with 29 percent of these during the month of June; 9 percent waited until 1976 to begin working in their present jobs and 1 percent had been working in their present jobs, prior to graduation from nursing school. This 1 percent of these graduates were probably individuals who had already obtained nursing licensure through an LPN, AD, or diploma nursing program; some of them had been in their present positions as early as 1964.

The data in tables 36, 37, and 38 describe the employing agencies, work sites, and nursing areas in which the respondents were employed. Slightly more than three-fourths of all the respondents were employed in hospitals; this actually represents 83 percent of the respondents who were employed in nursing. Among those 696 nurse graduates employed in hospitals, the data in table 37 show that more than half (57 percent) were in general care units, 23 percent worked in inpatient critical care settings (e.g., ICU or CCU), and 5 percent were employed in emergency room care areas. It is notable that more than 35 percent of these recent graduates were employed in specialized nursing care areas which tend to be high stress settings.

Respondents (hospital-employed) were also asked to describe their clinical area of nursing function. Most classified their clinical area as medical nursing, surgical nursing, or a combination thereof (21 percent, 19 percent, and 32 percent, respectively). Slightly more than 11 percent of the hospital nurses identified pediatric nursing as their clinical area; other respondents were scattered sparsely through areas of obstetrics, psychiatry, geriatrics, etc.

All respondents were asked to indicate the type of position they held. Table 39 shows that an overwhelming majority (81 percent) were staff nurses; however, almost 7 percent of the recent graduates held positions of some administrative type; i.e., head nurse, assistant head nurse, or supervisor. The working time patterns of the responding nurse graduates (table 40) showed rather equal distribution among the hospital shift patterns, and more than one-third reported that "some weekends" were part of their working schedule. Respondents were asked to indicate their annual salary in terms of the salary ranges indicated on table 41. More than 15 percent of the nurse graduates were earning less than $8,000, one-third were earning between $8,000 and $9,999; another third were earning between $10,000 and $11,999, and less than 9 percent were earning $12,000 or more.

The reasons that the nurse graduates gave for having chosen their current jobs in nursing are shown in table 42. Respondents could check as many reasons as were applicable to them. The most commonly stated reasons for their job choice were: that they felt they could benefit from the additional learning experience which the job provided (17 percent); that the job provided an opportunity to utilize their education and abilities (15 percent); that the position corresponded to their clinical area of choice (14 percent); that the job provided favorable working conditions (12 percent); and that the salary was good (9 percent).

A common concern expressed by employers of nurses is the pattern of job-changing which is usually considered disruptive to the efficient operation of their health care service. Moreover, it could be hypothesized that the wish or intent to change jobs could affect a nurse's performance. Consequently the respondents were asked to indicate their response to: "I plan to stay in my current job until I find a job . . . ." The data from that question are shown in table 43. Almost 30 percent of the respondents simply stated that they had no intention of changing jobs; this was, in fact, the most common response given by these recent nurse graduates. The job conditions most often cited as being those for which respondents would move from their current jobs were: better working hours (25 percent), a chance for advancement (21 percent), more professional independence (19 percent), working in one's clinical area of preference (19 percent), higher salary (18 percent), better working conditions (15 percent), and a better location (14 percent). It is notable that three of the top four reasons for job movement could be described as relatively professional motivations (advancement, professional independence, and area of clinical choice) rather than work setting types of reasons (e.g., salary, hours, or location).

Respondents were asked in an open-ended question to describe their "plans concerning practicing nursing in the future." Their re-

sponses were categorized and the compiled data are shown in table 44. Almost half the nurse graduates stated intentions of continuing their nursing education; 40 percent planned to continue in nursing with no significant change in practice area; and 26 percent intended to continue to practice nursing but change their practice area in some way. Only 3 percent indicated an intention to leave nursing practice permanently and 3 percent planned to leave practice temporarily.

Professional Activities and Plans

It is generally acknowledged in professions that one's basic education is only a foundation for beginning safe practice, and that one must continue his/her education in order to "keep up" with current developments and improvements in professional practice. Continued education is also one expected component of the credentialization of individuals for assuming professional positions of greater skill, leadership, and status. Therefore, it was of interest to know the activities and intentions of our nurse graduates in terms of their own continuing education efforts. Tables 45 and 46 show that while their first year's educational activities were limited, their educational intentions were admirable. About 16 percent of the respondents had earned academic credits in their first postgraduation year; of these only about a third had earned credits in nursing subject matter. Almost 17 percent of the graduates had participated in educational programs for which they earned Continuing Education Units (CEU's) and more than one-quarter (29 percent) had participated in noncredit educational programs. Almost two-thirds of the work they did for CEU's and in noncredit programs focused on nursing subject matter.

After a year in practice there was a high level of expressed interest among the respondents in continuing their education as expressed by the intent to earn additional degrees or certificates. Among the AD and diploma graduates, nearly 60 percent said they intended to continue for a baccalaureate degree in nursing, and about 15 percent of each group said they planned to obtain a nonnursing baccalaureate degree. The intent to earn a master's degree in nursing was expressed by 72 percent of the baccalaureate graduates, 15 percent of the AD graduates, and 11 percent of the diploma graduates. Baccalaureate graduates were also quite interested in the nurse practitioner programs (30 percent), and 5 percent reported that they planned to pursue a doctoral degree in nursing. The data in table 47 show the respondents' reasons for pursuing additional education; professional advancement and/or professional enrichment were given as motivating factors by 39 percent of the respondents. Only about 11 percent felt that obtaining an additional degree was actually a professional necessity, of these, 8+ percent were diploma graduates and 2+ percent were AD graduates.

Membership in professional organizations is shown in table 48. Almost 40 percent of first-year graduates held membership in at least one professional nursing organization — usually the ANA (23 percent). The level of participation was generally limited to attendance at meetings (23 percent); only 2 percent reported that they held office in any of their professional organizations. A second professional activity examined was the respondents' readership patterns of professional publications (table 49). Almost a third of the graduates read *Nursing '76* from cover to cover; half that many said they read the *American Journal of Nursing (AJN)* and *RN* from cover to cover. The more common reading pattern for the *AJN* was to read articles of interest (reported by half the respondents). *Nursing '76* was also read in this style by a sizable number of respondents (35 percent). More than 15 percent of the graduates said they read articles of interest in medical journals. Finally, the graduates were asked to describe their professional participation in terms of presentations or publications they had contributed since graduation (see table 50). Most had not made such contributions; 15 percent said they had. The reported activites were most commonly workshops (10 percent) and speeches (5 percent); articles had been written by less than 25 percent of the group.

Comparisons of Selected Variables by School Type, Geographic Region, and Nomination Status

School Type. – Table 51 shows the comparisons of graduates of AD programs, diploma programs, and baccalaureate nursing programs on 18 different variables. The AD graduate group contained more older (over 25) and younger (under 21) members, more males, more married

and formerly married respondents, and more respondents with children than the diploma and baccalaureate graduate groups. The socioeconomic status of baccalaureate graduates, both in terms of the occupation/education level of both fathers and spouses, was highest as was their academic standing in their high school graduating classes. Participating graduates from diploma schools had achieved higher SBTPE scores in the area of pediatric nursing.

Significantly more AD graduates had made their decision to enter nursing after the age of 18, and fewer AD graduates were employed full time in nursing a year after graduating. More baccalaureate nurses were employed in government facilities (usually the military) and public health. Diploma graduates had the highest rate of employment as staff nurses, and baccalaureate graduates earned the highest salaries. Baccalaureate graduates expressed the most interest in continuing their nursing education (62 percent); diploma graduates expressed the least interest (35 percent). Baccalaureate graduates reported a higher incidence of membership and participation in professional nursing organizations than did AD or diploma graduates.

Geographic Region. — Table 52 shows the comparison of 18 different variables by the geographic region in which the respondent's nursing school was located. Several demographic characteristics differed significantly by geographic region. The largest group of "under 21" respondents graduated from schools in the North Atlantic region; the largest group of "over 25" graduates came from schools in the South and West regions. The highest proportions of nonwhites (7 percent) were in the South and West. The marital status data showed that the South region had the fewest single respondents (30 percent). The data for occupation and education of respondents' fathers and spouses show significantly different regional patterns but those differences vary in such a way that one may not identify any general regional patterns regarding general socioeconomic status differences among respondents.

There were no between-region differences in the high school standing of the respondents. The respondents from the South and North Atlantic regions reported lower SBTPE scores in pediatric, obstetrical, and psychiatric nursing. The highest proportions of "late deciders" came from the South and West (43 percent and 45 percent, respectively); and the lowest proportion of full-time employment in nursing (75 percent) was observed among the respondents in the West region.

The highest proportion of respondents employed in hospitals came from the Midwest (84 percent). Graduates of schools in the West earned the highest salaries. There appeared to be little regional variation in respondents' plans to continue their nursing education or their membership and participation in professional nursing organizations.

Nomination Status. — Table 53 shows the comparison of 18 different variables by the respondent's nomination status. The only demographic characteristic on which significant differences were observed between "most promising," "promising," and "nonselected" nurse graduates was marital status 1 year after graduation. The most promising were also the "most married." Patterns of fathers' occupations also differed, but the differences formed no definable pattern.

By contrast, significant differences in indicators of academic achievement were observed in a consistent pattern. Most promising graduates reported higher high school class standing and higher SBTPE scores in all of the five test areas. The nonselected respondents had the lowest scores on these variables. More "most promising" graduates also reported having made their nursing career decisions after 18 years of age. Patterns of current employment status are generally the same, and there were no significant salary differences among the three nomination status groups.

The "most promising" and "promising" respondents expressed more interest in continuing their nursing education (56 percent) for most promising, 49 percent for promising, and 37 percent for nonselected), and they reported a consistently higher incidence of membership and participation in professional nursing organizations.

Performance of Nurse Graduates

A list of 70 nurse behaviors, developed by the project staff as a means of operationalizing and measuring nurse performance, was actually the heart of the questionnaire sent to each participant.

The responding nurse graduates were asked three questions about each of the behaviors: how often they performed the behavior in their current job (*frequency of performance*), how well they performed the behavior in their current job (*self-evaluation of performance*) and how well their nursing school had prepared them for the activity (*quality of preparation*). Each of these three areas was ranked on a 1-4 scale.

The development of the items and the subsequent data analysis applied to generate the six performance subscales are described in detail in the methodology portion (appendix A) of this report. Briefly stated, the responses from the nurse graduates and their supervisors were subjected to principal components analysis; the factor structures were very similar and therefore they were used as the basis for defining six performance subscales of varying length. This reduced the original 76 items to a condensed 52-item version. These six performance subscales are Leadership (5 items), Critical Care (7 items), Teaching/Collaboration (11 items), Planning/Evaluation (7 items), Interpersonal Relations/Communication (hereafter referred to as IPR/Communication) (12 items), and Professional Development (10 items).

The mean frequency ratings given by the nurse graduates to each item and each performance scale (except Professional Development) are shown in table 54.

The data in table 55 show the mean self-appraisal scores the graduates gave themselves on each of 42 nurse performance items; the mean scores for each of the 5 subscales are also shown. The procedure which was used to select these items as the best ones among the 66 items on the original questionnaire (see appendix B) is described in the methodology (appendix A) of this report. The graduates perceived their strongest performance areas to be Interpersonal Relation/Communication and Leadership; the area with the lowest mean self-appraisal is Teaching/Collaboration.

Tables 56, 57, and 58 show comparisons of graduates' self-appraisal of performance by school type, region, and nomination status. Table 56 shows that on all the nurse behavior performance scales except Professional Development, graduates from AD schools gave themselves lower self-ratings than respondents from either diploma or baccalaureate schools. Diploma graduates rated themselves higher in the areas of Leadership, Critical Care, and IPR/Communications. Baccalaureate graduates rated their performance in the areas of Teaching/Collaboration and Planning/Evaluation significantly higher than graduates from the two other types of schools. There were no significant differences by school type in the self-appraisals of graduates on the Professional Development scale. It is interesting to note that graduates from all three types of schools gave their highest mean performance self-appraisals in the areas of IPR/Communication and Leadership.

The data in table 57 show that there was a significant difference in self-appraisals by geographic region on only one performance scale. The nurse graduates from the North Atlantic and West regions had higher mean self-appraisal ratings on the Planning/Evaluation scale. Otherwise, there were no notable differences in the self-appraisals of graduates in the four geographic regions.

As shown in table 58, in general, the nurse graduates who were selected by their nursing school administrator/faculty as "promising" and "most promising" did not rate their performance more highly that the "nonselected" respondents from the classes. The exception was that those graduates selected as "promising" and "most promising" gave themselves selected higher self-appraisals on the Professional Development behaviors than the nonselected graduates gave themselves.

The data in table 59 show the mean rating scores that the graduates assigned to the quality of the preparation they received in their schools of nursing for performing each of the behaviors which were presented. They perceived their strongest areas of preparation to be in Planning/Evaluation and IPR/Communications ($\bar{X}$s = 3.41 and 3.38, respectively); the area of preparation which was perceived to be weakest was Critical Care ($\bar{X}$ = 2.96).

The data in tables 60, 61, and 62 show that the patterns of the responding nurse graduates' perceptions of the quality of preparation for nursing were very similar to their patterns of perceptions of the quality of their own performance a year after graduation. In fact, it should be noted here that correlation coefficients (Pearson r) between self-appraisal ratings and ratings of quality of nursing school preparation were all statistically significant ($p < .001$). The

values were: Leadership, r = 0.424; Critical Care, r = 0.426; Teaching/Collaboration, r = 0.516; Planning/Evaluation, r = 0.426; and IPR/Communication, r = 0.556. The comparison of perceived quality of preparation by school type in table 60 shows that with the exception of one area — Critical Care — graduates from AD programs gave lower mean ratings than graduates from diploma and baccalaureate schools; the baccalaureate graduates' ratings of preparation in that area were the lowest. The highest mean ratings of the quality of nursing school preparation were given by the diploma graduates on all five performance scales.

Tables 61 and 62 data show that there were no significant differences in mean nursing school preparation ratings either by geographic region or the nomination status of the responding nurse graduates.

III. THE EMPLOYERS

Introduction

In addition to the nurse graduates' self-appraisal of their on-the-job performance and other relevant variables, it was considered necessary to obtain an evaluation of the graduates' performance from an immediate superior in the employment setting. Therefore, the participating nurse graduates were asked to provide the name of the individual best able to evaluate their performance as well as the name and address of the Director of Nursing (or the equivalent, if the employer was not a hospital). The Employer Appraisal of Nurse Graduate form was sent to each director, who, in turn, was asked to pass it on for completion, to the evaluator identified by the nurse graduate.

A substantial number of the responding nurse graduates (84.7 percent) complied with the request to provide the name of their immediate superior. Therefore, 774 Employer Appraisal forms were sent to directors; of these, a total of 687 usable questionnaires were returned (88.8 percent) from the immediate superiors identified by each graduate. The individuals who provided the employer data occupied a variety of positions (e.g., head nurse, supervisor, assistant head nurse, etc.), but for the sake of brevity the evaluators will be referred to as "supervisors" in the remainder of this report even though they may not have had that specific job title.

Demographics, Education, and Employment

The data descriptive of various background characteristics of the 687 supervisor respondents to the Employer Appraisal of Nursing Graduate questionnaire are shown in tables 63-70. Since the main focus during phase 3 of this study was on the recent graduates, only very basic data were obtained about the supervisor who evaluated the graduate's performance. Like the nurse graduates, the supervisors were almost always women (96 percent), as shown in table 63. The age range of the supervisors was fairly wide; table 64 shows that more than 40 percent were less than 35 years old, 28 percent were between age 35 and 44, and 20 percent were between 45 and 54 years of age.

The basic nursing preparation of three-fourths of the supervisors had been in diploma programs (table 65), and 13 percent had received their basic nursing education in baccalaureate programs. A comparison of the data in tables 65 and 66 indicate that, of those 513 supervisor respondents whose basic preparation was in a diploma school, 97 had continued their nursing education to obtain academic degrees in nursing. At the time of the survey, 6 percent of the supervisors held master's degrees, 18 percent held a baccalaureate degree in nursing as their highest degree, and for 61 percent the diploma was the highest level of nursing education they had completed. The data in table 67 show that nearly 30 percent of the responding supervisors completed their most recent nursing education program more than 20 years ago; about 20 percent were in the 6- to 10-year category, and about 20 percent in the 11- to 20-year category; another 20 had completed their most recent program within the last 5 years.

As shown in table 68, more than 45 percent of the respondents, whom the nurse graduates had identified as the immediate superior most able to evaluate their performance, held positions of head nurse or assistant head nurse; almost 30 percent were supervisors; and 12 percent were directors of nursing or assistant directors of nursing where the nurse graduates worked. Unlike the nurse graduates whose pattern of working hours were generally "spread around" among the work shift options, the supervisors most commonly worked days (72 percent); about 8 percent each worked evenings, nights, or were on rotation. These data are shown in table 69. The data in table 70 show that over 60 percent of the supervisors had been employed in their current health care agency more than 5 years; 37 percent of these more than 10 years. Tables 71-73 show data relating to the length of time the supervisor had known and supervised the graduate, and had direct responsibility for evaluating the graduate's performance.

Supervisors' Appraisals of Nurse Graduates' Performance

Tables 74 and 75 show the supervisors' mean ratings of the frequency and quality of performance of the nurse graduates. A comparison of the mean frequency ratings for the five performance scales in table 74 indicates that supervisors gave the highest frequency ratings to items in the IPR/Communication scale ($\overline{X}$ = 4.52) and the lowest rating to behaviors in the Teaching/Collaboration scale ($\overline{X}$ = 3.53). They rated the graduates' quality of performance highest in the areas of IPR/Communication ($\overline{X}$ = 3.09), and Critical Care ($\overline{X}$ = 3.06), and performance quality lowest in the area of Teaching/Collaboration ($\overline{X}$ = 2.70).

Comparison by School Type. — The data in table 76 show that, in general, supervisors did not evaluate the performace of graduates of AD, diploma, and baccalaureate programs differently. There were significant differences on only two of six scales; in the area of Teaching/Collaboration and Planning/Evaluation the supervisors rated the performance of baccalaureate graduates higher than that of graduates from AD and diploma programs. It should be recalled that diploma graduates (table 56) rated their own performance in all areas significantly higher than did AD graduates, and baccalaureate graduates rated their performance in Teaching/Collaboration and Planning/Evaluation significantly higher than did respondents in the other two groups.

Comparisons by Geographic Region. — The comparison of supervisors' mean scale ratings of the nurse graduates' performance by geographic region is shown in table 77. On three scales (Leadership, Teaching/Collaboration, and IPR/Communication) supervisors in the South and West gave higher ratings to the graduates they evaluated. The Midwest supervisors consistently gave the lowest mean scale ratings.

Comparisons by Nomination Status. — The data in table 78 show that in all six performance scales the supervisors rated highest the performance of the graduates nominated as "most promising"; and they rated lowest the performance of the "nonselected" graduates. Moreover, on five of the six scales the differences among ratings were statistically significant at the .05 level or beyond. The data in table 79 show that when the "most promising" and "promising" respondents are combined into a single "selected" group, the differences between the scores of selected and nonselected nurse groups are significant on all six performance scales. Thus, it appears that while the nurse graduates in each of the three nomination categories did not rate their own performance differentially (table 58), their supervisors did; and the supervisor ratings corresponded to the "predictions of success" which had been made by the administrators/faculty of the nurse graduates' alma maters.

IV. SUMMARY

Background

In 1974, the Division of Nursing of the Department of Health, Education, and Welfare determined that there was a need for a national study to accomplish three major objectives: (1) to critically review the literature of the past 10 years relative to academic and clinical nursing performance; (2) to obtain current information from basic professional schools of nursing about prediction criteria in use by them; and (3) to evaluate the relative merits of these predictors for subsequent performance of the schools' graduates on the job. A request for proposals was issued and a contract subsequently was awarded to The Ohio State University Research Foundation for execution of the study, Prediction of Successful Nursing Performance. Dr. Patricia M. Schwirian, Associate Professor of Nursing, The Ohio State University, was the project director and Dr. Susan Gortner, Nursing Research Branch Chief, the project officer.

Phase 1 of the study was a comprehensive review of the 1965-1975 research literature on academic and clinical prediction and has resulted in a report entitled "Prediction of Successful Nursing Performance Part I: A Review of Research Related to Prediction of Nursing Performance, 1965-1975." This report summarizes major findings and trends, includes an extensive annotated bibliography, and contains recommendations for future research efforts.

Phases 2 and 3 were the two major data-collection phases of the study. The first data-collection phase was based on a questionnaire mailed in July 1975 to a random sample of 151 basic schools of nursing in the United States, stratified according to type of program, control, and region. Obtained in this survey were the following: use of known criteria for predicting successful nursing performance; identification of other criteria considered helpful in prediction; operational definitions of successful and effective nursing performance; and identification of a cohort of 1975 graduates considered to be promising with regard to their nursing performance. Through judgments made by the Dean or Director in consultation with the faculty, a cohort of 25 percent of the graduating class was selected. This cohort also included a "most promising" subset of graduates. In addition, responding schools provided class lists so that a 20 percent random sample of the entire 1975 graduating class could be drawn for comparison.

These selected graduates and the random sample of the entire graduating class were contacted in March 1976 by a second mailed questionnaire. This questionnaire obtained students' perceptions of the frequency and adequacy of their performance of a series of nursing activities described in the questionnaire, and their evaluation of educational preparation for these activities. The 914 responding graduates were asked to provide the names and addresses of the immediate superior in their work settings. These immediate superiors were subsequently sent questionnaires in which they also were asked to rate the new nurse graduates' performances on the same set of activities on which the graduates had evaluated themselves.

Phase Findings: Evaluation and Prediction of the Performance of Recent Nursing Graduates

- The overall response rate among selected graduates was 30.4 percent. Response rates were highest among baccalaureate and diploma graduates (33 percent and 32 percent, respectively), among graduates in the West and Midwest (34 percent and 32 percent), and among the graduates who had been nominated as most promising (35 percent). The resulting respondent group consisted of 342 AD graduates, 332 diploma graduates, and 240 baccalaureate graduates (total N = 914).
- Ninety-two percent of the graduates were female, three-fourths were between 21 and 25 years old, half were married, 76 percent had no children, 95 percent were white, and the socioeconomic background of their families was typically "middle-middle class."
- The graduates were generally a very

academically able group. Over three-fourths had graduated within the top 25 percent of their high school class and had obtained a final nursing school GPA of "B" or better.

- Almost all respondents (92 percent) were employed in nursing; 83 percent of those employed in nursing worked in hospitals.
- The most commonly given reason for choice of program by AD graduates was factors of expediency, e.g., time, cost, and location (65 percent). Diploma graduates most often cited program quality (54 percent). Baccalaureate graduates most often cited career advancement and opportunities (75 percent). Overall, 74 percent of the graduates reported they would have chosen the same type of school again, but with widely varying response between school types (95 percent for baccalaureates, 69 percent for diplomas, and 64 percent for ADs).
- The major reasons given for choosing their current jobs were that they could benefit from the additional learning experience (17 percent) and that it was an opportunity to use their education and abilities. The most commonly cited reasons for changing a job were an opportunity for better working hours, a chance for advancement, more professional independence, and the opportunity to work in their clinical area of choice.
- The future plans for practicing nursing indicated that 66 percent plan to continue their nursing education. Sixty-six percent intended to continue in nursing; only 3 percent intended to leave nursing practice permanently.
- Among the graduates employed as hospital nurses (N = 696), 57 percent worked in general care units and one-third were employed in high stress environments, such as ICU, CCU, ER, and OR.
- Comparison of characteristics by nomination status indicated no significant differences according to age, sex, race, family socioeconomic status, salary, or their employment. Those nominated as most promising graduates had obtained highest high school rank, highest State Board exam scores, and were more likely to have decided after the age of 18 to enter nursing.
- A principal components analysis of the 66 nursing behavior items on the graduate and employer questionnaires resulted in a five-subscale assessment appraisal instrument. These scales were named IPR/Communication, Leadership, Critical Care, Planning Care, and Teaching/Collaboration. The sixth scale, called Professional Development, was also used as a performance appraisal measure.
- Graduates rated their own behaviors most highly on the IPR/Communication and Leadership subscales (3.19 and 3.10, respectively, based on a rating scale of 1-4). They rated themselves lowest on the Teaching/Collaboration scale (2.64).
- Comparison by school type: AD graduates rated themselves lower than diploma and baccalaureate graduates on all six scales. Diploma graduates rated themselves higher than AD and baccalaureate graduates in Leadership, Critical Care, and IPR/Communication. Baccalaureate graduates rated themselves higher than AD and diploma graduates in Teaching/Collaboration and Planning Care.
- Supervisors of the responding graduates were also asked to evaluate the graduates' performances (N = 687). Ninety-six percent of these supervisors were female and 75 percent had received their basic preparation in nursing in diploma schools.
- Comparison of the performance ratings from the supervisors and those from the graduates showed the most notable differences in the areas of IPR/Communication, Critical Care, and Leadership. Supervisors rated graduates' performance in Critical Care higher than the graduates had rated themselves. Supervisors rated the graduates lower in the areas of IPR/Communication and, most notably, Leadership, than the graduates had rated themselves.
- Comparison of supervisors' evaluations of graduates' performance by school type showed significant differences on two of the six scales. Baccalaureate graduates were rated significantly higher on Teaching/Collaboration and Planning Care scales.
- Comparison of supervisors' evaluations by nomination status showed graduates nominated as "most promising" had the highest mean ratings on all six scales; graduates who had not been selected had the lowest

mean ratings on all six scales. Differences were statistically significant on all scales except IPR/Communication.

Secondary analysis of the data, which will serve various policy needs of the Division, were conducted during the late spring and summer of 1977. This secondary analysis constitutes phase 4 of the entire project.

V. TABLES

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Table 1. — Nurse graduate response rate by type of nursing program

Type of program	Sample	Respondents	Percent of response
Associate degree	1,248	342	27.4
Diploma	1,037	332	32.0
Baccalaureate	719	240	33.4
Totals	3,004	914	

Table 2. — Nurse graduate response rate by geographic region[1]

Region	Sample	Respondents	Percent of response
North Atlantic	818	230	28.1
Midwest	959	311	32.4
South	799	227	28.4
West	428	146	34.1
Totals	3,004	914	

[1] Response rate from total sample = 30.4 percent.
$X^2 = 8.16$
df = 3
$p < .05$

Table 3. — Nurse graduate response rate by school nomination status[1]

Nomination status	Sample	Prespond-ents	Percent of response
Most promising	923	327	35.4
Promising	981	306	31.2
Nonselected	1,100	281	25.5
Totals	3,004	914	

[1] Response rate from total sample = 30.4 percent.
$X^2 = 23.56$
df = 2
$p < .001$

Table 4. — Nurse graduate response rate by school financial support[1]

Support	Sample	Respond-ents	Percent of response
Public	1,611	472	29.3
Private	1,393	442	31.7
Totals	3,004	914	

[1] Response rate from total sample = 30.4 percent.
$x^2 = 2.08$
df = 1
p n

Table 5. Nurse graduates: distribution by sex

Sex	Number	Percent
Female	839	91.8
Male	61	06.7
No response	14	01.5
Total	914	100.0

Table 6. — Nurse graduates: distribution by age

Age	Number	Percent
Under 21 years	56	06.1
21 - 25 years	687	75.2
26 - 35 years	80	08.8
Over 35 years	82	08.9
No response	9	00.9
Total	914	[1]100.0

[1] Total may not equal 100 percent because of rounding.

Table 7. — Nurse graduates: distribution by marital status

Marital status	Number	Percent
Single	430	47.0
Married	422	46.2
Widowed	7	00.8
Separated	9	01.0
Divorced	36	03.9
No response	10	01.1
Total	914	100.0

Table 8. — Distribution by the number who have children within designated age range categories[1]

Age range of children	Number	Percent
Expecting	23	02.5
Under 6 years	84	09.2
6-12 years	98	10.7
13-18 years	73	08.0
Over 18 years	49	05.4
No response/ no children	699	76.4

[1] A graduate could have more than one response in any age range category.

Table 9. — Nurse graduates: distribution by race and ethnic origin

Race		Number	Percent
American Indian/Alaskan Native		5	00.5
Asian or Pacific Islander		4	00.4
Negro/Black		27	03.0
Hispanic	= 1		
Non-Hispanic	= 26		
Caucasian/White		871	95.3
Hispanic	= 15		
Non-Hispanic	= 856		
No response		7	00.8
Total		914	100.0

Table 10. — Nurse graduates: distribution by spouse's occupation

Spouse's occupation	Number	Percent
Nurse/physician	24	5.5
Other health professionals	11	2.5
Other professionals	79	18.2
Technical occupations	35	8.1
Farmer	16	3.7
Proprietor/manager/supervisor	46	10.6
Skilled labor	48	11.0
Semi or unskilled labor	34	7.8
Clerical occupations	18	4.1
Sales occupations	20	4.6
Public service/military	37	8.5
Student	47	10.8
Homemaker	9	2.1
Unemployed	6	1.2
Retired	2	.5
Deceased	2	.5
Total	434	100.0

Table 11. — Nurse graduates: distribution by mother's occupation while respondent was attending high school

Mother's occupation	Number	Percent
Nurse/physician	41	4.5
Other health professionals	3	.3
Other professionals	51	5.6
Technical occupations	43	4.7
Manager/supervisor/proprietor	16	1.7
Skilled labor	19	2.1
Semi and unskilled labor	88	9.6
Clerical occupations	123	13.4
Sales occupations	11	1.2
Public service/military	7	.8
Student	3	.3
Homemaker	474	51.8
Unemployed	0	-
Retired	0	-
Deceased	14	1.5
No response	21	2.3
Total	914	100.0

Table 12. — Nurse graduates: distribution by father's occupation while the respondent was attending high school

Father's occupation	Number	Percent
Physician/nurse	26	2.8
Other health professionals	15	1.6
Other professionals	106	11.6
Technical occupations	37	4.0
Farmer	85	9.3
Proprietor/manager/supervisor	177	19.4
Skilled labor	128	14.0
Semi or unskilled labor	151	16.5
Clerical occupations	19	2.1
Sales occupations	46	5.0
Public/military service	59	6.4
Student	0	-
Unemployed	7	.8
Retired	5	.5
Deceased	29	3.2
No response	24	2.6
Total	914	100.0

Table 13. — Nurse graduates: distribution by mother's highest level of education

Mother's highest level of education	Number	Percent
Elementary school	81	08.9
Some high school	125	13.7
High school graduate	323	35.3
Post-high school studies (no certificate or diploma)	150	16.4
Post-high school certificate, diploma, or associate degree	124	13.6
Baccalaureate degree	78	08.5
Master's degree	16	01.8
Doctoral degree	0	-
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	3	00.3
No response	14	01.5
Total	914	100.0

Table 14. — Nurse graduates: distribution by father's highest level of education

Father's highest level of education	Number	Percent
Elementary school	128	14.0
Some high school	143	15.6
High school graduate	249	27.2
Post-high school studies (no certificate or diploma)	130	14.2
Post high school certificate, diploma, or associate degree	52	05.7
Baccalaureate degree	98	10.7

Table 14. — Nurse graduates: distribution by father's highest level of education — Continued

Father's highest level of education	Number	Percent
Master's degree	41	04.5
Doctoral degree	5	00.5
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	54	05.9
No response	14	01.5
Total	914	[1]100.0

[1] Total may not equal 100 percent because of rounding.

Table 15. — Nurse graduates: distribution by spouse's highest level of education

Spouse's highest level of education	Number	Percent
Elementary school	5	1.1
Some high school	10	2.3
High school graduate	66	15.0
Post-high school studies (no certificate or diploma)	89	20.2
Post-high school certificate, diploma, or associate degree	73	16.6
Baccalaureate degree	138	31.4
Master's degree	36	8.2
Doctoral degree	4	.9
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	19	4.3
	440	100.0

Table 16. — Nurse graduates: distribution by type of community of residence while attending high school

Community type	Number	Percent
Rural or farm	183	20.0
Town or small city (not near large city)	271	29.6
Suburban area (near a large city)	312	34.1
Large city	129	14.1
No response	19	02.1
Total	914	[1]100.0

[1] Total may not equal 100 percent because of rounding.

Table 17. — Nurse graduates: distribution by size of high school graduating class

High school class size	Number	Percent
Under 50	98	10.7
50 - 100	181	19.8
100 - 300	330	36.1
Over 300	286	31.3
No response	19	02.1
Total	914	100.0

Table 18. — Nurse graduates: distribution by rank in high school graduating class

High school class rank	Number	Percent
In the upper 10 percent	420	45.9
In the upper 25 percent	287	31.4
In the upper 50 percent	145	15.9
In the lower 50 percent	32	03.5
No response	30	03.3
Total	914	100.0

Table 19. — Nurse graduates: distribution by final nursing school grade point average (based on A = 4.0, B = 3.0, C = 2.0)

Final nursing school grade point average	Number	Percent
2.00 - 2.49	33	03.6
2.50 - 2.99	146	16.0
3.00 - 3.49	372	40.7
3.50 - 4.00	297	32.5
No response	66	07.2
Total	914	100.0

Table 20. — Nurse graduates: distribution by post-high school education or training prior to their highest level of nursing education

Components of post-high school education	Number	Percent
Post-high school education:		
No	576	63.0
Yes	[1]338	36.9
Type of institution attended:		
College	198	21.6
Community college	152	16.6
Hospital	45	4.9
Other	17	1.8
Major studied:		
Nursing	115	12.5
AD = 2		
Diploma = 28		
Nonspecified = 26		
LPNs = 59		
Technical: Health (e.g., X-ray, laboratory, O.R.)	32	3.5
Technical: Non-health (e.g., beautician, barber, secretary, etc.)	27	2.9
Specific educational vocational courses (e.g., psychology, education, music)	143	15.6
General courses	90	9.8
Other	3	.3
Duration of post-high school education:		
Less than 1 month up to 6 months	58	6.3
Over 6 months up to 1 year	151	16.5
Over 1 year up to 2 years	117	12.8
Over 2 years up to 3 years	36	3.9
Over 3 years	43	4.7

Table 20. — Nurse graduates: distribution by post-high school education or training prior to their highest level of nursing education — Continued

Components of post-high school education	Number	Percent
Diploma, certificate, or degree earned:		
No certificate earned	218	23.8
Certificate/diploma	112	12.2
Degree	72	7.8
Other	4	.4

[1] Of these 338, there were 75 graduates who attended more than 1 institution or type of educational program post-high school.

Table 21. — Nurse graduates: distribution by performance in three score categories on State Board Test Pool Examinations

SBTP Examination	Less than 400 scores		400 through 599 scores		600 or higher scores		Total
	No.	Percent	No.	Percent	No.	Percent	No.
Medical	34	4.4	432	56.0	306	39.6	772
Surgical	31	4.0	444	57.5	297	38.5	772
Obstetrics	41	5.3	457	59.0	276	35.7	774
Pediatrics	39	5.0	461	59.6	273	35.3	773
Psychiatric	43	5.6	473	61.3	255	33.1	771

Table 22. — Nurse graduates: distribution by age at which they decided to become a nurse

Age decided to become a nurse	Number	Percent
Under 10 years	149	16.3
10-13 years	94	10.3
14-15 years	112	12.2
16-17 years	228	24.9
Over 18 years	326	35.7
No response	5	00.5
Total	914	[1]100.0

[1] Total may not equal 100 percent because of rounding.

Table 23. — Nurse graduates: distribution by reasons for entering nursing, in order of decreasing frequency

Reason for entering nursing	Number	Percent
Service to others	442	48.3
Personal interest/satisfaction	414	45.2
Economic stability of the profession	195	21.3
Substitute for medicine	96	10.5
Influence of others	79	08.6
Prior experience in health field	66	07.2
Interest in science	40	04.3
Religious motivation	20	02.1
Expediency (time, cost, and available facilities)	12	01.3

[1] The graduates were not limited to a single response.

Table 24. — Nurse graduates: distribution by their reasons for choosing the type of nursing programs they attended[1]

Reason for choice of type of nursing program	Associate degree (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Expediency (time and cost factors)	222	64.9	109	32.8	20	8.3	351	38.4
Geographic location	118	34.5	25	7.5	8	3.3	151	16.5
Recommendation of others	10	2.9	33	9.9	13	5.4	56	06.1
Quality of nursing program	34	9.9	178	53.6	68	28.3	280	30.6
Career advancement	16	4.7	3	0.9	179	74.6	198	21.6
Personal	33	9.6	60	18.1	43	17.9	136	14.8
Other	1	0.3	1	0.3	5	2.1	7	0.7

[1] The graduates were not limited to a single response.

Table 25. — Nurse graduates: distribution by their reasons for choosing the particular nursing school they attended[1]

Reason for choice of particular nursing school	Associate Degree (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Expediency (time and cost factors)	109	31.9	62	18.7	69	28.8	240	26.2
Geographic location	242	70.8	133	40.1	110	45.8	485	53.1
Recommendation of others	38	11.1	85	25.6	36	15.0	159	17.4
Quality of nursing program	31	09.1	107	32.2	52	21.7	190	20.1
Career advancement	0	0	1	0.3	24	10.0	25	02.7
Personal	23	06.7	24	07.2	25	10.4	72	07.8
Other	4	01.2	1	0.3	5	02.1	10	01.0

[1] The graduates were not limited to a single response.

Table 26. — Nurse graduates: distribution by opinions regarding the greatest strength of their nursing preparation, by school type[1]

Greatest strength of nursing preparation	Associate degree (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Clinical experience	35	10.2	154	46.4	10	4.2	199	21.8
Technical skills	15	4.4	12	3.6	0	0	27	02.9
Faculty	42	12.3	28	8.4	20	8.3	90	09.8
Teaching methods	32	9.3	14	4.2	10	4.2	56	6.1
Course content	75	21.9	52	15.7	44	18.3	171	18.7
Communication/IPR skills	15	4.4	11	3.3	11	4.6	37	04.0
Psychological orientation	16	4.7	6	1.8	24	10.0	46	05.0
Total patient orientation	35	10.2	28	8.4	31	12.9	94	10.3
Responsibility/confidence development	27	7.9	117	5.1	25	10.4	69	07.5
Leadership development	2	0.6	11	3.3	9	3.7	22	02.4
Individualism	7	2.0	7	2.1	14	5.8	28	03.1
Broad knowledge base	32	9.3	20	6.0	53	22.0	105	11.5
Professionalism/ethics	5	1.5	5	1.5	11	04.6	21	02.3
Other	15	04.4	6	1.8	7	02.9	28	3.1
No strengths	4	01.2	1	0.3	2	0.8	7	0.7

[1] The graduates were not limited to a single response.

Table 27. — Nurse graduates: distribution of opinions regarding the greatest weakness of their nursing preparation, by school type[1]

Greatest weakness of nursing preparation[2]	Associate degree (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Clinical experience	160	46.8	26	07.8	111	46.2	297	32.4
Technical skills	35	10.2	8	02.4	48	20.0	91	09.9
Faculty	25	07.3	22	06.6	8	03.3	55	06.0
Teaching methods	17	04.9	23	06.9	13	05.4	53	05.7
Course content	72	21.0	121	36.4	43	17.9	236	25.8
Communication/IPR skills	0	-	0	-	0	-	0	-
Psychological orientation	1	0.3	6	01.8	0	-	7	0.7
Total patient orientation	1	0.3	0	-	0	-	1	0.1
Responsibility/confidence development	1	0.3	17	05.1	1	0.4	19	02.0
Leadership development	17	04.9	14	04.2	8	03.3	39	04.2
Individualism	0	-	2	0.6	1	0.4	3	0.3
Knowledge base narrow	1	0.3	15	04.5	0	-	16	01.7
Knowledge base superficial	20	05.8	8	02.4	3	01.2	31	03.3
Social interaction	0	-	5	01.5	0	-	5	0.5
Professionalism/ethics	1	0.3	0	-	0	-	1	0.1
Credit for college	0	-	20	06.0	0	-	20	02.1
Other	9	02.6	15	04.5	11	04.5	35	03.8
No weaknesses	0	-	12	03.6	1	0.4	13	01.4

[1] The graduates were not limited to a single response.
[2] Described as limited, insufficient, or inadequate.

Table 28 — Nurse graduates: distribution by opinions regarding suggested improvements for their nursing school preparation, by school type

Suggested improvements for nursing school preparation	Associate degree (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
More clinical experience	160	46.8	26	7.8	107	44.6	293	32.0
Technical skills	13	3.8	2	0.6	17	7.1	32	3.5
More and better faculty	45	13.1	47	14.1	37	15.4	129	14.1
More effective teaching methods	34	9.9	19	5.7	15	6.2	68	7.4
Expanded course content	43	12.6	60	18.0	39	16.2	142	15.5
More program flexibility	5	1.5	9	2.7	3	1.2	17	1.8
Practical nursing	12	3.5	0	-	2	0.8	14	1.5
Total patient orientation	0	-	2	0.6	1	0.4	3	0.3
Instill more responsibility/confidence	3	0.8	9	2.7	1	0.4	13	1.4
More leadership content	12	3.5	10	3.0	5	2.1	27	2.9
Wider range of experiences	4	1.2	12	3.6	0	-	16	1.7
More realistic orientation	2	0.6	5	1.5	3	1.2	10	1.1
College credit	0	-	15	4.5	0	-	15	1.6
Other	7	2.0	17	5.1	14	5.8	38	4.1
No improvements needed	2	0.6	8	2.4	2	0.8	12	1.3

Table 29. — Nurse graduates: distribution by decision to choose same nursing school and same type of nursing program

Applicant's choice	A.D. (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Same school								
No	96	28.0	65	19.5	33	13.7	194	21.2
Yes	234	68.4	262	78.9	196	81.6	692	75.7
No response	12	3.5	5	1.5	11	4.5	28	3.0
Same program								
No	109	31.8	91	27.4	7	2.9	207	22.6
Yes	220	64.3	228	68.6	228	95.0	676	73.9
No response	13	3.8	13	3.9	5	2.0	31	3.3

Table 30. — Nurse graduates: distribution by ideas of nursing prior to nursing school

Idea prior to nursing school	AD (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Service to others	99	28.9	119	35.8	59	24.6	277	30.3
Dignified profession	35	10.2	18	5.4	23	9.6	76	8.3
Romantic ideal	26	7.6	34	10.2	18	7.5	78	8.5
Realistic	40	11.7	18	5.4	9	3.7	67	7.3
Hard work	21	6.1	11	3.3	8	3.3	40	4.4
Physician's assistant	10	2.9	17	5.1	22	9.2	49	5.4
Easy work	7	2.0	8	2.4	8	3.3	23	2.5
Limited professional scope	6	1.7	13	3.9	19	7.9	38	4.2
No idea	26	7.6	34	10.2	30	12.5	90	9.8
Idealistic	12	3.5	14	4.2	10	4.2	36	3.9
Economic security	3	.8	4	1.2	3	1.2	10	1.1
Other	16	4.7	13	3.9	5	2.1	34	3.7
No response	41	12.0	29	8.7	26	10.8	96	10.5

Table 31 — Nurse graduates: distribution by current idea of nursing[1]

	Positive Change						Neutral Change						Negative change							
	AD (N=342)		Diploma (N=332)		Baccalaureate (N=240)		AD (N=342)		Diploma (N=332)		Baccalaureate (N=240)		AD (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Nursing process	13	3.8	24	7.2	55	22.9	1	.3	4	1.2	-	-	9	2.6	4	1.2	2	.8	112	12.2
Responsibilities (work load)	7	2.0	11	3.3	9	3.7	21	6.1	22	6.6	12	5.0	36	10.5	41	12.3	13	5.4	172	18.8
Realistic components	-	-	5	1.5	1	.4	13	3.8	18	5.4	11	4.6	4	1.2	2	.6	1	.4	55	6.0
Romantic image	-	-	-	-	-	-	-	-	-	-	-	-	5	1.5	12	3.6	4	1.7	21	2.3
Professional components	13	3.8	28	8.4	51	21.2	3	.9	-	-	3	1.2	11	3.2	1	.3	1	.4	111	12.1
Personal satisfaction	20	5.8	9	2.7	11	4.6	-	-	-	-	-	-	3	.9	1	.3	-	-	44	4.8
Patient and coworker interaction	5	1.5	11	3.3	15	6.2	-	-	-	-	-	-	10	2.9	12	3.6	4	1.7	57	6.2
Patient care	20	5.8	18	5.4	17	7.1	-	-	-	-	-	-	8	2.3	4	1.2	5	2.1	72	7.9
Working conditions	-	-	-	-	-	-	-	-	-	-	-	-	5	1.5	3	.9	2	.8	10	1.1
Other ideas	-	-	2	.6	1	.4	4	1.2	7	2.1	7	2.9	-	-	1	.3	1	.4	23	2.5

[1] 60.1 percent of all respondents stated that their idea of nursing had changed; 35.1 percent of all respondents stated that their idea of nursing had not changed; 4.8 percent of the respondents did not contribute information on this topic.

Table 32. — Nurse graduates: distribution by type of employment during nursing school[1]

Type of employment	Number	Percent
Nursing related	34	3.7
Nursing assistant	164	17.9
LPN	48	5.3
Attendant	295	32.3
Other health related	8	0.9
Technician	39	4.3
Dental assistant	2	0.2
Medical secretary	30	3.3
Volunteer	4	0.4
Non-health related	13	1.4
Clerical	69	7.5
Sales	24	2.6
Service	104	11.4
Labor	20	2.2
Other	16	1.8

[1] Nurse graduates may have held more than one type of position while in nursing school. Percentages are calculated on number of participants.

Table 33. — Nurse graduates: distribution by membership in professional or student nurse organizations during nursing schools[1]

Organization	Number	Percent
Student Nurse Association	341	37.3
Student government	29	3.2
Honoraries	21	2.3
American Nurses' Association	5	0.5
Other	5	0.5

[1] Nurse graduates may have been members of more than one student nurse organization. Percentages are calculated on number of participants.

Table 34. — Nurse graduates: distribution by employment status[1]

Employment status	Number	Percent
Full time in nursing	766	83.8
Part time in nursing[2]	77	8.4
Non-nursing employment	5	0.5
Employed in nursing since graduation, but not presently	42	4.6
Not employed in nursing since graduation	26	2.8

[1] Respondents were not limited to a single response.
[2] Sixteen of these respondents were simultaneously employed in two part-time nursing jobs.

Table 35. — Nurse graduates: distribution by reasons given for not being currently employed in nursing, in order of decreasing frequency[1]

Reason	Number	Percent
Student	23	88.5
Family responsibilities	21	80.8
Presently seeking employment	16	61.5
In process of moving from present location	13	50.0
Health reasons	12	46.2
Employment opportunities limited/not available	12	46.2
Spouse prefers I do not work	10	38.5
Hours not suitable	9	34.6
Economic situation does not require it	8	30.8
Other	7	26.9
Hours and pay not adequate for effort made	3	11.5
I don't like nursing	2	7.7
Not type of practice I desire	2	7.7
Not within reasonable travel distance from nursing institution	1	3.8

[1] Nurse graduates were not limited to a single response.

Table 36. — Nurse graduates: distribution by type of employing agency

Agency	Number	Percent
Hospital	696	76.1
Long-term care facility	16	1.8
Government facility	43	4.7
Private clinic	25	2.7
Industry	5	0.5
Public health agency	20	2.2
School of nursing	4	0.4
School board	3	0.3
Unemployed	26	2.8
No response	76	8.3
Total	914	[1]100.0

[1] Total may not equal 100 percent because of rounding.

Table 37. — Nurse graduates: distribution by type of hospital worksite

Hospital worksite	Number	Percent
Inpatient		
General units	393	56.5
Specialty care units		
Intensive care unit	88	12.6
Cardiac care unit	30	4.3
Recovery room	3	0.4
Operating room	30	4.3
ICU/CCU	38	5.5
Nursery	12	1.7
Labor/Delivery	14	2.0

Table 37. — Nurse graduates: distribution by type of hospital worksite — Continued

Hospital worksite	Number	Percent
Outpatient		
General	2	0.3
Emergency room (ER)	35	5.0
Administrative offices	3	0.4
Not specified	48	6.9
Total	696	100.0

Table 38. — Nurse graduates: distribution by type of hospital nursing area

Hospital nursing area	Number	Percent
Clinical areas		
Medical	144	20.7
Surgical	132	19.0
Medical/surgical	223	32.0
Obstetrics	42	6.0
Psychiatric	22	3.2
Geriatric	3	0.4
Pediatric	77	11.1
Other	14	2.0
Administrative	2	0.3
Teaching	4	0.6
Not specified	33	4.7
Total	696	100.0

Table 39. — Nurse graduates: distribution by types of positions held

Position held	Number	Percent
Staff nurse	738	80.7
Private duty nurse	3	.3
Assistant head nurse	13	1.4
Head nurse	34	3.7
Supervisor	13	1.4
Instructor	9	1.0
Other	8	.9
No response	96	10.5
Total	914	100.0

Table 40. — Nurse graduates: distribution by working time patterns[1]

Working time patterns	Number	Percent
Day	255	16.0
Evening	220	13.8
Night	156	9.8
Rotating	299	18.8
Hours flexible and self-determined	36	2.3
Some weekends	587	36.9
On call	26	1.6
Other	12	.7

[1] Nurse graduates were not limited to a single response. Percentages are calculated on number of participants.

Table 41. — Nurse graduates: distribution by current annual salary ranges

Annual salary range	Number	Percent
Under $6,000	50	5.5
$6,000 - 7,999	97	10.6
$8,000 - 9,999	303	33.2
10,000 - 11,999	294	32.2
12,000 - 14,999	69	7.5
$15,000 - 16,999	3	.3
$17,000 and above	6	.7
No response	92	10.0
Total	914	100.0

Table 42. — Nurse graduates: distribution by reasons for choice of nursing position[1]

Reason for choice of nursing position	Number	Percent
Clinical area of choice	455	14.3
Benefit from additional learning experience	526	16.6
Salary good	290	9.1
Chance for advancement	120	3.8
Fringe benefits	209	6.6
Favorable working conditions	383	12.1
Utilize education and abilities	478	15.1
Only job available	84	2.6
Limited to locality	137	4.3
Needed the money	106	3.3
Preparation for another job	120	3.8
Transportation convenience	218	6.9
Other	46	1.4

[1] Nurse graduates were not limited to a single response. Percentages are calculated on number of participants.

Table 43. — Nurse graduates: distribution, by response, of choices of circumstances for leaving current job[1]

Response	Number	Percent
I plan to stay in my current job until I find a job:		
with more individual status	104	11.4
with higher salary	161	17.6
with better working hours	225	24.6
with chance for advancement	193	21.1
with better working conditions	136	14.9
with more professional independence	176	19.2
outside of the nursing field	10	1.1
in a better location	131	14.3
in the clinical area I prefer	170	18.6
with wide variety of experience	19	2.1

Table 43. — Nurse graduates: distribution, by response, of choices of circumstances for leaving current job[1] — Continued

Response	Number	Percent
until I return to school	26	2.8
until I fulfill my military and educational obligation	14	1.5
I do not anticipate changing jobs.	263	28.8
Other	6	.6

[1] Nurse graduates were not limited to one response. Percentages are calculated on number of participants.

Table 44. — Nurse graduates: distribution by future plans for practicing nursing[1]

Future plans	Number	Percent
Continue in nursing (no change in area)	362	39.6
Continue in nursing (change area)	239	26.1
Continue nursing education	440	48.1
Quit nursing temporarily (e.g., travel, marry, move, work outside of nursing)	29	3.2
Quit nursing permanently	16	1.7
Change to other health related field	13	1.4
No response	109	11.9

[1] Nurse graduates were not limited to a single response. Percentages were calculated on number of participants.

Table 45. — Nurse graduates: distribution by participation in post-nursing school educational activities

Credits	Attendance				Subject matter					
	Yes		No		Nursing		Non-nursing		Not specified	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Semester hour credit	105	11.5	809	88.5	38	36.2	67	63.8	0	-
Quarter hour credit	46	5.0	868	95.0	17	36.9	27	58.7	2	0.4
Continuing education credit	152	16.6	762	83.4	85	55.9	65	42.8	2	1.3
Noncredit	261	28.5	653	71.4	169	64.7	91	34.9	1	0.4

Table 46. — Nurse graduates: distribution by plans for future education by school type

Plans for future education	Associate degree (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Associate degree	3	0.8	11	3.3	1	0.4	15	1.6
Baccalaureate degree								
In nursing	203	59.3	197	59.3	0	-	400	43.7
In area other than nursing	51	14.9	47	14.1	6	2.5	104	11.3
Master's degree								
In nursing	52	15.2	35	10.5	172	71.6	259	28.3
In area other than nursing	18	5.2	10	3.0	29	12.0	57	6.2
Doctorate degree								
In nursing	2	0.5	4	1.2	12	5.0	18	1.9
In area other than nursing	3	0.8	3	0.9	3	1.2	9	0.9
Nursing practitioner program	37	10.8	44	13.2	72	30.0	153	16.7
Other (degrees or certificates — health and non-health related)	16	4.6	20	6.0	17	7.0	53	5.7

Table 47. — Nurse graduates: distribution by reasons for pursuing further degrees by school type[1]

Reasons for pursuing further degrees	AD (N=342)		Diploma (N=332)		Baccalaureate (N=240)		Total (N=914)	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional advancement	123	35.9	124	37.3	111	46.2	358	39.1
Professional enrichment	136	39.7	107	32.2	115	47.9	358	39.1
Personal enrichment	93	27.1	86	25.9	89	37.0	268	29.4
Professional necessity	23	2.5	28	8.4	-	-	51	5.5

[1] Nurse graduates were not limited to a single response. Percentages are calculated on the number of participants.

Table 48. — Nurse graduates: distribution by membership and participation in professional nursing organizations[1]

Membership and participation in professional nursing organizations	Number	Percent
Membership in professional nursing organizations:		
Yes	362	39.6
No	552	60.3
Organization:		
ANA	210	22.9
NLN	1	0.1
Nursing specialty associations	69	7.5
Alumni associations	35	3.8
Honor societies	40	4.3
Other/unspecified	17	1.9
Participating in professional nursing organizations:		
Attend meetings:		
Yes	210	22.9
No	152	16.6
Hold office:		
Yes	18	1.9
No	248	27.1

[1] Nurse graduates were not limited to a single response. Percentages are calculated on number of participants.

Table 49. — Nursing graduates: distribution by reading patterns of professional publications[1]

Publication	Cover to cover		Scan		Articles of interest		Articles recommended		Required by courses	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
American Journal of Nursing	138	15.1	175	19.7	455	49.8	176	19.3	73	8.0
Nursing Forum	-	-	12	1.3	16	1.7	15	1.7	16	1.7
Nursing Outlook	6	.6	47	5.1	62	6.8	46	5.0	23	2.5
Nursing Research	5	.5	22	2.4	36	3.9	24	2.6	19	2.1
Nursing '76	295	32.3	136	14.9	320	35.0	130	14.2	46	5.0
RN	144	15.8	127	13.9	248	27.1	884	9.2	36	3.9
Nursing Clinics of North America	21	2.3	31	3.4	107	11.7	42	4.6	35	3.8
Medical journals	10	1.1	75	8.2	143	15.6	68	7.4	32	3.5
Nursing specialty journals	62	6.8	24	2.6	67	7.3	22	2.4	14	1.5
Non-nursing professional journals	18	2.0	3	.3	20	2.2	1	.1	-	-
Other/textbooks	13	1.4	3	.3	13	1.4	4	.4	2	.2

[1] Nurse graduates were not limited to a single response. Percentages are calculated on number of participants.

Table 50. — Nurse graduates: distribution by professional participation: presentations and articles written

Participation	Number	Percent
Participation	139	15.2
Non-participation	747	81.7
No response	28	3.1
Type of participation:		
Workshops	88	9.6
Speeches	42	4.6
Articles	11	1.2
Other	13	1.4

Table 51. — Nurse graduates: comparison of selected variables by school type

Selected variables	AD (N=342)		Diploma (N=332)		Bacc. (N=240)		Total (N=914)		X^2
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Age:									
Under 21	41	12.0	15	4.5	0	-	56	6.1	[1]121.00
21 - 25	192	56.1	292	88.0	203	84.6	687	75.2	
Over 25	102	29.8	24	7.2	36	15.0	162	17.7	
No response	7	2.0	1	0.3	1	0.4	9	1.0	
Sex:									
Female	312	91.2	313	94.3	214	89.2	839	91.8	[2]9.50
Male	21	6.1	17	5.1	23	9.6	61	6.7	
No response	9	2.6	2	0.6	3	1.3	14	1.5	
Race:									
American Indian/Alaskan Native	2	0.6	3	0.9	0	-	5	0.5	11.57
Asian or Pacific Islander	2	0.6	2	0.6	0	-	4	0.4	
Black/Negro									
Black/Hispanic	17	5.0	6	1.8	4	1.7	27	3.0	
Caucasian/White									
White/Hispanic	318	93.0	319	96.1	234	97.5	871	95.3	
No response	3	0.9	2	0.6	2	0.8	7	0.8	
Marital status:									
Single	106	31.0	185	55.7	139	57.9	430	47.0	[1]70.07
Married	196	57.3	134	40.4	92	38.3	422	46.2	
Widowed	4	1.2	1	0.3	2	0.8	7	0.8	
Separated	8	2.3	0	-	1	0.4	9	1.0	
Divorced	23	6.7	10	3.0	3	1.3	36	3.9	
No response	5	1.5	2	0.6	3	1.3	10	1.1	
Number of children:									
Expecting	13	3.8	5	1.5	5	2.1	23	2.5	
Under 6 years	53	15.5	20	6.0	11	4.5	84	9.1	
6-12 years	72	21.0	16	4.8	10	4.1	98	10.7	
13-18 years	51	14.9	12	3.6	10	4.1	73	7.9	
Over 18 years	33	9.6	7	2.1	9	3.7	49	5.4	
No response	196	57.3	288	86.7	215	89.5	699	76.5	
Father's occupation:									
Physician/nurse	6	1.7	5	1.5	15	6.2	26	2.8	[1]87.5
Other health professional	1	0.3	6	1.8	8	3.3	15	1.6	
Other professional	32	9.3	33	9.9	41	17.1	106	11.6	
Technical occupation	13	3.8	14	4.2	10	4.2	37	4.0	
Farmer	28	8.2	33	9.9	24	10.0	85	9.3	
Proprietor/manager/supervisor	66	19.3	69	20.8	42	17.5	177	19.4	
Skilled labor	61	17.8	44	13.2	23	9.6	128	14.0	
Semiskilled or unskilled labor	57	16.7	66	19.9	28	11.7	151	16.5	
Clerical occupation	8	2.3	5	1.5	6	2.5	19	2.1	

See footnotes at end of table.

Table 51. — Nurse graduates: comparison of selected variables by school type — Continued

Selected variables	AD (N=342)		Diploma (N=332)		Bacc. (N=240)		Total (N=914)		X^2
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Father's occupation cont'd:									
Sales occupation	13	3.8	20	6.0	13	5.4	46	5.0	
Public military service	20	5.8	19	5.7	20	8.3	59	6.4	
Unemployed	4	1.2	2	0.6	1	0.4	7	0.8	
Retired	1	0.3	3	0.9	1	0.4	5	0.5	
Deceased	18	5.3	7	2.1	4	1.7	29	3.2	
No response	14	4.1	6	1.8	4	1.7	24	2.6	
Spouse's occupation:									
Physician/nurse	8	3.9	8	6.0	8	8.2	24	5.5	[1]80.43
Other health professional	7	3.4	1	0.7	3	3.1	11	2.5	
Other professional	35	17.2	25	18.7	19	19.4	79	18.2	
Technical occupation	20	9.8	8	6.0	7	7.1	35	8.0	
Farmer	6	2.9	8	6.0	2	2.0	16	3.6	
Proprietor/manager/supervisor	25	12.3	10	7.5	11	11.2	46	10.5	
Skilled labor	28	13.7	16	12.0	4	4.1	48	11.1	
Semiskilled or unskilled labor	11	5.4	20	15.0	3	3.1	34	7.8	
Clerical occupation	9	4.4	4	3.0	5	5.1	18	4.1	
Sales occupation	6	2.9	11	8.3	3	3.1	20	4.6	
Public military service	21	10.3	7	5.2	9	9.2	37	8.5	
Student	15	7.3	12	9.0	20	20.4	47	10.8	
Homemaker	5	2.4	1	0.7	3	3.1	9	2.1	
Unemployed	3	1.4	2	1.5	1	1.0	6	1.4	
Retired	2	0.9	0	-	0	-	2	0.4	
Deceased	2	0.9	0	-	0	-	2	0.4	
No response	139	40.6	199	59.9	142	59.2	480	52.5	
Father's highest educational level:									
Elementary school	66	19.3	35	10.5	27	11.3	128	14.0	
Some high school	59	17.3	54	16.3	30	12.5	143	15.6	
High school graduate	96	28.9	104	31.3	49	20.4	249	27.2	
Post-high school studies	41	12.0	59	17.8	30	12.5	130	14.2	
Post-high school certificate	18	5.3	24	7.2	10	4.2	52	5.7	
Baccalaureate degree	27	7.9	30	9.0	41	17.1	98	10.7	
Master's degree	13	3.8	12	3.6	16	6.7	41	4.5	
Doctoral degree	1	0.3	0	-	4	1.7	5	0.5	
Professional degree	12	3.5	12	3.6	30	12.5	54	5.9	
No response	9	2.6	2	0.6	3	1.3	14	1.5	
Spouse's highest educational level:									
Elementary school	4	1.9	1	0.7	0	-	5	1.1	
Some high school	5	2.4	5	3.6	0	-	10	2.3	
High school graduate	39	19.0	19	13.9	8	8.2	66	15.0	
Post-high school studies	51	24.9	25	18.2	13	13.3	89	20.2	
Post-high school certificate	33	16.1	30	21.9	10	10.2	73	16.6	
Baccalaureate degree	46	22.4	43	31.4	49	50.0	138	31.4	
Master's degree	16	7.8	9	6.6	11	11.2	36	8.2	
Doctoral degree	3	1.5	0	-	1	0.1	4	0.9	
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	8	3.9	5	3.6	6	6.1	19	4.3	
No response	137	39.8	195	58.7	142	59.2	474	51.9	
High school rank:									
Upper 10 percent	140	40.9	145	43.7	135	56.3	420	46.0	[1]37.16
Upper 25 percent	103	30.1	112	33.7	72	30.0	287	31.4	
Upper 50 percent	68	19.9	58	17.5	19	7.9	145	15.9	
Lower 50 percent	10	2.9	11	3.3	11	4.6	32	3.5	
No response	21	6.1	6	1.8	3	1.3	30	3.3	
State Board scores:									
Pediatric									
Below 400	21	7.3	11	3.8	7	3.6	39	5.0	[1]14.78

Table 51. — Nurse graduates: comparison of selected variables by school type — Continued

Selected variables	AD (N=342)		Diploma (N=332)		Bacc. (N=240)		Total (N=914)		X^2
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
State Board Scores cont'd:									
400 - 599	171	59.8	157	54.1	133	67.5	461	59.6	
600 and above	94	32.9	122	42.1	57	28.9	273	35.3	
Medical									
Below 400	17	6.0	9	3.1	8	4.1	34	4.4	6.01
400 - 599	164	57.5	153	52.8	115	58.4	432	56.0	
600 and above	104	36.5	128	44.1	74	37.6	306	39.6	
Surgical									
Below 400	11	3.9	7	2.4	13	6.6	31	4.0	8.91
400 - 599	168	58.9	158	54.5	118	59.9	444	57.5	
600 and above	106	37.2	125	43.1	66	33.5	297	38.5	
Obstetrics									
Below 400	19	6.6	13	4.5	9	4.6	41	5.3	5.24
400 - 599	167	58.2	163	56.2	127	64.5	457	59.0	
600 and above	101	35.2	114	39.3	61	31.0	276	35.7	
Psychiatric									
Below 400	20	7.0	15	5.2	8	4.1	43	5.6	5.97
400 - 599	175	61.4	186	64.4	112	56.9	473	61.3	
600 and above	90	31.6	88	30.4	77	39.1	255	33.1	
Age decided to become a nurse:									
Under 10 years	46	13.5	59	17.8	44	18.3	149	16.3	[1]62.79
10 - 13 years	31	9.1	40	12.0	23	9.6	94	10.3	
14 - 15 years	28	8.2	58	17.5	26	10.8	112	12.3	
16 - 17 years	65	19.0	101	30.4	62	25.8	228	24.9	
Over 18 years	170	49.7	73	22.0	83	34.6	326	35.7	
No response	2	0.6	1	0.3	2	0.8	5	0.5	
Employment status:									
Full time in nursing	257	75.1	297	89.4	212	88.3	766	83.8	
Part time in nursing	38	11.1	26	7.8	13	5.4	77	8.4	
Non-nursing employment	3	0.8	1	0.3	1	0.4	5	0.5	
Employed in nursing since graduation but not presently employed	28	8.2	8	2.4	6	2.5	42	4.6	
Not employed in nursing since graduation	16	4.6	3	0.9	7	2.9	26	2.8	
Type of employing agency:									
Hospital	243	71.1	283	85.2	170	70.8	696	76.1	[1]157.00
Long-term care facility	12	3.5	4	1.2	0	-	16	1.8	
Government facility	9	2.6	7	2.1	27	11.2	43	4.7	
Private clinic	12	3.5	9	2.7	4	1.7	25	2.7	
Industry	4	1.2	1	0.3	0	-	5	0.5	
Public health agency	1	0.3	7	2.1	12	5.0	20	2.2	
School of nursing	0		0	-	4	1.7	4	0.4	
School board	1	0.3	1	0.3	1	0.4	3	0.3	
Unemployed/no response	60	17.5	20	6.0	22	9.2	102	11.2	
Position held:									
Staff nurse	240	70.2	300	90.4	198	82.5	738	80.7	[1]74.59
Private duty	2	0.6	1	0.3	0	-	3	0.3	
Assistant head nurse	10	2.9	3	0.9	0	-	13	1.4	
Head nurse	21	6.1	6	1.8	7	2.9	34	3.7	
Supervisor	8	2.3	4	1.2	1	0.4	13	1.4	
Instructor	1	0.3	1	0.3	7	2.9	9	1.0	
Other	2	0.6	1	0.3	5	2.1	8	0.9	
No response.	58	17.0	16	4.8	22	9.2	96	10.5	
Salary:									
Under $6,000	22	6.4	16	4.8	12	5.0	50	5.5	[1]72.28
$6,000 - 7,999	54	15.8	33	9.9	10	4.2	97	10.6	
$8,000 - 9,999	108	31.6	122	36.7	73	30.4	303	33.2	
$10,000 - 11,999	89	26.0	114	34.3	91	37.9	294	32.2	

Table 51. — Nurse graduates: comparison of selected variables by school type — Continued

Selected variables	AD (N=342)		Diploma (N=332)		Bacc. (N=240)		Total (N=914)		X^2
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Salary cont'd:									
$12,000 - 14,999	16	4.7	27	8.1	26	10.8	69	7.5	
$15,000 - 16,999	0	-	1	0.3	2	0.8	3	0.3	
$17,000 and above	0	-	0	-	6	2.5	6	0.7	
No response	53	15.5	19	5.7	20	8.3	92	10.1	
Future plans for practicing nursing:									
Continue in nursing in same position	153	44.7	129	38.9	80	33.3	362	39.6	
Continue in nursing in different position	84	24.6	89	26.8	66	27.5	239	26.1	
Continue nursing education	177	51.8	115	34.6	148	61.6	440	48.1	
Quit nursing temporarily	18	5.3	5	1.5	6	2.5	29	3.2	
Quit nursing permanently	5	1.5	10	3.0	1	0.4	16	1.7	
Change to another field of employment	2	0.5	7	2.1	4	1.7	13	1.4	
Membership and Participation in Professional Nursing Organizations:									
Membership	80	23.3	111	33.4	118	49.1	309	33.8	
Organization:									
ANA	59	17.2	67	20.1	84	35.0	210	22.9	
Other (e.g., nursing specialty, alumni, honor)	31	9.1	65	19.5	66	27.5	162	17.7	
Participation:									
Attend meetings	50	14.6	79	23.7	81	33.7	210	22.9	
Hold office	6	1.7	4	1.2	8	3.3	18	1.9	

[1] Significant at p< .001.
[2] Significant at p< .05.
[3] Significant at p< .01.

Table 52. — Nurse graduates: comparison of selected variables by geographic region

Selected variables	No. Atlantic (N=230)		Midwest (N=311)		South (N=227)		West (N=146)		X^2
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Age:									
Under 21	16	7.0	20	6.4	13	5.7	7	4.8	[1]29.02
21-25	184	80.0	246	79.1	153	67.4	104	71.2	
Over 25	29	12.6	42	13.5	60	26.4	31	21.2	
No response	1	0.1	3	1.0	1	0.4	4	2.7	
Sex:									
Female	212	92.2	289	92.9	203	89.4	135	92.5	10.05
Male	17	7.4	17	5.5	21	9.3	6	4.1	
No response	1	0.4	5	1.6	3	1.3	5	3.4	
Race:									
AmericanIndian/Alaskan Native	0	-	3	1.0	0	-	2	1.4	[1]36.94
Asian or Pacific Islander	0	-	1	0.3	0	-	3	2.1	
Black/Negro									
Black/Hispanic	1	0.4	6	1.9	16	7.0	4	2.7	
Caucasian/White									
White/Hispanic	228	99.1	299	96.1	209	92.1	135	92.5	
No response	1	0.4	2	0.6	2	0.9	2	1.4	
Marital status:									
Single	137	59.6	156	50.2	67	29.5	70	47.9	[1]47.18
Married	83	36.1	135	43.4	139	61.2	65	44.5	
Widowed	1	0.4	2	0.6	3	1.3	1	0.7	
Separated	1	0.4	3	1.0	4	1.8	1	0.7	
Divorced	5	2.2	12	3.9	11	4.8	8	5.5	
No response	3	1.3	3	1.0	3	1.3	1	0.7	

See footnotes at end of table

Table 52.— Nurse graduates: comparison of selected variables by geographic region — Continued

Selected variables	No. Atlantic (N = 230)		Midwest (N = 311)		South (N = 227)		West (N = 146)		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	X^2
Number of children:									
Expecting	5	2.2	11	3.5	4	1.8	3	2.1	
Under 6 years	14	6.1	21	6.8	39	17.2	10	6.8	
6-12 years	9	3.9	23	7.4	45	19.8	21	14.4	
13-18 years	13	5.7	20	6.4	27	11.9	13	8.9	
Over 18 years	9	3.9	16	5.1	13	5.7	11	7.5	
No response	199	86.5	252	81.0	142	62.6	106	72.6	
Father's occupation:									
Physician/nurse	4	1.7	11	3.5	6	2.6	5	3.4	[1]109.8
Other health professional	2	0.8	6	1.9	3	1.3	4	2.7	
Other professional	25	10.9	30	9.6	27	11.9	24	16.4	
Technical occupation	12	5.2	13	4.2	7	3.1	5	3.4	
Farmer	9	3.9	49	15.7	16	7.0	11	7.5	
Proprietor/manager/supervisor	46	20.0	58	18.6	46	20.3	27	18.5	
Skilled labor	31	13.8	44	14.1	39	17.2	14	9.6	
Semiskilled or unskilled labor	55	23.9	47	15.1	27	11.9	22	15.1	
Clerical occupation	7	3.0	4	1.3	4	1.8	4	2.7	
Sales occupation	9	3.9	17	5.5	10	4.4	10	6.8	
Public/military service	17	7.4	16	5.1	14	6.2	12	8.2	
Unemployed	1	0.4	3	1.0	3	1.3	0	-	
Retired	2	0.8	1	0.3	1	0.4	1	0.6	
Deceased	3	1.3	11	3.5	14	6.2	1	0.6	
No response	7	3.0	1	0.3	10	4.4	6	4.1	
Spouse's occupation:									
Physician/nurse	5	5.7	7	5.2	6	4.1	6	9.1	
Other health professional	2	2.3	4	2.9	4	2.7	1	1.5	
Other professional	14	16.1	27	20.1	26	17.7	12	18.1	
Technical occupation	4	4.6	14	10.4	11	7.5	6	9.1	
Farmer	3	3.4	9	6.7	3	2.0	1	1.5	
Proprietor/manager/supervisor	9	10.3	12	8.9	17	11.6	8	12.1	
Skilled labor	11	12.6	17	12.7	17	11.6	3	4.5	
Semiskilled or unskilled labor	7	8.0	10	7.5	14	9.5	3	4.5	
Clerical occupation	4	4.6	2	1.5	9	6.1	3	4.5	
Sales occupation	9	10.3	5	3.7	3	2.0	3	4.5	
Public/military service	4	4.5	6	4.5	20	13.6	7	10.6	
Student	8	9.2	18	13.4	11	7.5	10	15.1	
Homemaker	5	5.7	2	1.5	2	1.4	0	-	
Unemployed	2	2.2	0	-	2	1.4	2	3.0	
Retired	0	-	1	0.7	0	-	1	1.5	
Deceased	0	-	0	-	2	1.4	0	-	
Father's highest educational level:									
Elementary school	28	12.2	45	14.5	38	16.7	17	11.6	[2]43.69
Some high school	42	18.3	55	17.7	35	15.4	11	7.5	
High school graduate	61	26.5	92	29.6	61	26.9	35	23.9	
Post-high school studies, but no certificate or diploma	31	13.5	45	14.5	25	11.0	29	19.9	
Post-high school certificate, diploma, or associate degree	17	7.4	16	5.1	11	4.8	8	5.5	
Baccalaureate degree	26	11.3	22	7.1	28	12.3	22	15.1	
Master's degree	14	6.1	10	3.2	8	3.5	9	6.2	
Doctoral degree	1	0.4	3	1.0	0	-	1	0.7	
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	8	3.5	20	6.4	15	6.6	11	7.5	
Spouse's highest educational level:									
Elementary school	0	-	1	0.7	3	2.1	1	1.5	
Some high school	3	3.4	3	2.1	4	2.7	0	-	
High school graduate	11	12.6	21	14.9	26	17.8	8	12.1	

Table 52. — Nurse graduates: comparison of selected variables by geographic region — Continued

Selected variables	No. Atlantic (N = 230)		Midwest (N = 311)		South (N = 227)		West (N = 146)		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	X^2
Spouse's highest educational level cont'd:									
Post-high school studies, but no certificate or diploma	18	20.7	26	18.4	29	19.9	16	24.2	
Post-high school certificate, diploma, or associate degree	16	18.4	26	18.4	23	15.8	8	12.1	
Baccalaureate degree	30	34.5	48	34.0	44	30.1	16	24.2	
Master's degree	4	4.6	11	7.8	11	7.5	10	15.1	
Doctoral degree	1	1.1	0	-	2	1.4	1	1.5	
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	4	4.6	5	3.5	4	2.7	6	9.1	
High School Rank:									
Upper 10 percent	94	40.9	159	51.1	108	47.6	59	40.4	20.64
Upper 25 percent	86	37.4	93	29.9	62	27.3	46	31.5	
Upper 50 percent	36	15.7	48	15.4	36	15.9	25	17.1	
Lower 50 percent	8	3.5	7	2.3	9	4.0	8	5.5	
No response	6	2.6	4	1.3	12	5.3	8	5.5	
State Board scores:									
Pediatric									
Below 400	6	2.8	11	4.1	16	8.2	6	6.0	[2]18.80
400-599	131	61.8	150	56.2	129	66.5	51	51.0	
600 and above	75	35.4	106	39.7	49	25.3	43	43.0	
Medical									
Below 400	8	3.8	7	2.6	13	6.7	6	6.0	9.21
400-599	117	55.2	149	55.8	116	60.1	50	50.0	
600 and above	87	41.0	111	41.6	64	33.2	44	44.0	
Surgical									
Below 400	6	2.8	6	2.2	12	6.2	7	7.0	11.79
400-599	124	58.5	159	59.6	114	59.1	47	47.0	
600 and above	82	38.7	102	38.2	67	34.7	46	46.0	
Obstetrics									
Below 400	10	4.7	11	4.1	15	7.7	5	5.0	[1]99.57
400-599	135	63.7	149	55.6	119	61.3	54	54.0	
600 and above	67	31.6	108	40.3	60	30.9	41	41.0	
Psychiatric									
Below 400	12	5.7	7	2.6	19	9.8	5	5.0	[2]21.54
400-599	141	66.5	163	61.3	119	61.7	50	50.0	
600 and above	59	27.8	96	36.1	55	28.5	45	45.0	
Age decided to become a nurse:									
Under 10 years	44	19.1	55	17.7	29	12.8	21	14.4	[2]27.56
10 - 13 years	19	8.3	33	10.6	24	10.6	18	12.3	
14 - 15 years	34	14.8	45	14.5	21	9.3	12	8.2	
16 - 17 years	63	27.4	83	26.7	54	23.8	28	19.2	
Over 18 years	70	30.4	93	29.9	97	42.7	66	45.2	
No response	0	-	2	0.6	2	0.9	1	0.7	
Employment status:									
Full time in nursing	201	87.3	268	86.1	188	82.8	109	74.6	
Part time in nursing	15	6.5	27	8.6	20	8.8	15	10.2	
Non-nursing employment	1	0.4	1	0.3	3	1.3	0	-	
Employed in nursing since graduation, but not presently	7	3.0	9	2.8	10	4.4	16	11.0	
Not employed in nursing since graduation	7	3.0	4	1.3	9	3.9	6	4.1	
Type of employing agency:									
Hospital	175	76.1	261	83.9	159	70.0	101	69.2	[1]98.61
Long-term care facility	3	1.3	3	1.0	8	3.5	2	1.4	
Government facility	9	3.9	8	2.6	18	7.9	8	5.4	
Private clinic	7	3.0	9	2.9	6	2.6	3	2.1	
Industry	0	-	1	0.3	4	1.8	0	-	
Public health agency	10	4.3	5	1.6	2	0.9	3	2.1	

Table 52. — Nurse graduates: comparison of selected variables by geographic region — Continued

Selected variables	No. Atlantic (N = 230)		Midwest (N = 311)		South (N = 227)		West (N = 146)		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	X^2
Type of employing agency cont'd:									
School of nursing	1	0.1	2	0.6	1	0.4	0	-	
School board	0	-	2	0.6	1	0.4	0	-	
Unemployed/no response	25	10.9	20	6.4	28	12.3	29	19.9	
Position held:									
Staff nurse	195	84.8	281	90.4	147	64.8	115	78.8	[1]107.74
Private duty	2	0.9	0	-	1	0.4	0	-	
Assistant head nurse	1	0.4	1	0.3	9	4.0	2	1.4	
Head nurse	7	3.0	4	1.3	23	10.1	0	-	
Supervisor	2	0.9	1	0.3	10	4.4	0	-	
Instructor	2	0.9	2	0.6	5	2.2	0	-	
Other	1	0.4	3	1.0	2	0.9	2	1.4	
No response	20	8.7	19	6.1	30	13.2	27	18.5	
Salary:									
Under $6,000	11	4.8	19	6.1	13	5.7	7	4.8	[2]82.22
$6,000 - 7,999	21	9.1	36	11.6	30	13.2	10	6.8	
$8,000 - 9,999	78	33.9	102	32.8	94	41.4	29	19.9	
$10,000 - 11,999	84	36.5	110	35.4	49	21.6	51	34.9	
$12,000 - 14,999	117	7.4	21	6.8	7	3.1	24	16.4	
$15,000 - 16,999	1	0.4	0	-	2	0.9	0	-	
$17,000 and above	0	-	0	-	6	2.6	0	-	
No response	18	7.8	23	7.4	26	11.5	25	17.1	
Future plans for practicing nursing:									
Continue in nursing in same position	85	36.9	128	41.1	104	45.8	45	30.8	
Continue in nursing in different position	64	27.8	82	26.3	50	22.0	43	29.4	
Continue nursing education	105	45.6	136	43.7	136	59.9	63	43.1	
Quit nursing temporarily	7	3.0	9	2.8	8	3.5	5	3.4	
Quit nursing permanently	7	3.0	1	0.3	3	1.3	5	3.4	
Change to another field of employment	4	1.7	3	0.9	5	2.2	1	0.6	
Membership and participation in professional nursing organizations:									
Membership	75	32.6	108	34.7	78	34.3	48	32.8	
Organization:									
ANA	46	20.0	73	23.4	57	25.1	34	23.2	
Other (e.g., nursing specialty, alumni, honor society, etc.)	47	20.4	58	18.6	36	15.8	21	14.3	
Participation:									
Attend meetings	52	22.6	78	25.0	52	22.9	28	19.1	
Hold office	4	1.7	3	0.9	8	3.5	3	2.1	

[1] Significant at $p < .001$.
[2] Significant at $p < .01$.
[3] Significant at $p < .05$.

Table 53. — Nurse graduates: comparison of selected variables by nomination status

Selected variables	Most promising (N=327)		Promising (N=306)		Nonselected (N=281)		
	No.	Pct.	No.	Pct.	No.	Pct.	X^2
Age:							
Under 21	17	5.2	22	7.2	17	6.0	9.01
21 - 25	240	73.3	224	73.2	223	79.4	
Over 25	67	20.5	57	18.6	38	13.5	
No response	3	0.9	3	1.0	3	1.1	

Table 53. — Nurse graduates: comparison of selected variables by nomination status — Continued

Selected variables	Most promising (N=327) No.	Pct.	Promising (N=306) No.	Pct.	Nonselected (N=281) No.	Pct.	X^2
Sex:							
Female	296	90.5	278	90.8	265	94.3	4.18
Male	24	7.4	24	7.8	13	4.6	
No response	7	2.1	4	1.3	3	1.1	
Race:							
American Indian/Alaskan Native	2	0.6	2	0.7	1	0.4	7.92
Asian or Pacific Islander	1	0.3	2	0.7	1	0.4	
Black/Negro							
Black/Hispanic	11	3.4	10	3.3	6	2.1	
Caucasian/White							
White/Hispanic	311	95.1	292	95.4	268	95.4	
No response	2	0.6	0		5	1.8	
Marital status:							
Single	127	38.8	157	51.3	146	52.0	[1]18.31
Married	172	62.8	133	43.5	117	41.6	
Widowed	3	0.9	2	0.7	2	0.7	
Separated	4	1.2	1	0.3	4	1.4	
Divorced	16	4.9	12	3.9	8	2.8	
No response	5	1.5	1	0.3	4	1.4	
Number of children:							
Expecting	7	2.1	8	2.6	8	2.8	
Under 6 years	39	11.9	29	9.5	16	5.7	
6 - 12 years	39	11.9	33	10.8	26	9.2	
13 - 18 years	32	9.8	22	7.2	19	6.8	
Over 18 years	23	7.0	17	5.6	9	3.2	
No response	233	71.3	234	76.5	232	82.6	
Father's occupation:							
Physician/nurse	4	1.2	8	2.6	14	5.0	[2]60.05
Other health professional	7	2.1	6	2.0	2	0.7	
Other professional	42	12.8	36	11.8	28	9.9	
Technical occupation	7	2.1	16	5.2	14	4.9	
Farmer	28	8.6	32	10.5	25	8.9	
Proprietor/manager/supervisor	68	20.8	51	16.7	58	20.6	
Skilled labor	49	15.0	35	11.4	44	15.6	
Semiskilled or unskilled labor	53	16.2	52	17.0	46	16.4	
Clerical occupation	6	1.8	6	2.0	7	2.5	
Sales occupation	21	6.4	19	6.2	6	2.1	
Public/military service	19	5.8	22	7.2	18	6.4	
Unemployed	3	0.9	2	0.6	2	0.7	
Retired	2	0.6	3	1.0	0		
Deceased	11	3.4	10	3.3	8	2.8	
No response	7	2.1	8	2.6	9	3.2	
Spouse's occupation:							
Physician/Nurse	10	5.5	7	5.2	7	5.9	
Other health professional	5	2.7	4	2.9	2	1.7	
Other professional	45	24.7	22	16.3	12	10.3	
Technical occupation	10	5.5	11	8.1	14	11.9	
Farmer	4	2.2	5	3.7	7	5.9	
Proprietor/manager/supervisor	21	11.5	13	9.6	12	10.3	
Skilled labor	23	12.6	12	8.9	13	11.1	
Semi or unskilled labor	6	3.3	16	11.9	12	10.3	
Clerical occupation	5	2.7	6	4.4	7	5.9	
Sales occupation	10	5.5	6	4.4	4	3.4	
Public/military service	13	7.1	14	10.4	10	8.5	
Student	21	11.5	15	11.1	11	9.4	
Homemaker	6	3.3	2	1.5	1	0.9	

Table 53. — Nurse graduates: comparison of selected variables by nomination status — Continued

Selected variables	Most promising (N=327) No.	Pct.	Promising (N=306) No.	Pct.	Nonselected (N=281) No.	Pct.	X^2
Spouse's occupation cont'd:							
Unemployed	1	0.5	2	1.5	3	2.6	
Retired	1	0.5	0	-	1	0.9	
Deceased	1	0.5	0	-	1	0.9	
Father's Highest Educational Level:							
Elementary school	42	12.9	45	14.7	41	14.6	18.64
Some high school	50	15.3	50	16.3	43	15.3	
High school graduate	92	28.1	80	26.1	77	27.4	
Post-high school studies, but no certificate or diploma	40	12.2	50	16.3	40	14.2	
Post-high school certificate, diploma, or associate degree	24	7.4	14	4.6	14	5.0	
Baccalaureate degree	30	9.2	39	12.7	29	10.3	
Master's degree	21	6.4	8	2.6	12	4.3	
Doctoral degree	3	0.9	2	0.7	0	-	
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	20	6.1	15	4.9	19	6.8	
No reponse	5	1.5	3	1.0	6	2.1	
Spouse's highest educational level:							
Elementary school	2	1.1	0	-	3	2.5	
Some high school	0	-	5	3.7	5	4.1	
High school graduate	19	10.4	21	15.4	26	21.5	
Post-high school studies, but no certificate or diploma	38	20.8	30	22.1	21	17.4	
Post-high school certificate, diploma, or associate degree	29	15.8	20	14.7	24	19.8	
Baccalaureate degree	67	36.6	42	30.9	29	23.9	
Master's degree	20	10.9	10	7.3	6	4.9	
Doctoral degree	1	0.5	3	2.2	0	-	
Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)	7	3.8	5	3.7	7	5.8	
High school rank:							
Upper 10 percent	177	54.3	154	50.3	89	31.7	[2]47.68
Upper 25 percent	78	23.9	95	31.0	114	40.6	
Upper 50 percent	52	15.9	35	11.4	58	20.6	
Lower 50 percent	6	1.8	16	5.2	10	3.6	
No response	14	4.3	6	2.0	10	3.6	
State Board scores:							
Pediatric:							
Below 400	7	2.4	10	3.9	22	9.7	[2]63.19
400 - 599	139	48.2	157	60.9	165	72.7	
600 and above	142	49.5	91	35.3	40	17.6	
Medical:							
Below 400	3	1.0	6	2.3	25	11.0	[2]100.20
400 - 599	121	42.0	150	58.4	161	70.9	
600 and above	164	57.1	101	39.3	41	18.1	
Surgical:							
Below 400	7	2.4	4	1.6	20	8.8	[2]69.18
400 - 599	133	46.1	147	57.2	164	72.2	
600 and above	148	51.6	106	41.2	43	18.9	
Obstetrics:							
Below 400	4	1.4	10	3.9	27	11.8	[2]88.32
400 - 599	133	46.1	161	62.4	163	71.5	
600 and above	151	52.6	87	33.7	38	16.7	
Psychiatric:							
Below 400	10	3.5	10	3.9	23	10.1	[2]59.71

Table 53. — Nurse graduates: comparison of selected variables by nomination status — Continued

Selected variables	Most promising (N=327) No.	Pct.	Promising (N=266) No.	Pct.	Nonselected (N=281) No.	Pct.	X^2
State Board scores cont'd:							
400 - 599	141	49.1	167	65.0	165	72.7	
600 and above	136	47.6	80	31.1	39	17.2	
Age decided to become a nurse:							
Under 10 years	50	15.3	47	15.4	52	18.5	120.67
10 - 13 years	22	6.7	38	12.4	34	12.1	
14 - 15 years	49	15.0	29	9.5	34	12.1	
16 - 17 years	77	23.5	82	26.8	69	24.6	
Over 18 years	128	39.1	110	35.9	88	31.3	
No response	1	0.3	0	-	4	1.4	
Employment status:							
Full time in nursing	276	84.4	249	81.4	241	85.7	
Part time in nursing	33	10.0	28	9.1	16	5.6	
Non-nursing employment	1	0.3	3	0.9	1	0.3	
Employed in nursing since graduation, but not presently	14	4.3	13	4.2	15	5.3	
Not employed in nursing since graduation	5	1.5	12	3.9	9	3.2	
Type of employing agency:							
Hospital	248	75.8	236	77.1	212	75.4	
Long-term care facility	15	1.5	3	1.0	8	2.8	
Government facility	15	4.6	20	6.5	8	2.8	
Private clinic	11	3.4	5	1.6	9	3.2	
Industry	4	1.2	0	-	1	0.4	
Public health agency	10	3.1	4	1.3	6	2.1	
School of nursing	1	0.3	0	-	3	1.1	
School board	1	0.3	2	0.7	0	-	
Unemployed/no response	32	9.8	36	11.8	34	12.1	
Position held:							
Staff nurse	265	81.0	244	79.7	229	81.5	14.96
Private duty	2	0.6	1	0.3	0	-	
Assistant head nurse	3	0.9	8	2.6	2	0.7	
Head nurse	16	4.9	9	2.9	9	3.2	
Supervisor	7	2.1	3	1.0	3	1.1	
Instructor	1	0.3	5	1.6	3	1.1	
Other	2	0.6	2	0.7	4	1.4	
No response	31	9.5	34	11.1	31	11.0	
Salary:							
Under $6,000	20	6.1	16	5.2	14	5.0	12.16
$6,000 - 7,999	33	10.1	36	11.8	28	10.0	
$8,000 - 9,999	112	34.2	92	30.1	99	35.2	
$10,000 - 11,999	104	31.9	100	32.7	90	32.0	
$12,000 - 14,999	29	8.9	23	7.5	17	6.0	
$15,000 - 16,999	2	0.6	1	0.3	0	-	
$17,000 and above	3	0.9	3	1.0	0	-	
No response	24	7.4	35	11.4	33	11.7	
Future plans for practicing nursing:							
Continue in nursing in same position	117	35.8	121	39.5	124	44.1	
Continue in nursing in different position	89	27.2	77	25.1	73	25.9	
Continue nursing education	184	56.2	151	49.3	105	37.3	
Quit nursing temporarily	8	2.4	13	4.3	8	2.8	
Quit nursing permanently	6	1.8	8	2.6	2	0.7	
Change to another field of employment	4	1.2	7	2.2	2	0.7	
Membership and participation in professional nursing organizations:							
Membership	136	41.5	101	33.0	72	25.6	

Table 53. — Nurse graduates: comparison of selected variables by nomination status — Continued

Selected variables	Most promising (N = 327) No.	Pct.	Promising (N = 306) No.	Pct.	Nonselected (N = 281) No.	Pct.	X^2
Membership and participation in professional nursing organizations cont'd:							
Organization:							
ANA	97	29.6	62	20.2	51	18.1	
Other (e.g., nursing specialty, alumni, honor society, etc.)	65	19.8	59	19.2	38	13.5	
Participation:							
Attend meetings	85	25.9	68	22.2	57	20.2	
Hold office	7	2.1	8	2.6	3	1.1	

[1] Significant at $p < .05$.
[2] Significant at $p < .001$.

Table 54. — Nurse graduates: mean frequency ratings of behaviors contained in six performance scales

Scale	Item No.	Item content	$\bar{X}$	No.
Leadership				
	3	Give praise and recognition for achievement to those under your direction	4.27	833
	23	Delegate responsibility for care based on assessment of priorities of nursing care needs *and* the abilities and limitations of available health care personnel.	4.35	825
	25	Guide other health team members in planning for nursing care.	4.05	827
	26	Accept responsibility for the level of care provided by those under your direction.	4.33	824
	41	Remain open to the suggestions of those under your direction and use them when appropriate.	4.34	825
		Total scale	4.27	
Critical care				
	11	Perform technical procedures; e.g., oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes, etc.	4.66	831
	18	Use mechanical devices; e.g., suction machine, Gomco, cardiac monitor, respirator, etc.	4.37	830
	19	Give emotional support to family of dying patient.	4.02	829
	27	Perform appropriate measures in emergency situations.	4.26	825
	30	Perform nursing care required by critically ill patients.	4.22	830
	37	Recognize and meet the emotional needs of a dying patient.	3.99	827
	40	Function calmly and competently in emergency situations.	4.28	821
		Total scale	4.23	
Teaching collaboration				
	1	Teach a patient's family members about the patient's needs.	4.17	832
	4	Teach preventive health measures to patients and their families.	3.96	829
	5	Identify and use community resources in developing a plan of care for a patient and his family.	3.34	826
	12	Adapt teaching methods and materials to the understanding of the particular audience; e.g., age of patient, educational background, and sensory deprivation.	4.17	835
	14	Develop innovative methods and materials for teaching patients.	3.50	828
	28	Promote the use of interdisciplinary resource persons.	3.74	828
	29	Use teaching aids and resource materials in teaching patients and their families.	3.49	821
	31	Encourage the family to participate in the care of the patient.	4.04	825
	32	Identify and use resources within your health care agency in developing a plan of care for a patient and his family.	3.67	815

Table 54. — Nurse graduates: mean frequency ratings of behaviors contained in six performance scales — Continued

Scale	Item No.	Item content	$\bar{X}$	No.
Teaching collaboration cont'd.				
	38	Communicate facts, ideas, and professional opinions in writing to patients and their families.	2.95	813
	39	Plan for the integration of patient needs with family needs.	3.86	820
		Total scale	3.72[5]	
Planning evaluation				
	2	Coordinate the plan of nursing care with the medical plan of care.	4.44	827
	6	Identify and include in nursing care plans anticipated changes in a patient's condition.	3.97	828
	7	Evaluate results of nursing care.	4.38	829
	9	Develop a plan of nursing care for a patient.	4.20	830
	10	Initiate planning and evaluation of nursing care with others.	4.02	829
	13	Identify and include immediate patient needs in the plan of nursing care.	4.61	828
	36	Contribute to the plan of nursing care for the patient.	4.44	825
		Total scale	4.29	
IPR communications				
	8	Promote the inclusion of the patient's decisions and desires concerning his care.	4.37	827
	15	Communicate a feeling of acceptance of each patient and a concern for the patient's welfare.	4.27	830
	16	Seek assistance when necessary.	4.88[5]	828
	17	Help a patient communicate with others.	4.74	829
	20	Verbally communicate facts, ideas, and feelings to other health team members.	4.16	818
	2	Promote the patients' rights to privacy.	4.71	827
	22	Contribute to an atmosphere of mutual trust, acceptance, and respect among other health team members.	4.73	824
	24	Explain nursing procedures to a patient prior to performing them.	4.76	829
	33	Use nursing procedures as opportunities for interaction with patients.	4.58	824
	34	Contribute to productive working relationships with other health team members.	4.72	823
	35	Help a patient meet his emotional needs.	4.50	825
	12	Use opportunities for patient teaching when they arise.	4.49	825
		Total scale	4.58	
Professional development	67	Use learning opportunities for ongoing personal and professional growth.	2.67	835
	68	Display self-direction.	2.74	832
	69	Accept responsibility for own actions.	2.96	837
	70	Assume new responsibilities within the limits of capabilities.	2.85	837
	71	Maintain high standards of performance.	2.90	837
	72	Demonstrate self-confidence.	2.68	837
	73	Display a generally positive attitude.	2.85	837
	74	Demonstrate knowledge of the legal boundaries of nursing.	2.58	837
	75	Demonstrate knowledge of the ethics of nursing.	2.76	837
	76	Accept and use constructive criticism.	2.71	837
		Total scale	2.77	

Table 55. — Nurse graduates: mean self-appraisal on behaviors contained in five performance scales[1]

Scale	Item No.	Item content	$\bar{X}$	No.
Leadership				
	3	Give praise and recognition for achievement to those under your direction.	3.08	726

Table 55. — Nurse graduates: mean self-appraisal on behaviors contained in five performance scales[1] — Continued

Scale	Item No.	Item content	$\bar{X}$	No.
Leadership cont'd.				
	23	Delegate responsibility for care based on assessment of priorities of nursing care needs and the abilities and limitations of available health care personnel.	3.23	708
	25	Guide other health team members in planning for nursing care.	2.81	720
	26	Accept responsibility for the level of care provided by those under your direction.	3.12	705
	41	Remain open to the suggestions of those under your direction and use them when appropriate.	3.33	721
		Total scale	3.10	
Critical care				
	11	Perform technical procedures; e.g., oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes, etc.	3.35	791
	18	Use mechanical devices; e.g., oral/nasal suction machine, Gomco, cardiac monitor, respirator, etc.	3.09	771
	19	Give emotional support to family of dying patient.	2.71	744
	27	Perform appropriate measures in emergency situations.	2.81	791
	30	Perform nursing care required by critically ill patients.	3.14	741
	37	Recognize and meet the emotional needs of a dying patient.	2.69	720
	40	Function calmly and competently in emergency situations.	2.80	794
		Total scale	2.94	
Teaching/ collaboration	1	Teaching a patient's family members about the patient's needs.	2.87	766
	4	Teach preventive health measures to patients and their families.	2.74	736
	5	Identify and use community resources in developing a plan of care for a patient and his family.	2.23	633
	12	Adapt teaching methods and materials to the understanding of the particular audience; e.g., age of patient, educational background, and sensory deprivations.	2.90	734
	14	Develop innovative methods and materials for teaching patients.	2.40	691
	28	Promote the use of interdisciplinary resource persons.	2.59	667
	29	Use teaching aids and resource materials in teaching patients and their families.	2.57	659
	31	Encourage the family to participate in the care of the patient.	3.00	712
	32	Identify and use resources within your health care agency in developing a plan of care for a patient and his family.	2.62	656
	38	Communicate facts, ideas, and professional opinions in writing to patients and their families.	2.28	500
	39	Plan for the integration of patient needs with family needs.	2.74	695
		Total scale	2.64	
Planning evaluation				
	2	Coordinate the plan of nursing care with the medical plan of care.	2.95	753
	6	Identify and include in nursing care plans anticipated changes in a patient's condition.	2.62	724
	7	Evaluate results of nursing care.	2.94	770
	9	Develop a plan of nursing care for a patient.	2.98	737
	10	Initiate planning and evaluation of nursing care with others.	2.79	717
	13	Identify and include immediate patient needs in the plan of nursing care.	3.05	772
	36	Contribute to the plan of nursing care for the patient.	3.08	763
		Total scale	2.93	
IPR/communications				
	8	Promote the inclusion of the patient's decisions and desires concerning his care.	3.13	752
	15	Communicate a feeling of acceptance of each patient and a concern for the patient's welfare.	2.85	767

Table 55. — Nurse graduates: mean self-appraisal on behaviors contained in five performance scales[1] — Continued

Scale	Item No.	Item content	$\bar{X}$	No.
IPR/communication cont'd.				
	16	Seek assistance when necessary.	3.43	817
	17	Help a patient communicate with others.	3.46	797
	20	Verbally communicate facts, ideas, and feelings to other health team members.	2.90	749
	21	Promote the patients' rights to privacy.	3.29	791
	22	Contribute to an atmosphere of mutual trust, acceptance, and respect among other health team members.	3.13	813
	24	Explain nursing procedures to a patient prior to performing them.	3.45	794
	33	Use nursing procedures as opportunities for interaction with patients.	3.32	774
	34	Contribute to productive working relationships with other health team members.	3.16	812
	35	Help a patient meet his emotional needs.	2.95	792
	42	Use opportunities for patient teaching when they arise.	3.16	788
		Total scale	3.19	

[1] The Professional development scale was not included in this table because it is based on a response scale of 1 to 3 rather than 1 to 4, which was the base for the other five scales.

Table 56. — Nurse graduates: comparisons of self-appraisals of performance on behaviors contained in six performance scales, by school type

	AD		Diploma		Baccalaureate			
	$\bar{X}$	(sd)	$\bar{X}$	(sd)	$\bar{X}$	(sd)	F	p
Leadership								
Performance	3.05	(0.58)	3.16	(0.52)	3.06	(0.59)	3.42	.05
Preparation	2.91	(0.58)	3.30	(0.52)	2.96	(0.54)	36.37	.01
Critical Care								
Performance	2.86	(0.61)	3.04	(0.57)	2.90	(0.57)	7.38	.01
Preparation	2.83	(0.56)	3.25	(0.50)	2.71	(0.54)	82.12	.01
Teaching/Collaboration								
Performance	2.54	(0.56)	2.66	(0.58)	2.72	(0.57)	7.21	.01
Preparation	2.90	(0.54)	3.20	(0.43)	3.17	(0.45)	34.49	.01
Planning/Evaluation								
Performance	2.85	(0.58)	2.96	(0.52)	3.00	(0.50)	5.97	.01
Preparation	3.29	(0.49)	3.53	(0.39)	3.39	(0.41)	24.52	.01
IPR/Communications								
Performance	3.10	(0.48)	3.25	(0.44)	3.20	(0.47)	8.76	.01
Preparation	3.26	(0.47)	3.50	(0.35)	3.35	(0.42)	26.32	.01
Professional Development[1]								
Performance	2.76	(0.23)	2.79	(0.21)	2.75	(0.25)	2.79	(2)

[1] The items on the professional development behaviors scale had a maximum rating of 3 and a minimum rating of 1, all other items had a maximum rating of 4 and a minimum rating of 1. Nursing school preparation was not evaluated for this scale.

[2] Not significant.

Table 57. — Nurse graduates: comparisons of self-appraisals of performance on behaviors contained in six performance scales, by geographic region

	North Atlantic		Midwest		South		West			
	$\bar{X}$	(sd)	$\bar{X}$	(sd)	$\bar{X}$	(sd)	$\bar{X}$	(sd)	F	p
Leadership										
Performance	3.09	(0.55)	3.08	(0.57)	3.08	(0.60)	3.17	(0.54)	0.85	(1)
Preparation	3.08	(0.63)	3.07	(0.64)	3.03	(0.63)	3.13	(0.57)	0.57	(1)
Critical Care										
Performance	2.94	(0.56)	2.92	(0.60)	2.94	(0.59)	2.99	(0.61)	0.39	(1)
Preparation	2.98	(0.58)	2.98	(0.57)	2.91	(0.58)	2.96	(0.59)	0.81	(1)

Table 57. — Nurse graduates: comparisons of self-appraisals of performance on behaviors contained in six performance scales, by geographic region — Continued

	North Atlantic		Midwest		South		West			
	$\bar{X}$	(sd)	$\bar{X}$	(sd)	$\bar{X}$	(sd)	$\bar{X}$	(sd)	F	p
Teaching/Collaboration										
Performance	2.69	(0.59)	2.58	(0.54)	2.64	(0.61)	2.66	(0.58)	1.59	(1)
Preparation	3.11	(0.46)	3.09	(0.51)	3.04	(0.50)	3.09	(0.50)	0.84	(1)
Planning/Evaluation										
Performance	3.00	(0.54)	2.86	(0.52)	2.92	(0.58)	3.00	(0.49)	3.36	<.05
Preparation	3.44	(0.41)	3.41	(0.46)	3.39	(0.48)	3.40	(0.41)	0.58	(1)
IPR/Communications										
Performance	3.22	(0.43)	3.17	(0.47)	3.13	(0.48)	3.24	(0.47)	2.02	(1)
Preparation	3.41	(0.40)	3.39	(0.45)	3.33	(0.43)	3.37	(0.40)	1.33	(1)
Professional Development[2]										
Performance	2.77	(0.22)	2.77	(0.24)	2.77	(0.23)	2.78	(0.22)	0.16	(1)

[1] Not significant.

[2] The items on the professional development behaviors scale had a maximum rating of 3 and a minimum rating of 1; all other items had a maximum rating of 4 and a minimum rating of 1. Nursing school preparation was not evaluated for this scale.

Table 58. — Nurse graduates: comparisons of self-appraisals of performance of behaviors contained in six performance scales, by nomination status

	Most promising graduates		Promising graduates		Nonselected graduates			
	$\bar{X}$	(sd)	$\bar{X}$	(sd)	$\bar{X}$	(d)	F	p
Leadership								
Performance	3.07	(0.56)	3.12	(0.58)	3.10	(0.56)	0.32	(1)
Preparation	3.05	(.64)	3.11	(0.59)	3.06	(0.65)	0.71	(1)
Critical Care								
Performance	2.93	(0.58)	2.97	(0.61)	2.91	(0.57)	0.61	(1)
Preparation	2.93	(0.57)	3.00	(0.56)	2.95	(0.60)	0.80	(1)
Teaching/Collaboration								
Performance	2.68	(0.57)	2.58	(0.56)	2.64	(0.60)	1.53	(1)
Preparation	3.09	(0.49)	3.09	(0.47)	3.07	(0.53)	0.43	(1)
Planning/Evaluation								
Performance	2.94	(0.52)	2.93	(0.56)	2.91	(0.54)	0.22	(1)
Preparation	3.41	(0.45)	3.41	(0.44)	3.40	(0.44)	0.39	(1)
IPR/Communication								
Performance	3.18	(0.48)	3.19	(0.46)	3.18	(0.46)	0.08	(1)
Preparation	3.39	(0.44)	3.40	(0.39)	3.33	(0.45)	2.25	(1)
Professional Development[2]								
Performance	2.81	(0.20)	2.77	(0.22)	2.72	(0.25)	6.88	<.01

[1] Not significant.

[2] The items on the professional development behaviors scale had a maximum rating of 3 and a minimum rating of 1; all other items had a maximum rating of 4 and a minimum rating of 1. Nursing school preparation was not evaluated for this scale.

Table 59. — Nurse graduates: mean evaluations of nursing school preparation on behaviors contained in five performance scales

Scale	Item No.	Item content	$\bar{X}$	No.
Leadership				
	3	Give praise and recognition for achievement to those under your direction.	2.94	762
	23	Delegate responsibility for care based on assessment of priorities of nursing care needs *and* the abilities and limitations of available health care personnel.	3.16	760
	25	Guide other health team members in planning for nursing care.	3.07	762
	26	Accept responsibility for the level of care provided by those under your direction.	3.07	754

Table 50. — Nurse graduates: mean evaluation of nursing school preparation on behaviors contained in five performance scales — Continued

Scale	Item No.	Item content	X	No.
Leadership cont'd.				
	41	Remain open to the suggestions of those under your direction and use them when appropriate.	3.10	762
		Total scale	3.07	
Critical care				
	11	Perform technical procedures; e.g., oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes, etc.	3.16	808
	18	Use mechanical devices; e.g., suction machine, Gomco, cardiac monitor, respirator, etc.	2.84	798
	19	Give emotional support to family of dying patient.	3.04	788
	27	Perform appropriate measures in emergency situations.	2.79	812
	30	Perform nursing care required by critically ill patients.	3.08	779
	37	Recognize and meet the emotional needs of a dying patient.	3.13	770
	40	Function calmly and competently in emergency situations.	2.75	808
		Total scale	2.96	
Teaching/ collaboration	1	Teach a patient's family members about the patient's needs.	3.38	814
	4	Teach preventive health measures to patients and their families.	3.21	789
	5	Identify and use community resources in developing a plan of care for a patient and his family.	3.04	743
	12	Adapt teaching methods and materials to the understanding of the particular audience; e.g., age of patient, educational background, and sensory deprivations.	3.25	772
	14	Develop innovative methods and materials for teaching patients.	2.86	754
	28	Promote the use of interdisciplinary resource persons.	2.90	710
	29	Use teaching aids and resource materials in teaching patients and their families.	3.18	723
	31	Encourage the family to participate in the care of the patient.	3.26	766
	32	Identify and use resources within your health care agency in developing a plan of care for a patient and his family.	3.09	724
	38	Communicate facts, ideas, and professional opinions in writing to patients and their families.	2.53	607
	39	Plan for the integration of patient needs with family needs.	3.15	750
		Total scale	3.08	
Planning/ evaluation	2	Coordinate the plan of nursing care with the medical plan of care.	3.36	791
	6	Identify and include in nursing care plans anticipated changes in a patient's condition.	3.25	778
	7	Evaluate results of nursing care.	3.68	800
	9	Develop a plan of nursing care for a patient.	3.65	785
	10	Initiate planning and evaluation of nursing care with others.	3.35	768
	13	Identify and include immediate patient needs in the plan of nursing care.	3.47	804
	36	Contribute to the plan of nursing care for the patient.	3.50	785
		Total scale	3.41	
IPR/communications	8	Promote the inclusion of the patient's decisions and desires concerning his care.	3.41	783
	15	Communicate a feeling of acceptance of each patient and a concern for the patient's welfare.	3.14	805
	16	Seek assistance when necessary.	3.55	821
	17	Help a patient communicate with others.	3.52	816
	20	Verbally communicate facts, ideas, and feelings to other health team members.	3.09	772
	21	Promote the patients' rights to privacy.	3.59	809
	22	Contribute to an atmosphere of mutual trust, acceptance, and respect among other health team members.	3.19	816
	24	Explain nursing procedures to a patient prior to performing them.	3.65	810

Table 59. — Nurse graduates: mean evaluation of nursing school preparation on behaviors contained in five performance scales — Continued

Scale	Item No.	Item content	$\bar{X}$	No.
IPR/communications cont'd.	33	Use nursing procedures as opportunities for interaction with patients.	3.47	794
	34	Contribute to productive working relationships with other health team members.	3.20	320
	35	Help a patient meet his emotional needs.	3.31	808
	42	Use opportunities for patient teaching when they arise.	3.05	914
		Total scale	3.38	

Table 60. — Nurse graduates: evaluation of nursing school preparation on five performance scales: a comparison by school type

Scales	AD graduates $\bar{X}$	(sd)	Diploma graduates $\bar{X}$	(sd)	Baccalaureate graduates $\bar{X}$	(sd)	F	p
Leadership	2.91	(0.58)	3.30	(0.52)	2.96	(0.54)	36.37	<.01
Critical care	2.83	(0.56)	3.25	(0.50)	2.71	(0.54)	82.12	<.01
Teaching/Collaboration	2.90	(0.54)	3.20	(0.43)	3.17	(0.45)	34.49	<.01
Planning/evaluation	3.29	(0.49)	3.53	(0.39)	3.39	(0.41)	24.52	<.01
IPR/communications	3.26	(0.47)	3.50	(0.35)	3.35	(0.42)	26.82	<.01

Table 61. — Nurse graduates: evaluation of nursing school preparation on five performance scales: a comparison by geographic region

Scales	North Atlantic $\bar{X}$	(sd)	Midwest $\bar{X}$	(sd)	South $\bar{X}$	(sd)	West $\bar{X}$	(sd)	F	p
Leadership	3.08	(0.63)	3.07	(0.64)	3.03	(0.63)	3.13	(0.57)	0.57	(1)
Critical care	2.98	(0.58)	2.98	(0.57)	2.91	(0.58)	2.96	(0.59)	0.81	(1)
Teaching/collaboration	3.11	(0.46)	3.09	(0.51)	3.04	(0.50)	3.09	(0.50)	0.84	(1)
Planning/evaluation	3.44	(0.41)	3.41	(0.46)	3.39	(0.48)	3.40	(0.41)	0.58	(1)
IPR/communications	3.41	(0.40)	3.39	(0.45)	3.33	(0.43)	3.37	(0.40)	1.33	(1)

(1) Not significant.

Table 62. — Nurse graduates: evaluation of nursing school preparation on five performance scales: a comparison by nomination status

Scales	Most promising $\bar{X}$	(sd)	Promising $\bar{X}$	(sd)	Nonselected $\bar{X}$	(sd)	F	p
Leadership	3.05	(0.64)	3.11	(0.59)	3.06	(0.65)	0.71	(1)
Critical care	2.93	(0.57)	3.00	(0.56)	2.95	(0.60)	0.80	(1)
Teaching/collaboration	3.09	(0.49)	3.09	(0.47)	3.07	(0.53)	0.43	(1)
Planning/evaluation	3.41	(0.45)	3.41	(0.44)	3.40	(0.44)	0.39	(1)
IPR/communications	3.39	(0.44)	3.40	(0.39)	3.33	(0.45)	2.25	(1)

(1) Not significant.

Table 63. — Supervisors of nurse graduates: distribution by sex

Sex	Number	Percent
Female	656	95.5
Male	25	3.6
No response	6	0.9
Total	687	100.0

Table 64. — Supervisors of nurse graduates: distribution by age

Age	Number	Percent
Under 25	35	5.1
25 to 34	243	35.4
35 to 44	193	28.1
45 to 54	137	19.9
Over 54	73	10.6
No response	6	0.9
Total	687	100.0

Table 65. — Supervisors of nurse graduates: distribution by basic nursing preparation

Basic nursing preparation	Number	Percent
LPN	7	1.0
RN, diploma	513	74.6
RN, associate degree	54	7.8
RN, baccalaureate	89	12.9
RN, master's	3	0.4
No nursing education (e.g., M.D.'s, or hospital administrators)	5	0.7
No response	16	2.3
Total	687	[1]100.0

[1] Total may not equal 100 percent because of rounding.

Table 66. — Supervisors of nurse graduates: distribution by highest educational level attained

Highest educational level attained	Number	Percent
Diploma (hospital school)	420	61.1
Associate degree	59	8.6
Baccalaureate degree in nursing	121	17.6
Baccalaureate degree (B.A. or B.S.) in area other than nursing	31	4.5
Master's degree (M.A., M.N., or M.S.)	41	6.0
Doctorate (Ph.D., Ed.D., or D.N.S.)	7	1.0
No response	8	1.1
Total	687	[1]99.9

[1] Total may not equal 100 percent because of rounding.

Table 67. — Supervisors of nurse graduates: distribution by number of years since their most recent nursing education degree was obtained

Years since most recent nursing education degree obtained	Number	Percent
2 or under	44	6.4
3 - 5	93	13.5
6 - 10	131	19.1
11 - 20	153	22.3
Over 20	197	28.7
No response	69	10.0
Total	687	100.0

Table 68. — Supervisors of nurse graduates: distribution by title of position

Position title	Number	Percent
Head nurse/assistant	313	45.5
Charge nurse/team leader	24	3.4
Staff nurse	14	2.0
Clinical specialist	10	1.4
Inservice educator	5	0.7
Supervisor	203	29.5
Director of nursing/assistant	83	12.0
Other	32	4.6
No response	3	0.4
Total	687	[1]100.0

[1] Total may not equal 100 percent due to rounding.

Table 69. — Supervisors of nurse graduates: distribution by working time patterns[1]

Working time patterns	Number	Percent
Days	493	71.7
Evenings	61	8.8
Nights	57	8.2
Rotation		
Day-evening	18	2.6
Evening-night	2	0.2
Day-evening-night	48	6.9
Flexible	4	0.5
No response	10	1.4

[1] Supervisors were not limited to a single response.

Table 70. — Supervisors of nurse graduates: distribution by time of employment in current health care agency

Length of current employment	Number	Percent
Less than 6 months	10	1.5
6 months to 1 year	31	4.5
1 to 3 years	101	14.7
3 to 5 years	113	16.5
5 to 10 years	174	25.3
Over 10 years	253	36.8
No response	5	0.7
Total	687	100.0

Table 71. — Supervisors of nurse graduates: distribution by the length of time the graduate was known by the supervisor

Length of time graduate known	Number	Percent
1 month or less	2	0.3
2 - 3 months	24	3.5
4 - 5 months	44	6.4
6 months or more	604	87.9
No response	13	1.9
Total	687	100.0

Table 72. — Supervisors of nurse graduates: distribution by the length of time the supervisor had supervised the graduate

Length of time supervised graduate	Number	Percent
1 month or less	6	0.9
2 - 3 months	44	6.4
4 - 5 months	53	7.7
6 months or more	567	82.5
No response	17	2.5
Total	687	100.0

Table 73. — Supervisors of nurse graduates: distribution by direct responsibility for evaluating the graduate's performance

Direct responsibility for evaluating graduate	Number	Percent
Yes	604	87.9
No	59	8.6
No response	24	3.5
Total	687	100.0

Table 74. — Supervisors of nurse graduates: mean frequency ratings of nurse graduates' behaviors contained in five performance scales

Scale	Item No.	Item content	$\bar{X}$	No.
Leadership				
	3	Gives praise and recognition for achievement to those under his/her direction.	3.85	676
	23	Delegates responsibility for care based on assessment of priorities of nursing care needs *and* the abilities and limitations of available health care personnel.	4.04	676
	25	Guides other health team members in planning for nusing care.	4.01	670
	26	Accepts responsibility for the level of care provided by those under his/her direction.	4.20	673
	41	Remains open to the suggestions of those under his/her direction and uses them when appropriate.	4.03	
		Total scale		
Critical care				
	11	Performs technical procedures; e.g., oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes, etc.	4.68	675
	18	Uses mechanical devices; e.g., suction machine, Gomco, cardiac monitor, respirator, etc.	4.81	674
	19	Gives emotional support to family of dying patient.	3.95	669
	27	Performs appropriate measures in emergency situations.	4.39	669
	30	Performs nursing care required by critically ill patients.	4.36	675
	37	Recognizes and meets the emotional needs of a dying patient.	3.91	663
	40	Functions calmly and competently in emergency situations.	4.35	672
		Total scale	4.28	
Teaching/collaboration				
	1	Teaches a patient's family members about the patient's needs.	4.08	682
	4	Teaches preventive health measures to patients and their families.	3.72	680
	5	Identifies and uses community resources in developing a plan of care for a patient and his family.	3.13	680
	12	Adapts teaching methods and materials to the understanding of the particular audience; e.g., age of patient, educational background, and sensory deprivations.	3.89	662
	14	Develops innovative methods and materials for teaching patients.	3.22	665
	28	Promotes the use of interdisciplinary resource persons.	3.61	656
	29	Uses teaching aids and resource materials in teaching patients and their families.	3.45	668
	31	Encourages the family to participate in the care of the patient.	3.76	674
	32	Identifies and uses resources within your health care agency in developing a plan of care for a patient and his family.	3.56	668
	38	Communicates facts, ideas, and professional opinions in writing to patients and their families.	2.74	661
	39	Plans for the integration of patient needs with family needs.	3.70	668
		Total scale	3.53	

Table 74. — Supervisors of nurse graduates: mean frequency ratings of nurse graduates' behaviors contained in five performance scales — Continued

Scale	Item No.	Item content	$\bar{X}$	No.
Planning/evaluation				
	2	Coordinates the plan of nursing care with the medical plan of care.	4.49	674
	6	Identifies and includes in nursing care plans anticipated changes in a patient's condition.	4.14	676
	7	Evaluates results of nursing care.	4.27	673
	9	Develops a plan of nursing care for a patient.	4.24	677
	10	Initiates planning and evaluation of nursing care with others.	4.07	671
	13	Identifies and includes immediate patient needs in the plan of nursing care.	4.54	671
	36	Contributes to the plan of nursing care for the patient.	4.45	675
		Total scale	4.31	
IPR/communications				
	3	Promotes the inclusion of the patient's decisions and desires concerning his care.	4.20	676
	15	Communicates a feeling of acceptance of each patient and a concern for the patient's welfare.	4.81	674
	16	Seeks assistance when necessary.	4.64	673
	17	Helps a patient communicate with others.	4.17	659
	20	Verbally communicates facts, ideas, and feelings to other health team members.	4.69	676
	21	Promotes the patients' rights to privacy.	4.69	669
	22	Contributes to an atmosphere of mutual trust, acceptance, and respect among other health team members.	4.67	671
	24	Explains nursing procedures to a patient prior to performing them.	4.66	674
	33	Uses nursing procedures as opportunities for interaction with patients.	4.32	669
	34	Contributes to productive working relationships with other health team members.	4.62	675
	35	Helps a patient meet his emotional needs.	4.48	676
	42	Uses opportunities for patient teaching when they arise.	4.26	676
		Total scale	4.52	

Table 75. — Supervisors of nurse graduates: mean evaluations of nurse graduates' behaviors contained in six performance scales

Scale	Item No.	Item content	$\bar{X}$	No.
Leadership				
	3	Gives praise and recognition to those under his/her direction.	2.72	559
	23	Delegates responsibility for care based on assessment of priorities of nursing care needs *and* the abilities and limitations of available health care personnel.	2.87	562
	25	Guides other health team members in planning for nursing care.	2.78	582
	26	Accepts responsibility for the level of care provided by those under his/her direction.	3.05	599
	41	Remains open to the suggestions of those under his/her direction and uses them when appropriate.	2.94	604
		Total scale	2.87	
Critical care				
	11	Performs technical procedures; e.g., oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes, etc.	3.32	652
	18	Uses mechanical devices; e.g., suction machine, Gomco, cardiac monitor, respirator, etc.	3.19	612
	19	Gives emotional support to family of dying patient.	2.98	563
	27	Performs appropriate measures in emergency situations.	3.03	647

Table 75. Supervisors of nurse graduates: mean evaluations of nurse graduates' behaviors contained in six performance scales — Continued

Scale	Item No.	Item content	$\bar{X}$	No.
Critical care cont'd.				
	30	Performs nursing care required by critically ill patients.	3.24	607
	37	Recognizes and meets the emotional needs of a dying patient.	2.88	545
	40	Functions calmly and competently in emergency situations.	2.89	652
		Total scale	3.06	
Teaching/collaboration				
	1	Teaches a patient's family members about the patient's needs.	2.96	582
	4	Teaches preventive health measures to patients and their families.	2.76	543
	5	Identifies and uses community resources in developing a plan of care for a patient and his family.	2.50	407
	12	Adapts teaching methods and materials to the understanding of the particular audience; e.g., age of patient, educational background, and sensory deprivations.	2.88	530
	14	Develops innovative methods and materials for teaching patients.	2.48	451
	28	Promotes the use of interdisciplinary resource persons.	2.67	514
	29	Uses teaching aids and resource materials in teaching patients and their families.	2.68	481
	31	Encourages the family to participate in the care of the patient.	2.88	523
	32	Identifies and uses resources within your health care agency in developing a plan of care for a patient and his family.	2.68	496
	38	Communicates facts, ideas, and professional opinions in writing to patients and their families.	2.39	283
	39	Plans for the integration of patient needs with family needs.	2.73	521
		Total scale	2.70	
Planning/evaluation				
	2	Coordinates the plan of nursing care with the medical plan of care.	3.03	625
	6	Identifies and includes in nursing care plans anticipated changes in a patient's condition.	2.75	616
	7	Evaluates results of nursing care.	2.87	614
	9	Develops a plan of nursing care.	2.94	611
	10	Initiates planning and evaluation of nursing care with others.	2.82	592
	13	Identifies and includes immediate patient needs in the plan of nursing care.	3.07	644
	36	Contributes to the plan of nursing care for the patient.	3.04	635
		Total scale	2.94	
IPR/communications				
	8	Promotes the inclusion of the patient's decisions and desires concerning his care.	2.95	591
	15	Communicates a feeling of acceptance of each patient and a concern for the patient's welfare.	3.29	674
	16	Seeks assistance when necessary.	3.26	650
	17	Helps a patient communicate with others.	2.92	591
	20	Verbally communicates facts, ideas, and feelings to other health team members.	3.11	670
	21	Promotes the patients' rights to privacy.	3.18	655
	22	Contributes to an atmosphere of mutual trust, acceptance, and respect among other health team members.	3.13	665
	24	Explains nursing procedures to a patient prior to performing them.	3.29	642
	33	Uses nursing procedures as opportunities for interaction with patients.	3.03	619
	34	Contributes to productive working relationships with other health team members.	3.00	669
	35	Helps a patient meet his emotional needs.	2.98	652
	42	Uses opportunities for patient teaching when they arise.	2.91	634
		Total scale	3.09	

Table 75. — Supervisors of nurse graduates: mean evaluations of nurse graduates' behaviors contained in six performance scales — Continued

Scale	Item No.	Item content	$\bar{X}$	No.
Professional development				
	67	Uses learning opportunities for ongoing personal and professional growth.	2.62	685
	68	Displays self-direction.	2.70	685
	69	Accepts responsibility for own actions.	2.86	686
	70	Assumes new responsibilities within the limits of capabilities.	2.78	685
	71	Maintains high standards of performance.	2.84	686
	72	Demonstrates self-confidence.	2.72	686
	73	Displays generally positive attitude.	2.81	686
	74	Demonstrates knowledge of the legal boundaries of nursing.	2.60	685
	75	Demonstrates knowledge of the ethics of nursing.	2.78	685
	76	Accepts and uses constructive criticism.	2.71	685
		Total scale	2.74	

Table 76. — Supervisors of nurse graduates: evaluations of nurse graduates' performance on six performance scales: a comparison by school type

Performance scale	AD	Diploma	Bacc.	F	p
Leadership					
$\bar{X}$	2.87	2.84	2.90	0.23	(1)
sd	0.76	0.75	0.77		
Critical care					
$\bar{X}$	3.01	3.09	3.09	0.91	(1)
sd	0.75	0.69	0.70		
Teaching/collaboration					
$\bar{X}$	2.62	2.67	2.87	7.31	<.01
sd	0.72	0.65	0.70		
Planning/evaluation					
$\bar{X}$	2.86	2.94	3.05	3.30	<.05
sd	0.78	0.69	0.74		
IPR/communications					
$\bar{X}$	3.07	3.06	3.15	0.98	(1)
sd	0.69	0.66	0.67		
Professional development					
$\bar{X}$	2.73	2.73	2.76	0.38	(1)
sd	0.40	0.35	0.31		

[1] Not significant.

Table 77. — Supervisors of nurse graduates: evaluations of nurse graduates' performance on six performance scales: a comparison by geographic region

Scales	No. Atlantic $\bar{X}$	(sd)	Midwest $\bar{X}$	(sd)	South $\bar{X}$	(sd)	West $\bar{X}$	(sd)	F	p
Leadership	2.84	(0.75)	2.75	(0.73)	3.00	(0.76)	2.98	(0.79)	4.33	<.05
Critical care	3.05	(0.70)	3.00	(0.70)	3.15	(0.73)	3.09	(0.76)	1.52	(1)
Teaching/collaboration	2.71	(0.70)	2.61	(0.66)	2.82	(0.75)	2.75	(0.67)	3.09	<.05
Planning/evaluation	2.92	(0.76)	2.90	(0.69)	3.04	(0.76)	2.93	(0.76)	1.30	(1)
IPR/communications	3.08	(0.68)	2.99	(0.69)	3.20	(0.65)	3.16	(0.65)	3.51	<.05
Professional development[2]	2.74	(0.38)	2.71	(0.32)	2.76	(0.41)	2.75	(0.32)	0.63	(1)

[1] Not significant.

[2] The items on the professional behaviors scale had a maximum rating of 3 and a minimum rating of 1; all other items had a maximum rating of 4 and a minimum rating of 1.

Table 78. — Supervisors of nurse graduates: evaluation of nurse graduates' performance on six performance scales: a comparison by nomination status

Scales	Most promising $\bar{X}$	(sd)	Promising $\bar{X}$	(sd)	Nonselected $\bar{X}$	(sd)	F	p
Leadership	2.94	(0.75)	2.88	(0.74)	2.77	(0.79)	3.00	<.05
Critical care	3.17	(0.67)	3.05	(0.73)	2.96	(0.75)	4.98	<.01
Teaching/collaboration	2.81	(0.71)	2.68	(0.68)	2.60	(0.69)	5.53	<.01
Planning/evaluation	3.05	(0.70)	2.91	(0.77)	2.84	(0.73)	4.77	<.01
IPR/communications	3.16	(0.66)	3.09	(0.64)	3.00	(0.72)	2.92	(1)
Professional Development[2]	2.78	(0.30)	2.76	(0.36)	2.66	(0.41)	7.26	<.01

[1] Not significant.
[2] The items on the professional behaviors scale had a maximum rating of 3 and a minimum rating of 1; all other items had a maximum rating of 4 and a minimum rating of 1.

Table 79. — Supervisors of nurse graduates: evaluations of nurse graduates' performance on six performance scales: a comparison by nomination status as selected and nonselected

Scales	Selected $\bar{X}$	(sd)	Nonselected $\bar{X}$	(sd)	F	p
Leadership	2.91	(0.74)	2.77	(0.78)	5.16	<.05
Critical care	3.11	(0.70)	2.95	(0.75)	7.06	<.01
Teaching/collaboration	2.75	(0.70)	2.60	(0.69)	7.04	<.01
Planning/evaluation	2.99	(0.73)	2.84	(0.73)	5.69	<.05
IPR/communications	3.12	(0.65)	3.00	(0.72)	4.74	<.05
Professional development[1]	2.77	(0.33)	2.66	(0.41)	7.01	<.01

[1] The items on the professional behaviors scale had a maximum rating of 3 and a minimum rating of 1; all other items had a maximum rating of 4 and a minimum rating of 1.

Appendix A
METHODOLOGY

The overall methodological strategy of the entire study Prediction of Successful Nursing Performance was to (1) obtain data from a representative sample of no less than 10 percent of all State-accredited basic schools of nursing in the United States regarding admission practices, evaluation strategies, and prediction of the performance of their 1975 cohort of graduates; and (2) obtain performance evaluations and other performance-relevant data from a sample of those graduates and their immediate superiors in their present employment settings. The methodology for achieving the first of these major objectives is described in the earlier report of the nursing school phase of the study.[1] It should be noted here that the data for this report are based on responses from graduates of 151 schools of nursing, while only 150 schools were included in the nursing school report. This is due to the fact that the data from one nursing school was received too late to be included in the nursing school analysis, but the number of potential and actual respondents among its graduates was sizable and we did not wish to reduce our graduate response rate by eliminating their questionnaires. Moreover, the responses from that school were quite consistent with those of the other schools of nursing with whom it shared significant structural characteristics.

Selection of Potential Nurse Graduate Respondents

Each participant in the nursing school phase of the study had been asked to (1) supply the names and most recently known addresses of the spring 1975 graduates from her school of nursing; (2) identify from that graduated group, the 25 percent who were "considered as having the greater potential for being successful in nursing practice";[2] and (3) further identify from among that promising group those who were considered "... to have the greatest potential for being successful in nursing practice."[3] Respondents were directed to choose as many or as few for this latter group as they wished. Criteria for nomination to the two groups (who are referred to as "promising" and "most promising" in the body of this report) were not specified. Respondents from the schools of nursing were, in fact, asked to specify the criteria they had used for nomination.[4]

From each total class list, a 20-percent random sample was selected using a table of random numbers and associated sampling procedures.[5] This random sample did, of course, include names of some "most promising" (MP), "promising" (P), and "non-selected" (N-S) graduates. The names of the MP and P graduates who had not appeared in the random sample were also added to the list of potential respondents, thereby "loading" our sample heavily with graduates of probable high caliber. However, this top-heavy loading was entirely consistent with the goals of the project as specified by the Division of Nursing in its original request for proposals. The identifying code number of all potential and actual respondents included whether or not they had been one of the random sample. While almost all the data analysis in this report is based on responses from the total group of graduate respondents, which is acknowledged to be overloaded with graduates of greater potential, it would also be possible to analyze the responses of a genuinely random sample of nurse graduates from that 1975 cohort, if the research question of interest required such an approach.

According to our original projections of the probability of "overlap" between the randomly sampled group and the 25 percent whom the school respondents had nominated as "promising," we anticipated that an average of 40 percent of each class of graduates would

[1] Schwirian, op. cit., Part II, Appendix II-B, p. 205.
[2] Ibid. Appendix II-B, p. 208
[3] Ibid.
[4] Ibid.
[5] Malcolm J. Slakter, *Statistical Inference for Educational Researchers*, Reading, Mass: Addison-Wesley Publishing Co., 1972, table D.

actually be selected as potential respondents. This was, in fact, the case; an overall average of 41 percent of the graduates of the participating nursing schools were asked to participate as nurse graduate respondents.

Graduate and Supervisor Questionnaires — Purpose and Development

Our problem was to design a set of questionnaires intended to obtain from the cohort of nursing school graduates and from their employers, information relative to the effectiveness of their performance on the job. These questionnaires had to encompass the many diverse occupational settings and positions being held by the new graduates and their supervisors.

The literature review provided an excellent avenue for identifying a wide variety of instruments used in nursing performance studies conducted during the past 10 years. These instruments helped us to clarify and specify the actual data required to meet the study objectives and to suggest formats and content areas that could be considered as alternatives.

The Nursing Graduate Self-Appraisal (see form in appendix B) is comprised of three main sections: Section I obtained data about the graduate's current employment and professional activities since graduation from nursing school; Section II obtained data on the frequency and quality of the graduate's performance of 76 nursing behaviors; and Section III obtained data on the graduate's education, preparation for nursing practice, and general biographical data.

The Employer Appraisal of Nursing Graduate questionnaire contained two sections: Section I obtained the immediate superior's judgment of the frequency and quality of the graduate's performance of the same 76 nursing behaviors that were included in Section II of the Nursing Graduate Self-Appraisal; and Section II obtained general biographical and professional data from the graduate's immediate superior.

When the questionnaire development was completed, the forms were reviewed by Dr. Marlene Kramer, Professor of Nursing, University of California, San Francisco; Rose Hauer, Director of Nursing Service and School of Nursing, Beth Israel Medical Center, New York City; Ruth Fine, Director of Nursing Service, University of Washington Medical Center; Yvonne Munn, Director of Nursing Service, Rush Presbyterian/St. Luke's Medical Center, Chicago; and Martha Haber, Director of Nursing Service, University of California, San Francisco.

Questionnaire Content Rationale — Nursing Graduate Self-Appraisal

Section I contained questions (items 1-9) relevant to the general employment status and history of the responding nursing graduate. The purpose of collecting these data was to describe the graduates' employment settings as completely as possible. Each item was considered to have direct relevance to the nature and perceived quality of nursing performance, which was the major focus of the study. Items 1, 3, 4, 5, and 6 were directly descriptive of the respondents' job situations. Items 7, 8, and 9 were intended to serve as general indicators of attitude toward the job and toward nursing. The intent was to provide choices indicative of motivations which are both external and internal in nature. The reasons provided for not working in nursing (item 2) were selected on the same basis. A number of the choices were suggested by Kramer since she had found them to be common responses from the recent nursing graduates who were included in her study.

Items 10-16 were designed to assess the graduates' levels of participation and involvement in continuing education efforts and in professional nursing activities and organizations. While such activities presumably are not required in order to obtain and keep a job in nursing, they are commonly viewed as contributing to the quality of a nurse's knowledge and practice. They are also interpreted by some as indicators of the degree of commitment to the nursing profession.

Section II was, in effect, the heart of the questionnaire. It was the operationalization of the major dependent variable of interest—nursing performance. A wide variety of existing performance inventories was studied in the course of the development of this performance tool. The central focus at all times was the development of items that were descriptive of behaviors that contribute to high quality nursing care for clients. Careful study of relevant literature led us to the conclusion that seven categories of nursing behaviors should be represented in the performance rating instru-

ment. These categories were (1) planning nursing care, (2) implementing nursing care, (3) evaluating nursing care, (4) teaching, (5) interpersonal relations, (6) leadership, and (7) professional development. Every effort was made to construct items descriptive of behaviors appropriate to a wide variety of nursing care settings — not just hospitals. While we fully realized that the great majority (approximately 90 percent based on recent findings of Knopf,[6 7] and Nash[8]) would be employed in hospitals, the remaining 40 percent or so could potentially include a large number of actual respondents.

While the items were in the development stage, they were grouped into the seven categories for easy reference. However, in order to minimize respondent bias to a labeled or grouped set of items, the items (with the exception of the professional development category) were randomly ordered in the final questionnaire. The distribution of items in each of the seven categories as originally conceptualized is as follows:

Category	*Item numbers*
Planning nursing care	3, 4, 7, 12, 18, 19, 31, 47, 53, 58, 60, 65
Implementing nursing care	1, 8, 14, 20, 24, 26, 28, 36, 37, 38, 41, 42, 45, 46, 57, 61
Evaluating nursing care	10, 15, 49, 22, 52
Teaching	2, 6, 16, 21, 44, 54, 59, 66
Interpersonal relations	5, 9, 11, 17, 23, 25, 27, 29, 30, 32, 33, 34, 48, 50, 51, 55, 56, 64
Leadership	13, 35, 39, 40, 43, 62, 63
Professional development	67, 76

When the performance appraisal was ready for use in the study, it was best described has having had construct validity alone. The limitation of the pilot administration to less than 10 respondents prior to OMB approval precluded a rigorous statistical test of validity or reliability. However, there was general consensus among the developers and a wide variety of consultants and pilot respondents that the behaviors were, in fact, descriptive of nursing behaviors contributory to good client care. Further, content analysis of the questionnaires which were received from participating schools of nursing indicated that the behaviors included in the nursing graduate performance assessment form were representative of the criteria that directors and faculties of schools of nursing had given for "effective nursing performance" and "a successful nurse."

One question we consistently asked our consultants and pilot respondents after their review/use of the questionnaire was whether or not the included behaviors would be likely to provide data that were biased either for or against any of the three types of nursing program graduates; i.e., associate degree, diploma, or baccalaureate. Consultants and respondents agreed that they perceived no bias.

A second validity issue that should be noted is whether or not the items did, indeed, "belong" in the appropriately represented categories which were previously agreed upon by the development group and reviewers. This typological question was addressed in the first stages of data analysis. The classification structure as defined by the original constructs was examined via a principal components analysis of the responses to the performance items. It was anticipated that initial data analysis would also include computation of item reliability estimates, thereby allowing us to eliminate low reliability items from the computed performance scale scores of all respondents. However, certain outcomes of the principal components analysis subsequently omitted this procedure as the basis for eliminating "non-contributing" items. Those procedures and outcomes are described in the analysis section below and are discussed briefly in section II of this report.

It may be seen that there was a frequency-of-performance element, as well as a quality-of-performance element incorporated into each of the items (1-66). The inclusion of a frequency-of-performance element was considered by the staff (and by several of the consultants who commented on it) to be of particular necessity in an instrument which was to apply to nurses practicing in a wide variety of settings as our respondents would probably be doing. One can hardly rate the quality of his/her performance on a task which he/she does not do—either because it is not applicable to the job setting or because it is not expected of a nurse at his/her level of experience. Both of these options for non-performance were provided as responses in Column A.

It may be seen that the directions and format for the last 10 items were modified. A quality-

[6] Lucille Knopf, *From Student to RN: A Report of the Nurse Career Pattern Study*; DHEW Publication No. (NIH) 72-130, 1972.

[7] Lucille Knopf, *RNs: One and Five Years After Graduation*, New York, National League for Nursing, 1975.

[8] Patricia M. Nash, *Evaluation of Employment Opportunities for Newly Licensed Nurses*, DHEW Publication No. (HRA) 75-12, May, 1975.

of-performance component simply is not applicable for such behaviors. One consultant suggested that these behaviors should not be included in the graduates' self-appraisals because they would not be able to provide objective responses anyway. After extensive consideration, it was decided that while in all probability the graduates' responses would be positively biased, the items should remain for several reasons. First, these are behaviors which could be called "good worker" behaviors, and do affect overall nursing performance. Secondly, we told the graduates that their supervisors would be asked to rate them on the same behaviors on which they were rating themselves; therefore, if supervisors rated them on these behaviors, the graduates should be given the same opportunity. Finally, it seemed quite appropriate to consider the hypothesis that a significant discrepancy between supervisor and self-ratings in this category of variables may be manifested in a biased response from the supervisor regarding other nursing behaviors as well. Therefore, an indicator of rating discrepancies between graduates and supervisors on this section was judged as being critical to the establishment of objectivity and validity of the supervisor's evaluations.

The first 12 items in section III were designed to determine various aspects of recent graduates' motivations and attitudes surrounding nursing and their nursing education. Such motivations and attitudes were viewed by the staff and consultants as significantly impinging on a new graduate's performance in nursing. The open-ended format for these questions was chosen so as not to unnecessarily structure or prejudice the graduates' responses. While it was anticipated that most responses would fall into a relatively limited number of categories, we did not wish to lose data by implying such limits. In the questionnaire development stage, our intent was to limit the number of open-ended questions on the assumption that using a checklist is an easier response mode for respondents. Our feedback from our pilot nurse graduate respondents, however, indicated that they really enjoyed answering the open-ended items. Several consultants with research experience in similar areas supported this finding.

Items 13-17 were included because many new graduates reported that while they feel their nursing school curriculum was somewhat limiting (particularly in clinical and technical experience) they were able to develop greater competence and confidence through some employment and/or extracurricular organizational experiences they had while still in school.

Items 18-22 obtained data related to the most typically used indicators of the nursing achievement of new or recent nursing graduates — academic grade point average and State Board Examination scores. While previous research indicates very mixed findings regarding the relationship between grades, State Board Examination scores, and clinical performance, we viewed this as an opportunity to reexamine those relationships in a systematic way with a large, nationally representative sample.

The general biographical data requested in items 23-37 were necessary in order to describe the respondents as completely as possible. While many of these data could have been obtained earlier from student records at the school from which they graduated, this direct questionnaire-based method was selected because (1) the graduates should have the option not to provide the data if they so desire, and (2) we did not wish to add to the already sizable response burden of the participating schools of nursing.

The information at the bottom of page 11 of the questionnaire was necessary to complete the final data collection stage of the study — that of obtaining performance appraisal data from each graduate's immediate supervisor.

Questionnaire Content Rationale — Employer Appraisal of Nursing Graduate

The content of Section I of the questionnaire (see form in appendix B) was identical to the content of the preceding Nursing Graduate Self-Appraisal form, Section II, with the exception of the appropriately modified directions and the change of all verbs from first to third person. In addition to the rating data, the first three questions were added in order to ascertain the "experience base" from which the immediate supervisor was providing the evaluation data for the nurse graduate.

Section II obtains some very basic data regarding the characteristics and nursing experience of the responding immediate supervisors. These include sex, age, and the nature and recency of nursing and non-nursing education

(items 1-5). The minimal employment data requested in items 6 and 7 were necessary to adequately describe the responding individuals in terms of their tenture and roles in the employing institutions. It also assisted in clarifying the structural relationship between the evaluator and the graduate whose performance he/she was evaluating.

At first glance, item 8 may seem superfluous if one assumes that the graduate and the evaluator were always working the same shift. This was not necessarily the case, particularly in smaller health care agencies. Therefore, the question was relevant and necessary as a possible indicator of how closely the responding evaluator may, in fact, have been in touch with the performance of the graduate.

Administration of the Questionnaires

All members of the sample of 1975 nurse graduates who had been selected as potential respondents were mailed a copy of the questionnaire and a self-addressed stamped return envelope on March 5, 1976. When a completed nurse graduate questionnaire was returned, assuming the responding graduate gave permission to obtain employer appraisal data, the director of nursing (or equivalent individual) in the graduate's employing institution was promptly mailed a copy of the Employer Appraisal of Nursing Graduate questionnaire and a self-addressed stamped envelope for return. It may be seen on the cover of the Employer Appraisal that a brief explanation of the study was provided to the Director and he/she was requested to give the questionnaire and envelope to the immediate supervisor whom the nurse graduate had identified. The rationale for sending the questionnaire to the Director rather than directly to the immediate supervisor was a strategy suggested by Marlene Kramer, one of our consultants. The general rationale was that the immediate superior might not be permitted by institutional regulations to provide any worker-evaluation data without the director's knowledge and permission. Moreover, we considered it likely that a request from a director might receive attention more promptly than one from an anonymous researcher many, many miles away.

Followup mailings to nurse graduate respondents were necessarily limited by the large number of potential respondents originally identified, and, thus, the resources which would have been required would have been excessive in our judgment (postage alone was $.54 per potential respondent). Therefore, we focused our followup efforts on nurse graduates who were in cells (according to our original stratification procedures for nursing schools) with lower than average response rates. Copies of the two nurse graduate followup letters are included in appendix C. Since the number of potential employer respondents was considerably smaller, we routinely mailed "reminder" letters and new questionnaires and return envelopes to directors of nonresponding immediate supervisors if completed questionnaires had not been received within 1 month of the original mailing.

Data Analysis

Completed questionnaires from nurse graduates and supervisors were coded by the project staff; the data were keypunched on IBM cards and subsequently written on disk files for computer analysis. The Ohio State University IBM #1370 computer was used. The appropriate subroutines from the *Statistical Package for the Social Sciences (SPSS)* were used to describe and analyze the data. These routines included frequencies, crosstabs, t-tests, condescriptive, breakdown, anova, one-way, factor, Pearson R, and partialcorr.

It should be noted here that while the identity of each respondent was, of necessity, known to the research staff, all data forms—cards, magnetic tape or disk—carried no personal identifiers of schools, nurse graduates, or supervisors. Moreover, at the termination of the contract all lists of names and addresses which could possibly be used to identify data with any particular respondent were destroyed in accordance with the contract specifications as well as appropriate research ethics regarding respondents' right to privacy.

As noted earlier, the determination of content and construction of the 76 nurse-behavior items which were used in the questionnaire were carried out by the staff within the framework of seven general constructs: (1) planning nursing care, (2) implementing nursing care, (3) evaluating nursing care, (4) teaching, (5) interpersonal relations, (6) leadership, and (7) professional development. These were useful constructs which were consistent with the literature as well as the professional judgments of our staff

and consultants.

However, the resulting 76-item performance rating instrument was, in fact, quite cumbersome and two of the many goals of the analysis were to (1) test the validity of our *a priori* constructs in terms of the actual responses of nurse graduates and supervisors; and (2) eliminate items which were the least useful in differentiating between levels of effectiveness in nurse performance, thereby "streamlining" the instrument considerably and making it more useful as both a research and performance evaluation tool.

Therefore, the self-appraisals of performance from the nurse graduates and the performance appraisals from the supervisors were subjected to principal components analyses. The factor structures which resulted from these analyses were very similar to each other. We, therefore, determined that, while the resulting six subscales actually crosscut our seven behavioral constructs as originally conceptualized, the high degree of similarity of factor structure between the nurse graduates' appraisals and the supervisors' appraisals provided a sound data-based rationale for supplanting the original seven behavioral subscales of 76 items with 6 behavioral subscales containing a total of 52 items. The resulting six subscales are (1) interpersonal relations and communications (IPR/C) of 12 items; (2) leadership, containing 5 items; (3) critical care (CC), which has 7 items; (4) teaching and family collaboration (T/FC), 11 items; (5) planning, which contains 7 items; and (6) professional development, 10 items. The items in each subscale are shown in table 75.

One methodological problem arose in determining a functional method for calculating a meaningful, easily interpretable score for each of the six performance subscales. The scales are of different lengths (from 5 up to 12 items); moreover, not every respondent was evaluated on every item if the behavior was not one which was associated with the type of job he/she had. We did not wish to lower a person's scale score just because the job situation did not require the performance of all the behaviors in that scale. To be most succinct, our goal was to calculate a subscale performance score which reflected the level of performance on those scale behaviors on which the nurse graduate was evaluated either by herself or by her supervisor.

The scoring formula which was devised to generate "fair," standardized subscale scores was

$$\frac{\sum x_1 \ldots x_n}{n - m}$$

where

$x_1 \ldots x_n$ = the numerical ratings given to the nurse graduate on each behavior in the subscale,

n = the total number of items in the subscale, and

m = the number of items in the subscale for which the graduate was given no behavior rating.

It may be seen that this is actually an "average" of ratings on behaviors which were, in fact, rated; since it is standardized, we were then able to compare subscale scores between subscales of different lengths.

Appendix B

QUESTIONNAIRES USED IN THE STUDY

Prediction of Successful Nursing Performance

OMB #68-9-74075
Expires: 6/30/77

1585 NEIL AVENUE, COLUMBUS, OHIO 43210

Patricia M. Schwirian, Ph.D.
Project Director

(614) 422-3943

NURSING GRADUATE SELF-APPRAISAL

We hope the accompanying letter provides you with sufficient detail to secure your participation in the study. Return of the completed appraisal form will convey to us your consent to participate.

The code number which appears on this form has been assigned to you in order to assure the confidentiality of your responses. The specific information you provide will be seen only by members of our staff.

Please respond to the questions on the following pages as completely as you can.

THANK YOU VERY MUCH FOR YOUR COOPERATION

2 0 2 1-20

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PART III

SECTION I

Instructions: Please circle the appropriate letter(s) to indicate your choice(s) of answers whenever possible; otherwise, a few words are usually sufficient to answer the question. Please feel free to use additional sheets for more detailed comments if you wish.

1. What is your current employment status? (Please circle as many as apply.)

   a—I am employed full-time in nursing
   b—I am employed part-time in nursing (average hrs./wk. ____)
   c—I am employed in a non-nursing job
   d—I have been employed in nursing since graduation, but am not at the present time
   e—I have not been employed in nursing since graduation

2. If you are not currently employed in nursing, please indicate the reason(s). (Please circle as many as apply.)

   a—Family responsibilities
   b—Hours not suitable
   c—Health reasons
   d—Employment opportunities limited/not available
   e—Spouse prefers I do not work
   f—Economic situation does not require it
   g—Student
   h—Hours and pay not adequate for effort made
   i—I don't like nursing
   j—Not within reasonable travel distance from nursing institution
   k—Not type of practice I desire
   l—In process of moving from present location
   m—Presently seeking employment
   n—Other (Please specify: _____)

NOTE: If you are not currently employed in nursing, please proceed to question 9 on page 2.

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a b c d e	21-25
a b c d e	26-30
f g h i j	31-35
k l m n	36-39
(___)	40-41

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3. Please describe your present employment.

TYPE OF EMPLOYING AGENCY (e.g., General Hospital, Public Health Department, Industry, etc.)	YOUR PRIMARY AREA OF NURSING (e.g., Obstetrical, Medical, Psychiatric, etc.)	WORK SITE (e.g., Nursery, Outpatient Clinic, M.D.'s Office, Inpatient Unit, E.R., CCU, etc.)	WHEN DID YOU BEGIN WORK? (Month)	(Year)	
					42-51
					52-61

4. What is the type of position you hold?

a—Staff nurse
b—Private duty nurse
c—Assistant head nurse
d—Head nurse
e—Supervisor
f—Instructor
g—Other (Please specify:_____)

62 | 63-64

5. What type of working hours are you required to keep with your present job? (Please circle as many as apply.)

a—Day shift
b—Evening shift
c—Night shift
d—Rotating shifts
e—My hours are flexible and self-determined
f—I am required to work some weekends
g—Other (please specify:_____)

a b c d e | 65-69
f g | 70-71
72-73

6. What is the best estimate of your current annual salary?

a—Under $6,000
b—$6,000 - $7,999
c—$8,000 - $9,999
d—$10,000 - $11,999
e—$12,000 - $14,999
f—$15,000 - $16,999
g—$17,000 and above

2 1 | 1-2
3

7. For what reason(s) did you choose your current job in nursing? (Please circle as many as apply.)

a—It is my clinical area of choice.
b—I felt I could benefit from the additional learning experiences.
c—The salary is good.
d—There is a good chance for advancement.
e—The position offers good fringe benefits.
f—Working conditions were favorable.
g—It is a place where I can use my education and abilities.
h—It was the only job available here.
i—I was limited to this locality.
j—I needed the money.
k—As preparation for another job.
l—It is convenient in terms of transportation to and from work.
m—Other (Please specify:_____)

a b c d e | 4-8
f g h i j | 9-13
k l m | 14-16
17-18

8. Please circle as many as apply to the following statement: "I plan to stay in my current job until I find a job:

a—with more individual status."
b—with higher salary."
c—with better working hours."
d—with chance for advancement."
e—with better working conditions."
f—in the clinical area I prefer."
g—with more professional independence."
h—outside of the nursing field."
i—in a better location."
j—I do not anticipate changing jobs.
k—Other (Please specify:_____)

a b c d e | 19-23
f g h i j k | 24-29
30-31

9. What are your plans concerning practicing nursing in the future?

_____ | 32-33

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10. If you have taken any courses for credit (college or Continuing Education Units) since graduation from nursing school, please list them chronologically, beginning with the first attended after graduation. Please indicate the kind of credit earned.

Institution or Sponsoring Agency	Major or Subject Studied	Credit Earned # of Semester Hours	# of Quarter Hours	# of CEU's

11. If you have attended workshops, institutes, or courses which carried no credit since your graduation from nursing school, please list them chronologically beginning with the first attended after graduation. DO NOT INCLUDE INSERVICE EDUCATION.

Institution or Sponsoring Agency	Subject

12. If you anticipate earning any additional certificates, diplomas, or degrees, please circle as many as apply.

a—Associate Degree
(Specify field of study:_____)
b—Baccalaureate degree in nursing
c—Baccalaureate degree in another field
(Specify field of study:_____)
d—Master's degree in nursing
(Specify type of specialty:_____)
e—Master's degree in another field
(Specify field of study:_____)
f—Doctoral degree in nursing
g—Doctoral degree in another field
(Specify field of study:_____)
h—Nurse Practitioner Program
(e.g., Family Nurse Practitioner Program)
i—Other
(Please specify:_____)

13. Please state your reason(s) for pursuing the above designated degree(s).

_____

14. Since your graduation from nursing school, have you presented any workshops, given any speeches, or written any articles pertaining to nursing

a—No b—Yes

(Please specify:_____
_____)

35-44
45-54
55-58
59-62
2 2 1-2
3
4-5
6
7
8-9
10
11-12
13
14-15
16
17
18-19
20
21
22-23
24-25
26
27-28
29-30
31-32

PART III

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15. If you are currently a member of any professional nursing organizations, nursing honor societies, or nursing political action groups, please specify names of organization(s) and indicate the extent of your participation by circling the appropriate number.

NAME OF ORGANIZATION	HOW OFTEN DO YOU ATTEND MEETINGS? 1—Never 2—Occasionally 3—Regularly	HOLD OFFICE 1—No 2—Yes	
_____	—	—	— 33-36
_____	—	—	— 37-40
_____	—	—	— 41-44

16. If you read any of the following professional publications, please indicate your usual pattern of readership. Please check (√) as many as apply to each publication.

	Read Cover to Cover	Scan	Read Articles of Interest to Me	Read Articles If Recommended by Others	Read as Required for Work or Courses		
American Journal of Nursing	—	—	—	—	—	2 3	1-2
Nursing Forum	—	—	—	—	—		3-7
Nursing Outlook	—	—	—	—	—		8-12
Nursing Research	—	—	—	—	—		13-17
Nursing '76	—	—	—	—	—		18-22
R. N.	—	—	—	—	—		23-27
Nursing Clinics of North America	—	—	—	—	—		28-32
Medical journals	—	—	—	—	—		33-37
Others (specify:							38-42
_____	—	—	—	—	—	—	43-49
_____	—	—	—	—	—	—	50-56

NOTE: If you are **not** presently employed in nursing, please proceed to Section III on page 8.

SECTION II

Instructions: This section contains a list of activities in which nurses engage with varying degrees of frequency and skill.

NOTE: If you have more than one employer, please answer the following questions as they relate to the job to which you devote the most working hours.

1. **IN COLUMN A**, please enter the figure that best describes **how often** you perform the following activities in your current job. Use the key at the top of Column A.
2. **IN COLUMN B**, for those activities that you **do perform** in your current job please enter the figure that tells **how well** you perform them. Use the key at the top of Column B.

NOTE: You need not mark anything in Column B for those activities that are not applicable or expected in your job situation.

3. **IN COLUMN C**, please enter the figure that tells how well your nursing school prepared you for this activity. Use the key at the top of Column C.

	COLUMN A How **OFTEN** do you perform these activities in your current job? 1—Not expected at my level of experience 2—Not applicable in my job setting 3—Never or seldom 4—Occasionally 5—Frequently	COLUMN B For those activities that you do perform in your current job, **how WELL** do you perform them? 1—Not very well 2—Satisfactorily 3—Well 4—Very well	COLUMN C Did your nursing school prepare you for this activity? 1—Not at all 2—Not very well 3—Satisfactorily 4—Very well	
				24 1-2
Demonstrate consideration of patient welfare, time, energy, economy when performing nursing care.				3-5
Teach a patient's family members about the patient's needs.				6-8
Coordinate the plan of nursing care with the medical plan of care.				9-11
Identify a patient's needs based on factors such as illness, age, cultural background, family, etc.				12-14
Give praise and recognition for achievement to those under your direction.				15-17
Teach preventive health measures to patients and their families.				18-20
Identify and use community sources in developing a plan of care for a patient and his family.				21-23
Identify and include in nursing care plans anticipated changes in a patient's condition.				24-26
Use established channels of communication for exchange of information related to patient welfare.				27-29
Evaluate results of nursing care.				30-32
Promote the inclusion of the patient's decisions and desires concerning his care.				33-35
Develop a plan of nursing care for a patient.				36-38
Initiate planning and evaluation of nursing care with others.				39-41
Perform technical procedures: e.g., oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes, etc.				42-44
Evaluate your own nursing practice and take action to improve your clinical expertise.				45-47
Adapt teaching methods and materials to the understanding of the particular audience: e.g., age of patient, educational background, and sensory deprivations.				48-50
Help a patient's family meet emotional needs.				51-53
Identify and include immediate patient needs in the plan of nursing care.				54-56
Identify the priorities of nursing care for the patient based on needs.				57-59
Improvise when necessary.				60-62
Develop innovative methods and materials for teaching patients.				63-65

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PART III

	COLUMN A How **OFTEN** do you perform these activities in your current job? 1—Not expected at my level of experience 2—Not applicable in my job setting 3—Never or seldom 4—Occasionally 5—Frequently	COLUMN B For those activities that you do perform in your current job, how **WELL** do you perform them? 1—Not very well 2—Satisfactorily 3—Well 4—Very well	COLUMN C Did your nursing school prepare you for this activity? 1—Not at all 2—Not very well 3—Satisfactorily 4—Very well	6	FOR OFFICE USE ONLY
				25	
Demonstrate awareness of nursing care problems when they exist and promote planned changes to resolve them.					1-2
Communicate a feeling of acceptance of each patient and a concern for the patient's welfare.					3-5
Seek assistance when necessary.					6-8
Help a patient communicate with others.					9-11
Use mechanical devices: e.g., suction machine, Gomco, cardiac monitor, respirator, etc.					12-14
Give emotional support to family of dying patient.					15-17
Observe, record, and report obvious changes in a patient's condition.					18-20
Verbally communicate facts, ideas, and feelings to other health team members.					21-23
Communicate facts, ideas, and feelings in writing to other health team members.					24-26
Use an organized approach in planning nursing care.					27-29
Promote the patients' rights to privacy.					30-32
Contribute to an atmosphere of mutual trust, acceptance, and respect among other health team members.					33-35
Verbally communicate facts, ideas, and feelings to patients and their families.					36-38
Delegate responsibility for care based on assessment of priorities of nursing care needs and the abilities and limitations of available health care personnel.					39-41
Provide nursing care for a group of patients.					42-44
Explain nursing procedures to a patient prior to performing them.					45-47
Observe, record, and report subtle changes in a patient's condition.					48-50
Guide other health team members in planning for nursing care.					51-53
Accept responsibility for the level of care provided by those under your direction.					54-56
Perform nursing care required by non-critically ill patients.					57-59
Perform appropriate measures in emergency situations.					60-62
Promote the use of interdisciplinary resource persons.					63-65
Use teaching aids and resource materials in teaching patients and their families.					66-68
Perform nursing care required by critically ill patients.				26	69-71 1-2
Encourage the family to participate in the care of the patient.					3-5
Identify and use resources within your health care agency in developing a plan of care for a patient and his family.					6-8
Use nursing procedures as opportunities for interaction with patients.					9-11
Modify nursing care when necessary.					12-14
Contribute to productive working relationships with other health team members.					15-17
					18-20

7 FOR OFFICE USE ONLY 72

Help a patient meet his emotional needs.				21-23
Use nursing practice as a means of gathering data for further refining and extending practice.				24-26
Contribute to the plan of nursing care for the patient.				27-29
Evaluate the effectiveness of patient teaching by observing changes in patient behavior.				30-32
Recognize and meet the emotional needs of a dying patient.				33-35
Communicate facts, ideas, and professional opinions in writing to patients and families.				36-38
[illegible] an understanding of the nature, purposes, and effects of medica-				39-41
[illegible] the integration of patient needs with family needs.				42-44
[illegible] a patient's immediate and long-range needs for teaching and include them in the plan of nursing care.				45-47
Identify and include long-term needs of a patient in the plan of nursing care.				48-50
[illegible] calmly and competently in emergency situations.				51-53
[illegible]uate nursing performance of those under your direction.				54-56
Remain open to the suggestions of those under your direction and use them when appropriate.				57-59
Recognize anxiety displayed by a patient and take action to alleviate this condition.				60-62
Establish priorities of nursing care for a group of patients based on needs.				63-65
Use opportunities for patient teaching when they arise.				66-68

PART III

Instructions: Please indicate at the right the number that best describes the frequency with which you engage in the following behaviors. Use the key at the top of that column.

KEY: 1—Seldom or never
2—Occasionally
3—Frequently

Use learning opportunities for on-going personal and professional growth.				69
Display self-direction.				70
Accept responsibility for own actions.				71
Assume new responsibilities within the limits of capabilities.				72
Maintain high standards of self performance.				73
Demonstrate self-confidence.				74
Display a generally positive attitude.				75
Demonstrate knowledge of the legal boundaries of nursing.				76
Demonstrate knowledge of the ethics of nursing.				77
Accept and use constructive criticism.				78

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SECTION III

Instructions: Please circle the appropriate letter to indicate your choice, otherwise, a few words are usually sufficient to answer the question. Please feel free to use additional sheets for more detailed comments if you wish.

2 7 1-2

1. At what age did you decide to become a nurse?

   a—Before the age of 10
   b—Between 10 and 13 years of age
   c—At 14 or 15 years of age
   d—At 16 or 17 years of age
   e—Since the age of 18

— 3

2. Why did you choose to enter nursing?

—— 4-5

3. Why did you choose the particular type of nursing program from which you just graduated (i.e., associate degree, baccalaureate, or diploma)? If you have graduated from more than one nursing program, please answer these questions with reference to the most recent program attended.

—— 6-7

4. Why did you choose the particular nursing school you attended?

—— 8-9

5. What do you consider the greatest strength of your nursing preparation at your nursing school?

—— 10-11

6. What do you consider the greatest weakness of your nursing preparation at your nursing school?

—— 12-13

7. If you feel that the nursing preparation you received at your nursing school needed improvement, what do you think would have helped most to improve it?

—— 14-15

8. If you had it to do over again, would you choose the same school of nursing? a—No b—Yes

Why? — 16 — 17-18

9. If you have it to do over again, would you choose the same type of nursing program? a—No b—Yes

Why? — 19 — 20-21

10. What was your idea of nursing before you entered nursing school?

—— 22-23

11. Did your idea of nursing change between the time you entered nursing school and the time you graduated from nursing school? a—No b—Yes — 24

12. IF YOU ANSWERED "YES" TO THE PREVIOUS QUESTION, please clarify how your idea of nursing changed:

—— 25-26

13. Were you employed while you were in nursing school? a—No b—Yes — 27

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14. IF YOU ANSWERED "YES" TO THE PREVIOUS QUESTION, please specify the type(s) of employment: 26-29 / 30-31 / 32-33

15. Do you feel your student employment experiences contributed to your effectiveness as a nurse? a—No b—Yes 34
Why? 35-36

16. Were you a member of any professional nursing organizations or student nurse organizations during nursing school? a—No b—Yes 37
Please specify: 38-39

17. IF YOU ANSWERED "YES" TO THE PREVIOUS QUESTION, did you hold any offices in these organizations? a—No b—Yes 40
Please specify: 41-42

18. What was your final grade point average in the nursing school from which you just graduate? 43-46
If this score is based on any grading system other than one in which "A" equals four points, please explain: 47-48

19. Have you taken State Board Examinations for nursing licensure? a—No b—Yes 49

20. IF "NO," are you planning to do so? a—No b—Yes 50

21. If you have received your examination scores from your State Board of Nursing, please indicate them below:

Medical	51-53
Surgical	54-56
Obstetrical	57-59
Pediatric	60-62
Psychiatric	63-65

22. If you do not as yet have your scores, would you be willing to forward them to us when you receive them? a—No b—Yes 66

PART III

Instructions: The following general biographical information will be very important in comparing your responses with those of others participating in the study. Please circle the appropriate letter to indicate your answer; otherwise, a few words are usually sufficient to answer the question. Once again, we would like to assure you that all the information which you provide will be held in strict confidence.

28 1-2

23. In what type of community did you live for the longest period of time while you were in high school?
a—Rural or farm b—Town or small city not near large city c—Suburban area near a large city d—Large city 3

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24. Please indicate the number of students in your high school graduating class.

a—Under 50 b—50-100 c—100-300 d—Over 300 — 4

25. What was your rank in your high school graduating class?

a—In the upper 10% b—In the upper 25% c—In the upper 50% d—In the lower 50% — 5

26. Did you attend or complete any educational programs after high school graduation but prior to the nursing program from which you have most recently graduated, e.g., business school, LPN program, college in another field, etc. a—No b—Yes — 6

27. If "YES," please list below the educational program(s) which you attended and/or completed after high school. Begin with the first one; end with the most recent. Exclude the nursing program from which you have just graduated.

Name of Institution	Major or Subject/s Studied	Duration	Diploma, Certificate or Degree Earned	
				7-13
				14-20

28. What was your father's occupation while you were in high school? (Please be specific.)

_____ 21-22

29. What was your mother's occupation while you were in high school?

_____ 23-24

30. If you are married, what is the current occupation of your spouse?

_____ 25-26

31. Place the appropriate letter on each line at the right to indicate the highest educational level attained by your father, mother, and (if married) your spouse.

a—Elementary school
b—Some high school
c—High school graduate
d—Post-high school studies, but no certificate or diploma
e—Post-high school certificate, diploma, or associate degree
f—Baccalaureate degree
g—Master's degree
h—Doctoral degree
i—Professional degree (e.g., M.D., L.L.D., L.D.S., D.V.M.)

Other (Please specify on the line corresponding to the appropriate person)

Father — 27-28
Mother — 29-30
Spouse — 31-32

32. What is your age?

a—Under 21 b—21-35 c—26-35 d—36-55 e—Over 55 — 33

33. What is your sex?

a—Female b—Male — 34

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34. What is your racial background?

a—American Indian/Alaskan Native b—Asian or Pacific Islander c—Black/Negro d—Caucasian/White 35

35. Is your ethnic heritage Hispanic? a—No b—Yes 36

36. What is your marital status?

a—Single b—Married c—Widowed d—Separated e—Divorced 37

37. If you have children, please indicate in the line at the right how many are in each age group.

a—I am presently expecting a child ____ 38-42
b—Under 6 years ____
c—6-12 years ____
d—13-18 years ____
e—Over 18 years ____

So that we may obtain the cooperation of your employer and forward the Employer Appraisal of Nursing Graduate form to your immediate superior, would you please provide us with the following information:

NAME OF IMMEDIATE SUPERIOR _____ TITLE _____

NAME OF EMPLOYING INSTITUTION _____ ADDRESS _____

CITY, STATE _____ ZIP CODE _____

NAME OF NURSING DIRECTOR (or person of equivalence in your agency) _____ PHONE NUMBER _____

REMEMBER — all your responses are absolutely confidential.

Thank you very much for completing this form. If you would like to receive a copy of the summary report of information provided by you and other recent nursing graduates, please give us your name and address:

_____

_____

_____

PART III

OMB. #68-S-74075
Expires: 6/30/77

Prediction of Successful Nursing Performance

1585 NEIL AVENUE, COLUMBUS, OHIO 43210

Patricia M. Schwirian, Ph.D.
Project Director (614) 422-3943

EMPLOYER APPRAISAL OF NURSING GRADUATE

Dear _____:

The determination of effective clinical performance by beginning practitioners in nursing is of great interest to the Division of Nursing of the Department of Health, Education, and Welfare. Consistent with this interest, the Division of Nursing is sponsoring a study, Prediction of Successful Nursing Performance, of which I am the Director. The study is intended to fulfill the need for national information on the relation of success in nursing education to effective nursing performance on the job. Its two major objectives are: (1) to determine the relative effectiveness of predictors of successful nursing performance in use by schools of nursing to evaluate student progress; and (2) to determine the relative effectiveness of predictors of successful nursing performance in use by schools of nursing to determine on-the-job success.

Approximately 150 schools of nursing throughout the United States have participated in the first stage of the study. Members of a select sample of recent graduates from these schools have also participated by providing information about themselves, and an appraisal of their performance in their current nursing positions. _____, who was a participant, selected you as the immediate superior most able to evaluate his/her performance from a supervisory perspective and has given permission for you to provide this information.

SAMPLE

In order to complete the final phase of this important study, we ask that you complete this EMPLOYER APPRAISAL OF NURSING GRADUATE form and return it to us in the stamped envelope we have provided. DO NOT RETURN THE FORM TO THE GRADUATE OR TO YOUR DIRECTOR. If you will return the completed appraisal by _____, we will be able to complete our data base for the study.

No specific benefit to you or to your employer will derive from the number and content of your responses; also, no right, benefit, or privilege will be altered or withheld from you because of failure to respond or because of your responses. All responses will remain confidential; publication of all data will be in the aggregate only and will not disclose the identity of individuals. At the conclusion of the study all records which identify your response with your name and address will be destroyed.

Your responses will be seen only by our staff members and are entirely voluntary — you may choose not to supply any information to which you object. We hope the above information provides you with sufficient detail to secure your participation in the study. Return of the completed appraisal form will convey to us your consent to participate.

Thank you very much for your cooperation!

Patricia M. Schwirian, Ph.D.
Project Director

(C) W. PHS CONTRACT NO. HRA N01-NU-44127 OSURF NO. 3970-A1

PART III

3 0 — 1-15

FOR OFFICE USE ONLY

SECTION I

Instructions: Please circle the appropriate number to indicate your choice of answers.

1. How long have you known the graduate whose performance you are evaluating?

		FOR OFFICE USE ONLY
1 —Less than 1 month	5 —4 months	
2 —1 month	6 —5 months	16
3 —2 months	7 —6 months	
4 —3 months	8 —Over 6 months	

2. How long has this graduate been under your supervision as a graduate nurse?

1 —Less than 1 month	5 —4 months	
2 —1 month	6 —5 months	17
3 —2 months	7 —6 months	
4 —3 months	8 —Over 6 months	

3. In this job are you the individual who is most commonly responsible for evaluating this graduate's performance?

1—No 2—Yes — 18

Instructions: This section contains a list of activities in which nurses engage with varying degrees of frequency and skill.

1. **IN COLUMN A**, please enter the figure that best describes **how often** this graduate performs the following activities. Use the key at the top of Column A.
2. **IN COLUMN B**, for those activities that this graduate does perform, please enter the figure that best describes **how well** he/she performs them. Use the key at the top of Column B.

NOTE: You need not mark anything in Column B for those activities that are not applicable to the job setting or are not expected at this graduate's level of experience.

	COLUMN A How **OFTEN** does this graduate perform these activities in his/her current job? 1—Not expected at level of experience 2—Not applicable to job setting 3—Never or seldom 4—Occasionally 5—Frequently	**COLUMN B** For those activities that this graduate does perform in his/her current job, how **WELL** does he/she perform them? 1—Not very well 2—Satisfactorily 3—Well 4—Very well	
1.	Demonstrates consideration of patient welfare, time, energy, and economy when performing nursing care		19-20
2.	Teaches a patient's family members about the patient's needs		21-22
3.	Coordinates the plan of nursing care with the medical plan of care.		23-24
4.	Identifies a patient's needs based on factors such as illness, age, cultural background, family, etc.		25-26
5.	Gives praise and recognition for achievement to those under his/her direction.		27-28
6.	Teaches preventive health measures to patients and their families.		29-30
7.	Identifies and uses community resources in developing a plan of care for a patient and his family.		31-32
8.	Identifies and includes in nursing care plans anticipated changes in a patient's condition.		33-34
9.	Uses established channels of communication for exchange of information related to patient welfare.		35-36
10.	Evaluates results of nursing care.		37-38
11.	Promotes the inclusion of the patient's decisions and desires concerning his care.		39-40
12.	Develops a plan of nursing care for a patient.		41-42
13.	Initiates planning and evaluation of nursing care with others.		43-44
14.	Performs technical procedures (e.g., oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes, etc.)		45-46
15.	Evaluates own nursing practice and takes action to improve clinical expertise.		47-48

	COLUMN A How **OFTEN** does this graduate perform these activities in his/her current job? 1—Not expected at level of experience 2—Not applicable to job setting 3—Never or seldom 4—Occasionally 5—Frequently	COLUMN B For those activities that this graduate does perform in his/her current job, how **WELL** does he/she perform them? 1—Not very well 2—Satisfactorily 3—Well 4—Very well	
16. Adapts teaching methods and materials to the understanding of the particular audience e.g., age of patient, educational background, and sensory deprivations.			49-50
17. Helps a patient's family meet emotional needs.			51-52
18. Identifies and includes immediate patient needs in the plan of nursing care			53-54
19. Identifies the priorities of nursing care for a patient based on needs.			55-56
20. Improvises when necessary.			57-58
21. Develops innovative methods and materials for teaching patients			59-60
22. Demonstrates awareness of nursing care problems when they exist and promotes planned changes to resolve them.			61-62
23. Communicates a feeling of acceptance of each patient and a concern for the patient's welfare.			63-64
24. Seeks assistance when necessary			65-66
25. Helps a patient communicate with others.			67-68
26. Uses mechanical devices e.g., suction machine, Gomco, cardiac monitor, respirator, etc.			69-70
27. Gives emotional support to family of dying patient.			71-72
28. Observes, records, and reports obvious changes in a patient's condition.			73-74
			31 1-2
29. Verbally communicates facts, ideas, and feelings to other health team members			3-4
30. Communicates facts, ideas, and feelings in writing to other health team members			5-6
31. Uses an organized approach in planning nursing care			7-8
32. Promotes the patients' rights to privacy			9-10
33. Contributes to an atmosphere of mutual trust, acceptance, and respect among other health team members			11-12
34. Verbally communicates facts, ideas, and feelings to patients and their families			13-14
35. Delegates responsibility for care based on assessment of priorities of nursing care needs **and** the abilities and limitations of available health care personnel			15-16
36. Provides nursing care for a group of patients			17-18
37. Explains nursing procedures to a patient prior to performing them			19-20
38. Observes, records, and reports subtle changes in a patient's condition			21-22
39. Guides other health team members in planning for nursing care			23-24
40. Accepts responsibility for the level of care provided by those under his/her direction			25-26
41. Performs nursing care required by **non**-critically ill patients			27-28
42. Performs appropriate measures in emergency situations.			29-30
43. Promotes the use of interdisciplinary resource persons			31-32
44. Uses teaching aids and resource materials in teaching patients and their families			33-34
45. Performs nursing care required by critically ill patients			35-36
46. Encourages the family to participate in the care of the patient			37-38
47. Identifies and uses resources within your health care agency in developing a plan of care for a patient and his family			39-40
48. Uses nursing procedures as opportunities for interaction with patients			41-42
49. Modifies nursing care when necessary.			43-44

	COLUMN A How OFTEN does this graduate perform these activities in his/her current job? 1—Not expected at level of experience 2—Not applicable to job setting 3—Never or seldom 4—Occasionally 5—Frequently	COLUMN B For those activities that this graduate does perform in his/her current job, how WELL does he/she perform them? 1—Not very well 2—Satisfactorily 3—Well 4—Very well	
50. Contributes to productive working relationships with other health team members.			45-46
51. Helps a patient meet his emotional needs.			47-48
52. Uses nursing practice as a means of gathering data for further refining and extending practice.			49-50
53. Contributes to the plan of nursing care for the patient.			51-52
54. Evaluates the effectiveness of patient teaching by observing changes in patient behavior.			53-54
55. Recognizes and meets the emotional needs of a dying patient.			55-56
56. Communicates facts, ideas, and professional opinions in writing to patients and their families.			57-58
57. Demonstrates an understanding of the nature, purposes, and effects of medications.			59-60
58. Plans for the integration of patient needs with family needs.			61-62
59. Identifies a patient's immediate and long-range needs for teaching and includes them in the plan of nursing care.			63-64
60. Identifies and includes long-term needs of a patient in the plan of nursing care.			65-66
61. Functions calmly and competently in emergency situations.			67-68
62. Evaluates nursing performance of those under his/her direction.			69-70
63. Remains open to the suggestions of those under his/her direction and uses them when appropriate.			71-72
			75-79
			32 1-2
64. Recognizes anxiety displayed by a patient and takes action to alleviate this condition.			3-4
65. Establishes priorities of nursing care for a group of patients based on needs.			5-6
66. Uses opportunities for patient teaching when they arise.			7-8

Instructions: Please indicate at the right the number that best describes the frequency with which this graduate engages in the following behaviors. Use the key at the top of that column.

	1—Seldom or never 2—Occasionally 3—Frequently	
67. Uses learning opportunities for on-going personal and professional growth.		9
68. Displays self-direction.		10
69. Accepts responsibility for own actions.		11
70. Assumes new responsibilities within the limits of capabilities.		12
71. Maintains high standards of performance.		13
72. Demonstrates self-confidence.		14
73. Displays a generally positive attitude.		15
74. Demonstrates knowledge of the legal boundaries of nursing.		16
75. Demonstrates knowledge of the ethics of nursing.		17
76. Accepts and uses constructive criticism.		18

SECTION II

Instructions: In order to complete our data base, please provide us with the following general biographical information. Please respond to each item either by circling the appropriate number(s) to indicate your choice of answers or by providing the information as indicated.

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1. Please indicate your sex. 1—Female 2—Male ___ 19

2. Please indicate your age. ___ 20
   1 —Under 20
   2 —20-24
   3 —25-29
   4 —30-34
   5 —35-39
   6 —40-44
   7 —45-49
   8 —50-54
   9 —55 or older

3. Please indicate all of the types of nursing programs from which you graduated.
   1 —L.V.N., L.P.N. ___ 21
   2 —R.N., Diploma (Hospital School) ___ 22
   3 —R.N., Associate Degree ___ 23
   4 —R.N., Baccalaureate Degree ___ 24
   5 —R.N., Master's Degree ___ 25
   6 —Doctor of Nursing Science ___ 26
   7 —Other (Specify: _____) ___ ___ 27-28

4. Please indicate the year in which you graduated from your most recent nursing program. _____ ___ ___ 29-30

5. Please indicate your highest professional or academic degree.
   1 —Diploma (Hospital School)
   2 —Associate Degree
   3 —Baccalaureate Degree in Nursing
   4 —Baccalaureate Degree (B.A. or B.S.) in area other than nursing
   5 —Master's Degree (M.A., M.N. or M.S.)
   6 —Doctorate (Ph.D., Ed.D. or D.N.S.)
   7 —Other (Specify: _____) ___ 31 ___ ___ 32-33

6. Please indicate how long you have been employed at your present health care agency/facility.
   1 —Less than 6 months
   2 —6 months to 1 year
   3 —Over 1 year to 3 years
   4 —Over 3 years to 5 years
   5 —Over 5 years to 10 years
   6 —Over 10 years ___ 34

7. Please indicate the one title which best identifies your current position.
   01 —Head Nurse
   02 —Assistant Head Nurse
   03 —Shift Charge Nurse
   04 —Staff Nurse
   05 —Team Leader
   06 —Clinical Specialist
   07 —Supervisor
   08 —Director of Nursing
   09 —Assistant Director of Nursing
   10 —In-Service Educator
   Other (Specify: _____) ___ ___ 35-36 ___ ___ 37-38

8. Please indicate which shift assignment best represents your working schedule.
   1 —Permanent day shift
   2 —Permanent evening shift
   3 —Permanent night shift
   4 —Day-evening rotation
   5 —Day-night rotation
   6 —Evening-night rotation
   7 —Rotation on all three shifts
   8 —Other (Specify: _____) ___ 39 ___ ___ 40-41

REMEMBER — Your responses are absolutely confidential. 75-79

Thank you very much for completing this form. If you would like to receive a copy of the summary report of information provided by you and others, please give us your name and address.

Appendix C

A CLOSER LOOK AT SELECTED HIGH PREDICTOR SCHOOLS OF NURSING: A SUPPLEMENTARY PROJECT ACTIVITY

Background

The findings from the third major phase of the total contract study have been reported here. The major question was: "Could nursing school faculty/administrators predict which of their graduates would be more successful in nursing practice one year after graduation?" The answer was a definite "Yes!" The graduates who had been nominated as "most promising" were given the highest ratings by their supervisors on six performance scales; those who were nominated as "promising" were given the next highest ratings; and the graduates who had not been selected were given the lowest ratings. In absolute terms it should be noted that, in general, the supervisors' ratings of graduates were good, but the graduates whom the nursing faculty-administrators predicted would be "better" and "best" *were* "better" and "best."

One procedural change in the contract which had been made relatively early in the conduct of the study was the addition of a series of site visits to selected participating nursing schools having the highest rates of "prediction success." The goal of this procedure was to identify in a less quantified, but more personal way factors which these high predictor schools had in common. However, in March 1977 the additional recommendation was made that a conference of the deans/directors of selected high predictor schools could be used to supplement the investigator's site visits and provide information and insights which would be mutually beneficial to the investigator, the Division, and the participating nursing schools as well.

The final upshot of this methodological deliberation and redeliberation was a combination of (1) a series of three 1-day site visits made by the Project Director to three selected high predictor schools in the Midwest,[1] and (2) a 1-day invitational conference of deans/directors of selected high predictor schools with the Project Director and the Project Officer in Columbus, Ohio, on June 3, 1977. The remainder of this appendix is a brief summary of the observations made by the Project Director during the course of the site visits and the conduct of the conference. In contrast to the rest of the final report, this section is based on relatively "soft" data and the Director's unavoidably subjective observations and interpretations.

[1] The selection of the midwestern school was prompted by our desire to minimize travel costs.

Identification of High Predictor Schools of Nursing

It was necessary to develop some sort of quantifiable index whereby we could determine the relative "prediction success" rates of the participating nursing schools. This had to take into account variabilities in total class size and graduates response rates. It should be recalled that the number of schools that participated was 151 and the number of graduates for whom there were complete data sets (schools, self-appraisal and employer appraisal) was 687; therefore, the "average" number of respondents per school was less than four. If there had been only four respondents per school it would have been quite invalid to identify "high predictor" schools because the sample size per school would have been entirely too small. We therefore established the ground rule that a school of nursing would be considered for identification only if at least 10 of the 1975 graduates from that school had participated and that supervisory ratings were available for those graduates. We realized that employing this ground rule may very well have cut many fine nursing schools from consideration, but the questionable reliability of predictions based on very small numbers really gave us no other choice.

The next step was to calculate the mean supervisor ratings of the nominated and non-nominated graduates of each school which had the minimum number of responding graduates. The mean supervisor ratings were then compared for the nominated and non-nominated

graduates on the six performance subscales used to measure nurse performance in the study. An instance in which the subscale score of the nominated graduates from a school was significantly higher than that of the non-nominated graduate was considered as one accurate prediction point. Since there were six subscales, a school could have a maximum of six accurate prediction points. Finally, an index was calculated by multiplying the school's number of accurate prediction points times the actual number of nurse graduate respondents from that school. For example, the nominated graduates from School M (N = 4) were given significantly higher ratings than the non-nominated graduates (N =6) on five of the six performance scales. Therefore School M's prediction index was:

5 (# of accurate prediction points) × 10 (# of responding graduates) = 50 (prediction index).

The final result of all this numeric manipulation was the identification of nine high-predictor schools of nursing. They were varied by school type (3 AD, 3 diploma, and 3 baccalaureate), geographic region (2 North Atlantic, 4 Midwest, 1 South, and 2 West), and type of financial support (4 private, 5 public).

Site Visits to Three High Predictor Schools

After the high predictor schools had been identified according to the procedures described above, the high predictor schools located in the Midwest region were singled out as possible schools for site visits. The four Midwest schools consisted of two diploma programs, one associated degree school, and one baccalaureate school. We decided to visit one program of each type if the director/dean of each school was agreeable. We called them, and each was willing to have the site visit we proposed. These visits were conducted in April and May of 1977 by the Project Director.

School 1. — The first school visited was an Associate Degree School of Nursing we shall call ADM. ADM is located in a city of approximately 200,000, and has only been an established program since autumn 1972. The program is a small one; 60 students per year are admitted into the 2-year program (4 academic semesters and 1 summer). The community has two other nursing schools — one diploma school and one large program in the State university which is located in the community. The faculty at ADM have all had considerable teaching experience in that community, are well-credentialized, and have strong affiliations with the agencies in which the students have their clinical experience. Admissions to ADM (which are on a competitive basis) are initially processed by the admissions office of the community college of which ADM is one academic unit; the preadmission counseling and actual selection procedures are completed by the director of the school. The modal teaching pattern is team instruction, and students are placed in small groups for their didactic instruction as well as for their clinical instruction. Decisions regarding student progress (or the lack of it) are made by the faculty acting as a committee of the whole. One-year followup studies of the graduates' performance have been conducted regularly since the first class graduated in 1974.

School 2. — The second site visit to a high predictor school was conducted at a baccalaureate nursing school we shall refer to as BACM. The contrast between ADM and BACM was almost enough to cause culture shock. BACM is a large nursing school with a baccalaureate program admitting over 150 students per year, a master's program with numerous special areas of study, and the beginnings of a Ph.D. program. The faculty is large and diverse. BACM is part of a very large land grant university which basically dominates the relatively small community in which it is located. The health sciences complex alone is huge; the School of Nursing facilities are located almost centrally within that complex. A discussion with the Dean of BACM indicated that all of her efforts were required in the management of this complex operation, and hence she — unlike the Director of ADM — had little direct contact with the undergraduate nursing students. The major insights gained regarding the factors which contributed to BACM's status as a high predictor school were provided in discussions with the Assistant Dean for Student Affairs, a seven-person committee charged with student personnel decisions, and the Director of Admissions of the University. The state in which BACM is located has a strong "work-study" type of program in all the high schools, so most of the applicants come with some work experience in settings where they have seen nursing practice

first-hand, or perhaps even have participated in some aspects of patient care. The admissions to BACM are made on a competitive basis from a pool of applicants two to three times as large as the number of students which can be admitted. The specific criteria for admissions are set by the student personnel committee referred to earlier; these criteria, in turn, are applied to the applicant pool by the University admissions office, and it is this office that does the actual student selection and admission procedures. The committee members themselves spend a substantial amount of time in preadmissions counseling with prospective applicants with particular emphasis on the notion of what nursing really is—not just the romanticized, traditional stereotypical image which many young people hold. They also make it clear that the academic demands of the BACM program are rigorous and the expectations for student performance are high. These faculty members are aware that many of these discussions result in the students' deciding not to apply to BACM, but they feel this "negative counseling" is functional in assisting students to identify career alternatives they may not have considered before, and to come to grips with a more realistic image of nursing and nursing education at that institution. The attrition rate at BACM is substantially less than 10 percent.

School 3. — The last school to be site-visited was a diploma program which was operated in affiliation with a private hospital in a large city. The governing boards and the funding for the school and the hospital were organizationally separate, but the director of the school concurrently held the position of the Assistant Administrator of the hospital in charge of nursing service, so the two units were very closely interrelated in actuality. The school — which we shall call DIPC—was a long-established one with a strong tradition and a great deal of pride in that tradition. The majority of the faculty had graduated from the school and most faculty members also held staff positions on the hospital nursing service. The city in which DIPC is located has many other diploma nursing programs as well as two baccalaureate programs and one associate degree program to prepare nurses. DIPC admits 105 students each year, of the 250 applicants who submit complete applications and materials, on the basis of a series of numeric indicators of potential for academic achievement. The entire pr[illegible]s of 27 consecutive months of instr[illegible]ss instruction is generally conducted[illegible]mode and decisions regarding studen[illegible]otion, retention, dismissal, and readmissio[illegible] delegated to the faculty team(s) most intimately responsible and knowledgeable about the student(s) involved. Almost all of the students' clinical instruction was accommodated within the affiliated hospital, and the director reported that within the past 2 or 3 years, about one-third of each graduating class had been hired by that hospital in an effort to upgrade the nursing staff from one that had been primarily LPNs a few years ago to one which will be over 60 percent RNs within this year.

Conference on the Prediction of Successful Nursing Performance

1. General Description and Goals. — The conference was convened on Thursday evening, June 2, 1977. The program and list of participants are shown below. The evening session was intended to provide (1) information — since most of the participants had not known all of the study findings; and (2) inspiration to stimulate participants' thoughts for the discussions scheduled for Friday. The conference agenda and list of participants follow:[2]

Thursday, June 2, 1977 (Fawcett Center for Tomorrow):

7:00-9:30	Dinner followed by a summary report of the study, Prediction of Successful Nursing Performance (HEW/PHS Contract No. HRA-NO1-NU-44127, OSURF Project No. 3970-A1), Patricia Schwirian, Ph.D., Project Director, Associate Professor of Nursing, The Ohio State University and Dr. Susan Gortner, Chief, Nursing Research Branch, Division of Nursing, U.S. Public Health Service, DHEW

Friday, June 3, 1977 (The Ohio State University School of Nursing, Room 256):

9:00-10:15	Group discussion: "A Successful Nurse: Criteria and Operational Definitions." Discussion leaders: Pat Schwirian and Sue Basta.
10:15-10:30	Break
10:30-12:15	Group discussion: "Implications of Study Findings for Selection, Program Development, and Student and Graduate Evaluation in Schools of Nursing." Discussion leader: Susan Gortner.
12:30-2:00	Lunch at The Ohio State University Faculty Club
2:15-3:30	Conference Wrap-Up and Recommendations

[2]Two of the invited deans from baccalaureate nursing schools were unable to attend because of some last minute problems which required their attention at their own school.

Susan M. Basta
Project Research Associate
University of Cincinnati
Cincinnati, Ohio

Mary Deegan
Christ Hospital
Cincinnati, Ohio

Mary E. Flowers
Madison Area Technical College
Madison, Wisconsin

Dr. Susan Gortner
Project Officer
Chief, Nursing Research Branch
Division of Nursing, DHEW
Washington, D.C.

Lloydene Grimes
Good Samaritan Hospital and Medical Center
Portland, Oregon

Louise Hazeltine
Cornell University, New York Hospital
New York, New York

Mae Johnson
Los Angeles Valley College
Van Nuys, California

Janice Roberson
McLennan Community College
Waco, Texas

Dr. Patricia Schwirian
Project Director
The Ohio State University
Columbus, Ohio

Eleanor Walsh
St. Vincent Hospital
Toledo, Ohio

Our goal for the Friday conference sessions was to obtain from the representatives of the high predictor schools insights, ideas, and processes which they shared relevant to the major concerns of the study; i.e., what is a "successful nurse," and how does one go about identifying and preparing individuals for successful nursing performance? The observations and impressions which were obtained during the site visits served as starting points for some discussion elements. Specifically, we would identify procedural and structural factors which we thought we had observed as being important in the high prediction status of the visited schools and asked the assembled deans and directors to validate (or invalidate) our interpretations. This proved to be a productive strategy in achieving the conference goals. The actual discussions focused on

1. trends in nursing practice;
2. the evolving concept of what is a good nurse, and how these changes are reflected in policies and procedures employed by these high predictor nursing schools in the areas of student recruitment, selection, and admission;
3. evaluation of student progress, graduates' performance, and other program outcomes; and
4. program adaptations which can provide for the best set of experiences for students with diverse backgrounds, needs, interests, and talents.

2. Trends in Nursing and the Evolving Concept of the "Good" Nurse.— There was general agreement among the participants that a number of very significant changes are occurring in the expectations for nurses—both among employers of nurses and among nurses themselves—which schools of nursing must take into consideration in the conduct of their programs. Increasing value is being placed on nurse behaviors which are typically associated with chronological and emotional maturity. Some of these behaviors would be: risk-taking; the development and practice of independent judgment; a well-developed sense of personal accountability and responsibility for one's own professional growth; and a high degree of self-direction. Clearly, these kinds of behaviors are very much in contrast with the "handmaiden" image of the nurse. There is an increasing emphasis on sound cognitive bases for nursing practice in the social, behavioral, physical, and biological sciences which makes firm intellectual demands on those who wish to practice nursing effectively. There are much higher levels of expectations regarding nurses' communication skills—not only with their clients and their families but also with colleagues in the health care systems in which the nurses are practicing. Increased value is being placed on diversity of personal and professional styles and practices, in contrast to the demand for obedience and conformity which had characterized nursing education and practice for so many years. Finally, it was noted that the nurse graduates were exercising more independence

and responsibility in being more thoughtful and selective in their choice of jobs. This seemed to be the case even in areas which had an abundant supply of nurses. One hopeful outcome of this selectivity could be a better match between the employers needs and the nurses' skills, a greater degree of mutual satisfaction and (perhaps) a lower rate of nursing personnel turnover and attrition.

3. Student Recruitment, Selection, and Admission.—All participants agreed that their schools' selection/admission procedures had undergone marked change in the relatively recent past (about 6 to 8 years). While former admissions decisionmaking processes were weighted heavily with information from personal interviews, recommendations and similar "soft" date, these schools have moved to a heavy—almost exclusive—reliance on "hard" data. We diagrammed the changes which were described as shown below.

INTUITIVE	→ ADAPTIVE	→ COGNITIVE
("She just seems like she will really be a good nurse.")	("It seems that she will 'fit in' and be happy in nursing.")	("Data from prior performance indicate that she has a high probability of succeeding.")

The nature of the "hard" data upon which the schools relied varied as necessitated by the nature of their prospective student body. For example, two of the diploma schools looked very closely at high school grades and required applicants to complete the ACT or SAT (for which both schools had established minimum cut-points). The AD schools were usually limited to high school grades, but used them consistently as an initial screening device for applicants. The baccalaureate school—which attracted a substantial number of applicants who already held degrees in areas outside nursing—was able to use an applicant's high school record, college grades, and even the scores on the Graduate Record Examination. Other important elements these people included in their consideration of an applicant's prior academic achievement were consistency of performance and evidence of growth. For example, one AD director pointed out that, while she normally would select out at a very early stage any applicant who had graduated in the lower half of her his high school graduating class, evidence of more satisfactory achievement in more recent academic work (e.g., some good grades in courses at another college) would be given favorable consideration and the applicant would not be eliminated in the initial screening process.

This move toward heavy reliance on cognitive "predictors" was related to a number of factors. In several programs, there had been an all-around "beefing-up" of the academic demands of the nursing curriculum—usually in the science areas. Secondly, the current pressures on admissions officers and committees brought about by having two to three times as many applicants as nursing schools can accept have necessitated sound documentation for the selection decisions that are made. Finally, the participants who have applied a "cognitive screen" have been pleased with the results—lower attrition and more satisfactory levels of performance. They also indicated that this contributed to an improved stature and image for their entire nursing program. It was noted that from time to time students encounter significant personal crises, and those who have shown a higher level of prior academic achievement appear to "weather the storm" more successfully — both in their didactic and clinical studies.

While all these schools employed a cognitively based selection process, some went on to add other strategies. Most still collected the letters of reference for applicants, but there was general agreement that (with a few exceptions) they were not particularly useful. The interview was still adhered to by only one school, however, this was the school which had many college graduates as applicants, so the purpose of the interview was primarily one of tapping the applicant's "motivation." Over the years, two questions have been shown to be most informative about these rather special applicants: "How have you spent your time since college?"; and "What prompted your high school decision to do what you did the first time you went to college?" These questions were often helpful in identifying those applicants who were taking nursing as a poor substitute for a career in medicine and those who were perennial "career shoppers."

Both of these groups of people had proven to have a low probability of program completion even though their academic qualifications were quite adequate.

The final selection-related process which characterized these high-predicator schools was a concern for the congruence between the applicant's personal and professional goals and the philosophy and goals of the nursing school. Preadmission counseling which is not used as a screening device is employed by the schools in an effort to clarify for applicants what nursing is really about and what the school's processes, goals, and expectations are. In one AD program, the director meets personally with small groups of applicants to share this information with them. In one very large baccalaureate program, applicants are encouraged (but not required) to talk with members of the committee charged with making all the major student personnel decisions, including admission, progression, and readmission. One diploma program has a particularly strong preadmissions counseling system for possible advanced placement students (such as LPNs and medical corpsmen) to help them determine if a diploma program is what they really want, or if they should try to move directly into a baccalaureate program instead. One director suggested that a substantial part of nonacademic attrition could be accounted for by a mismatch in goals and students' feelings of "non-belonging" in a particular program. If this is a valid suggestion, goal-clarifying preadmission counseling could play an extremely vital role in the admission process.

4. *Evaluation: Student and Program.*—One notable characteristic shared by the high predictor schools represented in the conference was a high degree of interest and activity in efforts which could be placed in the broad category of "evaluation." Substantial resources in each institution were spent on evaluation activities and the data outcomes were broadly shared and regularly used in decisionmaking.

The evaluation of student progress in these schools had two important characteristics which probably contributed to their above-average ability to predict which of their graduates would be judged more successful after a year in practice; one characteristic is procedural, the other is structural. Procedurally, all students are clearly informed of all terminal and enabling objectives which they must achieve, and evaluation of their progress toward the objectives is regular, frequent, and has continuity in terms of the faculty role in the process. Feedback to the students is prompt and complete. In short, the students know where they are supposed to be going, and know the status of their progress in that direction at all times. Structurally, each school had some individual or faculty committee which "stays with" each student through admission and progression (including the "weeding out" when that becomes necessary). The specific structure of this tracking system varies with the school structure and characteristics. In one school, the Director of Admission is the tracker; in another it was a designated faculty committee chaired by the Assistant Dean for Student Affairs; in the smallest school, it was the director herself in consultation with the entire faculty. We determined that the selection of the "promising" and "most promising" nurse graduates in our study had been made by these individuals and groups who comprised the tracking system.

Since the operational definition of "successful nursing" in our study had been the nurse graduates' performance in their clinical setting, we were interested to know how the conference schools viewed the importance of clinical performance in the composition of the evaluation of student progress, i.e., the grading system. There was a variety of specific policies procedures, and techniques for establishing the particular mixes of grading students for their theory and clinical studies. However, it was generally agreed that even if a student's academic performance were quite satisfactory, but the clinical performance were unsatisfactory or marginal, the student would not progress. Academic performance was a necessary but not sufficient condition for student progress; clinical performance was the telling factor.

The conference participants all shared very firm ideas on the importance of the final evaluation letter that is prepared for each graduate. Obviously, the contents must be shared and agreed upon by the student. Management of such reference materials is now subject to rigorous rights-to-privacy legislation, and must be carried out meticulously. It was agreed that the letters should be as specific as possible regarding the students' best areas of nursing performance. Providing nothing but general, bland, "non-information" serves the

needs of neither graduate nor employer. Some of the directors even specified particular clinical areas and/or work sites for which they felt the graduates were particularly well-suited.

Various aspects of program evaluation received substantial interest and effort in the high-predictor schools. In each school there was someone who was conducting some kind of evaluative or predictive research. It may have been an individual in an administrative position such as the Director of Admissions, or it may have been a regular faculty member with the interest and skills to conduct such inquiry. The most common subject of this internal evaluation was the effectiveness of the schools' selection processes. Other factors which have prompted studies included dissatisfaction with SBTPE performance, problems or dissatisfaction with some element(s) of the curriculum, concerns about admission prerequisites, and curriculum changes which had been made. All the schools conducted followup studies of their graduates' performance. The complexity and frequency of the studies varied widely, but all participants were keenly interested in the most important program product—performance of their graduates.

Two other factors which were related to program evaluation were shared in common by the schools of the conference participants. All had a regular, well-developed program of appraisal of faculty performance. Sources of appraisal data included students, self, faculty colleagues, and nursing colleagues in the affiliating agencies. The second factor was a definite concern for the relationships of the schools with their affiliating agencies. The agency personnel who were involved with the students' clinical instruction process were always informed of terminal objectives of each course, and their input was part of the evaluation process. One school consulted with representatives of affiliating agencies before they made any significant curricular changes. These procedures contribute notably to a mutual understanding of goals and needs among the principals of both school and agency.

5. Program Adaptations. — As we noted in the introduction, behaviors which are associated with maturity and experience (e.g., independence, risk-taking, facility in communication, etc.) are being increasingly valued in nursing practice. It is obvious that schools of nursing must provide learning experiences which can enhance the development of these characteristics in their generic students. However, another avenue with great promise of productivity is for the schools to attract and enroll students who already have some of the chronological maturity and nursing or nursing-related experiences. These "career development" students (as they were designated in some programs) would include the LPNs, former medical corpsmen, diploma program graduates, ADN graduates, and individuals who hold degrees in areas other than nursing. They are usually older, often have had nursing care experience, are usually highly motivated, and have clearly defined goals. However, in order to make nursing programs attractive and reasonable for these people, some program adaptations must be made. Many nursing schools do not wish to bother with adaptations, and hence their focus remains almost entirely on the generic nursing student.

All the high predictor schools represented in the conference had well-developed programs for the career development students. As noted earlier, a strong program of preadmission counseling is a vital part of working with career development students in order to maximize congruence between the goals and philosophies of the program and those held by the individuals.

Advanced placement was usually available to these students via the successful completion of challenge examinations which included both didactic and clinical performance components. Some of the participants had identified deficiencies among the career development students in the basic science areas. The students themselves had also recognized these deficiencies, so a special preparatory course was designed to bring their science preparation up to a more satisfactory level. With the exception of this type of "special grouping" of career development students, however, the general pattern is the integration of career development and generic students in all learning activities. In one of the schools, non-baccalaureate RN students and non-nurse baccalaureate graduates were intentionally paired for their community health experience. In one of the diploma programs, a group of incoming LPNs had been kept together on the assumption that a mutual support system would be beneficial in facilitating their adaptation to the program. However, the di-

rector pointed out that the separated group had not been as motivated as integrated LPNs had been, and the grouping definitely was not a growth experience for them.

The schools also used independent study as a means of meeting the special needs of students with more experience in their backgrounds. It was clear, however, that the goal of the independent study was enrichment, not acceleration. In summary, program adaptations and enrichment experiences were provided for career development students, but they are not separated from generic students. The integration was viewed as desirable by both kinds of students, and was recognized as a mutually enriching experience.

Appendix D

BIBLIOGRAPHY: REFERENCES USED IN DEVELOPMENT OF STUDY QUESTIONNAIRES AND STRATEGIES FOR ANALYSIS

Both questionnaires — the Nursing Graduate Self-Appraisal and the Employer Appraisal of Nursing Graduate—were developed by the project staff on the basis of a comprehensive literature review and careful study of a wide variety of research and measurement instruments which have been developed by previous researchers. Since we full well realize the complexity of the development of a good instrument for the assessment of nursing performance, we examined the literature thoroughly in hope of finding an already existing scale which: (1) was consistent with the objectives of our study; (2) provided sound data regarding the validity and reliability of such a scale; and (3) was suitable for administration to the two groups on whom this phase of the study focuses—recent nursing graduates and their immediate superiors. Unfortunately, no single item met these criteria simultaneously. The first list of references and materials were used in this process.

The second list of references are those used by the staff in the mechanics and strategies of questionnaire construction.

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Part IV

NURSE GRADUATE PERFORMANCE: AN IN-DEPTH ANALYSIS OF SELECTED PERTINENT FACTORS

I. NURSING PREPARATION, JOB UTILIZATION, AND CONGRUENCE OF SELF-APPRAISALS AND EMPLOYER APPRAISALS OF PERFORMANCE

Background

One of the significant concerns in nursing is the nature and duration of the basic preparation for nursing practice. There are currently three avenues which one may use to become eligible to take registered nurse board examinations in most States—the 2-year associate degree programs, the 3-year diploma programs, and the 4- or 5-year baccalaureate programs. The appropriateness of this variety of preparations is hotly debated inside and outside the nursing profession and many States are giving careful scrutiny to their nurse practice acts with an eye to possible future modification of those acts.

The issue is clearly of great importance; reliable, "hard" data which bear on the issue are sparse. Therefore, the Division of Nursing determined that the portion of the study data relevant to the on-the-job utilization and evaluation of graduates from the three types of basic programs required particularly close analysis and interpretation. The purposes of this section are (1) to report the findings related to the relationship between the type of nursing education program and the utilization of new nurse graduates on the job; and (2) to determine the degree of congruence (or discrepancy) between the job performance appraisals given by the graduates themselves and those given by their employers.

Findings

Job Utilization of Nurse Graduates.—We wished to determine if there were different patterns of employment between graduates of the three types of programs. The elements of employment which were analyzed were employing agency, clinical practice area, hospital worksite (for those employed in hospitals), type of position held 1 year after graduation, working hours, and salary. The data from these analyses are shown in tables 4.1-4.6.

Among this sample of 914 nurse graduates, 76 percent were employed in hospitals; the diploma graduates had the highest rate of hospital employment. Baccalaureate graduates had the highest rates of employment in government and public health and the lowest rates of employment in long-term care facilities and private settings such as clinics, offices, etc.

In terms of the graduates' clinical area of practice, the highest proportion of diploma graduates were practicing in areas of medical and surgical nursing (singly and combined); the lowest group in this area was that of baccalaureate graduates. With the exception of pediatric nursing, school graduates were evenly represented; the proportion of baccalaureate graduates in pediatric nursing was double that in either of the other two graduate groups.

The data in table 4.3 show that there were virtually no differences in the unit assignments of nurse graduates from different types of schools. A slightly higher proportion of baccalaureate graduates worked in ICU and CCU areas than of AD or diploma graduates, but the differences are not significant.

The overwhelming majority of the nurse graduates held staff nurse positions after 1 year. The relatively lower proportion of AD graduates who were staff nurses is simply a reflection of the fact that the ADs had the highest unemployment rate. It is interesting to note that 11 percent of the AD graduates held positions of assistant head nurse, head nurse, and supervisor — almost 3 times as many as either among diploma or baccalaureate graduates. This suggests that those people could have been LPNs with a significant amount of nursing experience, and completion of the AD enabled them to obtain RN licensure and move directly into a supervisory position for which they formerly would have been uncredentialized.

Finally, we examined the data regarding the working hours and salaries of the graduates in terms of their school type. These data are shown in tables 4.5 and 4.6. Assigned working hour patterns were generally simuar for graduates from all three types of schools; however baccalaureate graduates appear to have fewer evenings and nights as part of their work assignment. The modal income category for AD

and diploma graduates was $8,000-$9,999; the modal category for baccalaureate graduates was $10,000-$11,999. The general pattern of these data shows that the baccalaureate graduates as a group earned higher salaries than AD or diploma graduates.

Congruence of Self-Appraisals and Employer Appraisals of Nursing Performance.—Appraisals of nursing performance of the participating nurse graduates were obtained from the graduates themselves (N = 914) and the immediate superiors of 75 percent of those graduates. We wished to determine the extent of congruence or discrepancy between the appraisals the graduates gave themselves in the six performance areas and those their supervisors gave them. Tables 4.7 and 4.8 show the comparisons of mean self-appraisal and empoyer appraisal subscale scores for the graduates for whom both sets of data were available (N = 687).

Data in table 4.7 show that graduates from all three types of programs overrated themselves on the Leadership scale; the self-employer means were significantly different for diploma and baccalaureate graduates. Graduates from all three types of schools underrated their own performance in the Critical Care area — those from AD, and baccalaureate schools significantly so.

All three groups of graduates underrated their performance in Teaching/Collaboration and Planning/Evaluation, but none of the differences was statistically significant. All graduates, particularly the diploma group, tended to overrate their performance in IPR/Communications and Professional Development.

Data in table 4.8 show the comparisons of mean self-appraisals and mean employer appraisals broken down by nomination status as most promising, promising, and nonselected. The most promising graduates overrated themselves slightly on three subscales and underrated themselves significantly in three areas; i.e., Critical Care, Teaching/Collaboration, and Planning/Evaluation. Both the "promising" and the nonselected groups overrated themselves significantly on the Leadership and IPR/Communications subscales.

A second approach to an analysis of the congruence or lack of congruence between self-appraisals of performance and employer appraisals is shown in table 4.9. The purpose of this analysis was to determine the extent to which three selected independent variables collectively and individually explained variations in self/supervisor rating discrepancies among the graduates for whom both self-appraisals and supervisor appraisals were available. A "discrepancy score" was computed for each subscale for each respondent simply by subtracting the supervisor appraisal score from the self-appraisal score for the same subscale. Six dependent variables were thus defined. We then ran a series of six multiple regressions — one for each subscale—with three selected independent variables: school type, nomination status, and worksite for hospital-employed nurses.

The results of the multiple regression (presented in table 4.9) of the Leadership self/supervisor discrepancy score on three independent variables show that only a small amount of the variance is explained by those independent variables. The R is .13, thereby indicating that less than 2 percent of the variance is explained. Thus, it is evident that school type, nomination status, and hospital worksite did not account for differences in discrepancies between self-appraisals and employer appraisals of nurse graduate performance. The remainder of the data in table 4.9 reveals a similar pattern for the remaining five performance subscales. While these three selected variables explained very little of the discrepancy variance, it should be kept in mind that the order of magnitude of the actual self/employer scale score differences were quite small (means ranged from .69 to .40) so there really was not much variance to be explained.

Summary

The purposes of this section were to (1) determine the nature of the relationship between the type of nursing education program and the utilization of the recent nurse graduate on the job, and (2) examine the degree of congruence between the job performance ratings which graduates gave themselves and those given by their supervisors. Findings were:

- Graduates from diploma programs reported the highest rate of employment in hospital settings.
- The highest proportion of diploma graduates (64 percent) was in medical-surgical areas of practice; the lowest proportion of

baccalaureate graduates (52 percent) was similarly engaged. The highest proportion of baccalaureate graduates (16 percent) was in pediatrics. Other clinical areas showed no differences.

- There were virtually no differences by school type in the hospital unit assignments of the nurse graduates.
- More than 80 percent of all responding nurse graduates held staff nurse positions 1 year after graduation. No statistically significant differences in positions were observed between graduates of the three different types of programs.
- Baccalaureate graduates had fewer evening and night assignments, and their level of pay was the highest.
- Comparisons of graduates' self-appraisal scores and those from their supervisors showed that graduates from all three types of programs overrated themselves on Leadership; diploma and baccalaureate graduates' differences were statistically significant.
- By contrast all graduates underrated their performance on the Critical Care subscale.
- All graduates—particularly those from diploma programs—overrated their performance in Interpersonal Relations/Communications and in Professional Development.
- Graduates who had been nominated by their nursing school faculty/administration as "most promising" tended to underrate their own performance (three performance areas) and the graduates who were "promising" and "non-selected" tended to overrate theirs (two performance areas).
- A self/supervisor discrepancy rating was computed by simple subtraction. A multiple regression showed that very little of the variance in the discrepancy between the graduates' self-appraisals and those from their supervisors was explained by school type, nomination status, and worksite for hospital-employed nurses.

II. THE NURSE GRADUATES: CHOICE OF SCHOOL AND CHOICE OF JOB

Background

The purpose of this section is to report the analysis of variables which influenced the choices of the nurse graduates in terms of the nursing schools they had attended, the jobs they took after graduation, and factors which could influence them to leave the jobs they held 1 year after graduation.

The data regarding the graduates' reasons for having chosen the type of nursing school they had attended, as well as the particular school they had attended, were obtained by means of two open-ended questions: "Why did you choose the particular type of nursing program from which you just graduated (i.e., associate degree, baccalaureate, or diploma)?" and "Why did you choose the particular nursing school you attended?" The resulting responses were categorized by the project staff into seven major groups, as follows:

1. reasons of expediency, e.g., length of program, costs, already accumulated credits, etc;
2. reasons of geographic proximity to their place of residence;
3. recommendations for the school received from others such as high school counselors, former graduates of the program, family members, friends, and significant others;
4. program quality—a very broad term and difficult to interpret specifically, but often in the case of diploma graduates it translated into "more clinical experience";
5. potential for career advancement in nursing;
6. reasons of personal fulfillment and interest; and
7. of course, the ubiquitous "other" into which one places those responses that really don't belong anywhere else but there are not enough for a category of respectable size.

These reasons for school selection are analyzed and reported below.

The graduates' reasons for choosing their current jobs in nursing were obtained using a structured question format. They were asked "For what reason(s) did you choose your current job in nursing? (Please circle as many as apply.)" Their reasons for any potential job change were obtained in a similar manner. The item was, "Please circle as many as apply to the following statement; I plan to stay in my current job until I find a job: . . ." followed by a set of 10 possible reasons and the space for "Other (please specify)." The data from the analysis of factors related to these two job-related motivation questions are shown and discussed below.

Findings

Choice of School.—One factor which may be influential in a students' choice of a nursing school is his/her eligibility to be admitted to the school. Most schools have established certain academic achievement levels which are applied as entrance screening devices. The data in table 4.10 show that the baccalaureate graduates had demonstrated the highest level of achievement in high school (86 percent in the upper quarter) and the AD graduates had shown the lowest level of achievement in high school (70 percent in the top quarter). It is likely that those students whose high school achievement was high, particularly those in the top 10 percent, actually had more options from which to choose in terms of the nursing school they would subsequently attend.

The data in table 4.11 show that while there are some differences in the communities of origin of the graduates of the three types of programs, the differences are not statistically significant nor are they substantive in nature. About 1/3 of the students came from small cities and another third came from suburban communities. About one-fifth had rural origins and approximately 15 percent were from large cities. Therefore, it would appear that type of community of residence is not necessarily a limiting factor in one's choice of type of nursing school.

The comparisons of reasons given for choice of nursing school type between graduates of AD, diploma, and baccalaureate nursing programs are shown in table 4.12. AD graduates most often chose their school type for reasons of expediency (67 percent)—basically that the program required less time and considerably

less money. Diploma graduates most often (43 percent) cited program quality as their primary motivation for selecting a diploma program; the shorter length of the program was a significant consideration for almost one-third of the diploma graduates. The primary reason for program type choice among baccalaureate graduates was that a baccalaureate degree offered better prospects for career advancement in nursing. Second reasons were also tabulated for those 326 respondents who gave more than one reason. These data are not shown here but the net result was to further emphasize the different motivational choice patterns among graduates of AD, diploma, and baccalaureate nursing programs which are shown in the data in table 4.12.

The data in table 4.13 show that once the "school type decision" has been made, very practical considerations became choice priorities for graduates from all three types of programs. Proximity to home was a primary concern for more than half the AD graduates and about one-third of each of the diploma and baccalaureate graduate groups. Proximity to home also contributes to lowering the cost of one's nursing education. Among the baccalaureate graduates specific school choice was notably influenced by expediency factors, primarily cost, and the fact that they had already obtained a significant number of pre-nursing academic credits at that institution.

Table 4.14 data show that among all the nurse graduates there were some differences between the most promising, promising, and nonselected groups in terms of the reasons they gave for having chosen the type of nursing school they had attended. However, while the X^2 is significant at the .05 level of probability, the differences do not lend themselves to the identification of any notable substantive differences among nominated and non-nominated nurse graduates. The data in table 4.15 show that the groups were very similar in the reasons they gave for having chosen their particular nursing school.

Tables 4.16, 4.17, and 4.18 show the data which were tabulated from the nurse graduates' responses to the question, "Why did you choose to enter nursing?" The respondents' answers were classified and coded into nine categories and an "other" category. The data show that, overall, the most commonly cited motivations for choosing the nursing profession were: a desire to provide a helping service to others (49 percent cited this as either their first or second reason); as a source of personal interest and satisfaction (42 percent overall — however, this "motivation" really sheds very little light on the question); and the economic stability and security enjoyed by members of the profession (21 percent). The data also show that the reported reasons for choosing nursing differed notably between the baccalaureate graduates and the graduates from AD and diploma programs. The baccalaureate graduates cited service less often (31 percent for baccalaureate, 49 percent for both AD and diploma); they exhibited more interest in the positive economic aspects of a nursing career (21 percent for baccalaureate, 12 percent for both AD and diploma); and more reported that they chose nursing as a substitute for a career in medicine (15 percent for baccalaureate, less than 10 percent for both AD and diploma). The higher level of interest in the economic aspects of career among the baccalaureate graduates is also seen in the fact that they cited "career advancement" most often as their first reason for choosing their type of nursing school (table 4.12).

Choice of Job.—The reasons given for their choice of their current nursing job varied somewhat between graduates of AD, diploma, and baccalaureate programs. Table 4.19 shows statistically significant differences in four areas. Diploma and baccalaureate graduates indicated more often than did AD graduates that they chose their jobs because they could work in their clinical area of choice and because they felt they could benefit from additional learning experiences provided by the job. More diploma graduates cited favorable working conditions (49 percent) than either AD or baccalaureate graduates (39 percent and 38 percent, respectively). More baccalaureate graduates (18 percent) reported that they chose their job as preparation for another job. This is entirely consistent with the apparently higher motivation for career advancement which is shown in the baccalaureate graduates' reported reasons for choosing nursing as a career and choosing a baccalaureate nursing program.

The data in table 4.20 show almost no geographic differences in reasons given by respondents for their job choice. Table 4.21 shows that when graduates' reasons for choos-

ing current jobs were compared according to their nomination status, as most promising, promising, and nonselected, only one reason showed a statistically and substantively significant difference. The "most promising" and "promising" graduates gave the reason "It is a place where I can use my education and abilities" more often than the graduates who were in the nonselected categories. In general there was little motivational difference according to nomination status.

Table 4.23 shows the comparisons of the reasons given for job choice by nurse graduates who were employed in the five major worksites among hospital-employed nurses: general inpatient units (N = 442), intensive care and coronary care units (N = 160), operating rooms (N = 32), emergency rooms (N = 36), and nursery and labor and delivery (N = 27). Of the respondents employed in the specialty units about three-fourths said they selected the job because it was in their clinical area of choice; not quite half of the general unit nurses gave that reason. ICU-CCU and ER nurses most often reported that the job would provide additional learning experiences from which they could benefit. Factors of salary, fringe benefits, and possibilities for advancement did not vary among worksites. The OR nurses cited favorable working conditions more often than the other groups (probably the predictable, regular hours), but least often reported that they chose the job because it gave them an opportunity to use their education and abilities. The general unit nurses gave reasons of convenience, limitation of locality, and limited availability of jobs more often than the respondents employed in the other hospital worksites.

It is apparent from the data in table 4.24 that nurse graduates in different salary ranges differed significantly in most of the reasons they gave for choosing their current job. The respondents in the lower salary category (under $8,000 annually) indicated least often that they chose their job because it was their clinical area of choice; for the additional learning experiences it afforded, for the possible advancement opportunities, or that it had good fringe benefits. This same group most often gave the reasons that it was the only job available, that they were limited to finding a job in that locality, that it was convenient in terms of location, and simply that they needed the money.

The data in table 4.25 show that staff nurses cited the opportunity for additional learning experiences as a reason for job choice more often than respondents who were head nurses, assistant head nurses, and supervisors (66 percent and 47 percent, respectively). Interestingly, fewer supervisory nurses cited good pay as a reason for choosing their jobs; but, as one would expect, more of them cited the potential for advancement as a motivator than did the staff nurses. Factors of clinical area of choice, fringe benefits, and transportation convenience showed little difference between staff and supervisory nurses, but supervisory nurses did report more often that their choice of job was influenced by favorable working conditions and the fact that it gave them an opportunity to use their education and abilities to advantage.

Possible Reasons for Changing Jobs. — Tables 4.26 through 4.32 show data related to the factors which could influence the respondents to change their current job. It should be recalled that their responses were solicited by using the item: "I plan to stay in my current job until I find a job: . . . " followed by a list of 10 possible reasons (plus "other"). Respondents could check as many reasons as were applicable to their situation. The total column in each table shows that, in the total group, the response given most often was "I do not anticipate changing jobs" (29 percent). Better working hours was the next most common response (25 percent), and a chance for advancement would be a change motivator for 21 percent of the group. Getting a job in one's clinical area of preference, obtaining a position with more professional independence, and finding a higher salaried job, were each given as possible change factors by about one-fifth of the group.

Table 4.26 shows that factors which would motivate these graduates to change jobs varied significantly by school type in four areas. More baccalaureate students would change jobs for one with more individual status and one with chances for advancement. More baccalaureate graduates (32 percent) would also change jobs for one with more professional independence as compared with only 11 percent of the AD graduates and 17 percent of the diploma graduates. More AD and diploma respondents (31 percent and 32 percent, respectively) do not anticipate changing jobs, while only 21 percent of the baccalaureate respondents expect to

remain in their current position. This is a gain consistent with the apparently higher motivation for career advancement expressed by baccalaureate graduates throughout this survey.

The data in tables 4.27 and 4.28 show no notable motivational differences among the respondents either by geographic region or by nomination status. Table 4.29 indicates that proportionally more respondents working in pediatrics would change for better hours, and more nurse graduates in Medicine/Surgery would change jobs for a better location. However, the sizes of the groups are so disparate that these observations should be considered suggestive at best. This same caveat applies to any interpretation of the data in table 4.30.

Only 6 percent of those in OR and 17 percent of those in ER would change jobs for better working hours as compared to 26 percent to 34 percent for the others. Only 6 percent of those in OR would want better working conditions—about 18 percent for the others. Twenty-five percent of those in general inpatient units would change for a more preferred clinical area as compared to 13 percent and less for the other areas.

No one in Nursery Labor Delivery and only 6 percent of those in OR would change jobs for a better location as compared to 11 percent to 16 percent for the other three areas, but this doesn't seem too important.

Those in more specialized units do not anticipate changing jobs (33 to 44 percent) as do those in general inpatient units (28 percent).

Table 4.31 shows the comparison of reasons for possible job change given by staff nurses and nurses who held supervisory types of positions. Generally, staff nurses would want a job with more individual status (13 percent compared to 8 percent for those in a supervisory position) and a job with better working hours (28 percent to 18 percent). As would be expected, the staff nurses would also like a job with more professional independence (22 percent) whereas only 13 percent of the supervisory nurses found this an important factor for changing jobs. Also as expected, more of those in a supervisory capacity (45 percent) anticipated no further change in position; while only 31 percent of the staff nurses anticipated remaining where they were.

Table 4.32 shows several statistically significant trends. As one moved up the salary scale in nursing, personal development became an important consideration for changing jobs while job-specific influences seemed more important for the nurse graduates on the lower end of the salary scale.

For instance, as salary increased, jobs would have more appeal if there were more individual status involved; if there were more chance for advancement, and if there were more professional independence available. On the lower end of the pay scale, however, the respondents indicated they would more readily change jobs for a higher salary, for better working hours, for better working conditions, and for a more preferred clinical area.

Summary

The purpose of this section was to identify influential factors in the nurse graduates' choices of nursing school, their choices of nursing jobs following graduation, and factors which could influence them to change jobs. The findings showed:

- Graduates from baccalaureate nursing schools had shown the highest level of academic achievement in high school; graduates from associate degree programs showed the lowest high school achievement levels.
- The community of origin did not differ by school type among the respondents.
- AD graduates most often chose their type of nursing school for reasons of expedience — basically the requirements of less time and less money. The primary reason cited by baccalaureate graduates for having chosen their type of school was that a baccalaureate degree offered better prospects for advancement in the nursing profession.
- The nurse graduates' choices of particular nursing schools (after the school type decision had been made) were the very practical factors of proximity to home, cost, and amount of previous credits earned.
- The reported school selection motives did not differ among selected and nonselected nurse graduates.
- The primary reasons the nurse graduates gave for having selected nursing as a career were: to provide service to others; for personal interest and satisfaction; and the economic stability offered by the profession.

- Baccalaureate graduates cited the service motivation less often than did diploma and AD graduates; they had more interest in the economic aspect and more of them reported they had chosen nursing as a substitute for a career in medicine.
- Some differences by school type were observed in the nurse graduates' reported motivations for choosing their current jobs. AD graduates cited less often than diploma or baccalaureate graduates the reasons that the job was in their clinical area of choice and that the job afforded them additional learning experiences. Diploma graduates cited favorable working conditions more often than the other two groups. Baccalaureate graduates more often reported that they selected the job as preparation for another job. No differences in job choice factors were noted by either geographic region or nomination status.
- About three-fourths of the nurse graduates who were employed in specialty units stated they had selected their job because it was in their clinical area of choice; not quite half the general unit nurses gave that reason. General unit nurses cited convenience, limitation of geographic area, and the limited availability of jobs more often than the special unit nurses.
- There were notable differences in motivating factors in job choice according to annual income. Nurse graduates in the lowest salary category (under $8,000) most often gave reasons that it was the only available job, that they were limited to finding a job in that locality, that the location was convenient, and that they needed the money.
- When asked to identify factors which could induce them to change their job, graduates from baccalaureate schools showed a notably different response pattern from the other two groups. Factors of mobility, individual status, and chance for advancement and professional independence held greater appeal for the baccalaureate graduates.
- In general there were no substantive differences in job-change motivations by geographic region, nomination status, clinical area, or worksite.
- Motivations for possible job change were different for the graduates earning higher salaries from those earning less money. Among the higher paid nurse graduates, personal and professional development were more important factors (e.g., advancement, independence, and status). The lower paid nurses would more readily change jobs for higher salary and better working conditions and hours.

III. MOTIVATIONAL AND BACKGROUND FACTORS ASSOCIATED WITH NURSING PERFORMANCE AND ASPIRATIONS

Background

In the previous section, the focus of analysis was the reported motivation of the nurse graduates for making two significant career decisions—choice of their nursing school and choice of their nursing job. Another significant element in the preparation of nurses of the highest quality is the process of choosing from among the applicants to nursing schools those individuals who will succeed in nursing school and then go on to be effective practicing nurses. Administrators and admissions committees and officers take this responsibility to the applicants and the profession very seriously; they are continually working at improving their selection procedures. Their persistent problem is the identification of the "best set" of prenursing characteristics which will help them in identifying and selecting those applicants who will become the best nurses.

While this particular problem was not one of the specific goals of the original contract study, it was determined that a closer look at some prenursing characteristics as they relate to nursing performance might yield some information of value to the Division and schools of nursing. The purpose of this section is to report the results of the analysis of the relationships between five elements of the nurse graduates' job-related behavior and five selected prenursing characteristics. The five elements of job-related behaviors are: (1) the graduates' performance on the State Board Test Pool Examinations; (2) the graduates' worksites; (3) the graduates' positions 1 year after graduation; (4) the graudates' ratings on the six subscales of the Six-D Scale of Nursing Performance given by supervisors; and (5) the graduates' plans for their own future in nursing practice. The five prenursing characteristics which were selected as "predictor" variables were: (1) graduates' first-stated reason for choosing nursing as a career; (2) graduates' perceptions of the nursing profession before they entered nursing school; (3) graduates' rank in the high school graduating class; (4) graduates' fathers' occupations; and (5) graduates' mothers' occupations.

Findings

SBTPE Scores.—Tables 4.33 through 4.38 show the relationship between State Board scores obtained by the 771 nurse graduates who provided those data and the selected prenursing variables. In terms of their reasons for choosing nursing in the first place, the graduates who said their first reason was the influence of some significant other person (usually parents and other relatives) obtained consistently lower SBTPE scores; the differences were statistically significant on the tests in pediatric and psychiatric nursing. Table 4.34 shows that those who described their prenursing image of the profession as "idealistic" and "romantic" obtained generally higher SBTPE scores than respondents with other perceptions. It should be noted that those "idealists" reported that their images did undergo changes after they got into school and into practice which put them more in congruence with reality. Nonetheless, this "de-idealizing" did not apparently interfere with their nursing learning as measured by the SBTPE.

Table 4.35 should surprise no one; it shows that rank in high school graduating class was positively, significantly ($p < .01$) associated with SBTPE performance on all five test areas.

The two remaining prenursing variables which were examined as possible "predictors" of elements of nurse job behaviors were the occupations of the nurse graduates' parents. For this analysis, occupations were categorized as health-related and non-health-related. It should be noted that the original data analysis showed that there were relatively few nurse graduates whose parents had been engaged in health-related occupations (5 percent of the fathers and 9 percent of the mothers). The data in tables 4.36 and 4.37 show that there were no significant differences on SBTPE scores between the graduates whose parents were in health-related occupations and those whose parents were in non-health-related occupations.

Worksite.—The specific worksites of the nurse graduates were grouped into four categories for this analysis: outpatient and nonhospital; inpatient general units; nursery and labor/delivery; and the very acute areas such as intensive care and coronary care units and emergency, operating and recovery rooms. Tables 4.38 through 4.42 show that there are hardly any differences by worksite in terms of the selected prenursing background characteristics of the nurse graduates. The one exception to this is that a higher proportion of nurses who were employed in inpatient general units had graduated within the upper quarter of their high school class than those who were employed in the other three worksite categories. However, this finding would seem to have little substantive significance in spite of its statistical significance. These "non-findings" are essentially consistent with those previously reported below; i.e., that worksite assignment/selection bears little relationship to a variety of background and experience characteristics of the recent nurse graduates.

Position.—Within 1 year after graduation from nursing school, 81 percent of the respondents held positions as staff nurses, and 6 percent were in supervisory positions such as head nurse, assistant head nurse, or supervisor. Tables 4.45, 4.46, and 4.47 show that there were no differences between the staff nurses and supervisory nurses in terms of their high school rank or their parents' occupational status as health-related or non-health-related. However, the two tables which reflect the personal motivations and perceptions which the graduates had before they entered nursing school show some differences worth comment. Fewer supervisory nurses reported that their first reason for going into nursing was service and proportionally more of them cited prior experience and personal interest/motivation than did the staff nurses. A lower proportion of supervisory nurses reported that their image of nursing had been primarily that of an occupation dedicated to "helping people" and more of them thought their prenursing perception of the profession was a realistic one. Caution should be observed in interpreting these findings since the numbers of staff and supervisory nurses are so unbalanced in this study. However, the data do suggest some possible fruitful directions for other studies focused more directly on staff and supervisory nurses and their characteristics.

Performance on Six-D Subscales.—The measure of on-the-job performance used for this analysis was the set of six subscale scores which was obtained from the supervisors' ratings of the nurse graduates. The data are shown in tables 4.48 through 4.52. Nurses who had indicated that their primary reason for choosing nursing as a profession was to increase their knowledge were given somewhat higher ratings than graduates who stated other reasons, but the differences are not statistically significant. Prenursing perceptions of the profession were totally unrelated to the performance subscale scores, as were mothers' and fathers' occupation. The nurse graduates who had graduated in the top 10 percent of their high school class obtained higher performance scores than the others, but again the differences were not statistically significant.

Future Plans.—One significant element of nurse behavior—particularly for those who have only been in practice for a short time — is that of plans for one's professional future. The relationships between the respondents' stated future plans and the five selected "predictor" variables are shown in tables 4.53 through 4.57. None of the X^2 values which were computed for these distributions were statistically significant. However, some of the motivations for entering nursing of the respondents are noteworthy—particularly from those nurse graduates whose plans included leaving nursing practice—either temporarily or permanently. Once again, the number is small, so overinterpretation should be avoided. The nurses who planned to leave practice were more likely to have chosen the profession on the basis of its promise of economic stability and the influence of others, and less on the basis of giving service.

Summary

The purpose of this section was to determine the relationships between five elements of graduates' job-related behaviors (SBTPE performance, worksite, position, graduates' performance ratings on the Six-D Scale given by supervisors, and future plans for nursing practice) and five selected prenursing characteristics (reason for choosing nursing as a career, prenursing perceptions of the profession, rank in high school graduating class, and father's and mother's occupation). Findings were:

- Differences in performance on State Board Test Pool Examinations were associated with three of the five selected prenursing characteristics. Higher SBTPE scores were obtained by graduates who had been in the upper ranks of their high school graduating class and by those who had indicated that their prenursing image of the profession was "idealistic" or "romantic." Lower SBTPE scores were obtained by graduates whose primary reason for entering nursing was the influence of some other individual — usually a parent or other relative.
- There was very little association between the graduates' particular worksite and the five selected background characteristics. The only difference we observed was that a higher proportion of nurses who were employed in inpatient general units had graduated in the upper quarter of their high school class than graduates employed in the other worksite categories. This difference is not judged to have substantive significance, however.
- Within 1 year after graduation, 81 percent of the respondents were staff nurses and 6 percent were in supervisory positions. While the differences were not statistically significant, it was observed that proportionally fewer supervisory nurses reported that their first reason for going into nursing was "service to others" and proportionally more cited prior experience and personal interest/motivation. Supervisory nurses were also less likely to have had the image of nursing as an occupation dedicated to "helping people" and more likely to have held what they considered to be a "realistic" image of the profession even before they entered nursing school.
- None of the selected prenursing school characteristics were statistically significantly related to the nursing performance scale scores given to the graduates by their supervisors. However, the scores of graduates who had been in the upper 10 percent of their high school graduating class tended to be given higher performance scores, as did those who indicated that their primary reason for choosing the nursing profession was to increase their own knowledge.
- No statistically significant differences were observed in the selected prenursing school variables between the graduates who intended to stay in nursing and those who intended to leave temporarily or permanently. It should be recalled however, that very few of the respondents expressed the intention to leave; so we do not consider this finding particularly useful or telling.

IV. PROFESSIONAL ACTIVITIES AND CONTRIBUTIONS

Background

It is generally agreed that the groups of individuals who are occupationally classified as professionals bear responsibilities for the development of their professions beyond the boundaries of their specific employment setting. For example, while professors may be paid primarily for teaching, it is expected that they will contribute to the body of knowledge in their area through an active program of research and publication. The voluntary participation of physicians on panels and commitees which are related to community health problems and issues is expected. Many of these activities are not tasks which, if one did not perform them, would merit firing a person from a job. However, they are significant components of being a "real professional."

We were interested in determining the participation of this sample of relatively new nurse graduates in a limited number of professional activities which are not normally a part of one's nursing job assignment. Further, we wished to determine if the patterns of professional participation and contribution varied between the groups of graduates who had been identified as "promising" by their nursing school faculty/administrators and the group who had not been selected.

Findings

One professional activity which can enhance the practice of a profession is regular reading of the publications which describe the research trends, issues, and new ideas in the area. The nursing related publications were listed in the questionnaire and respondents were asked to describe their readership patterns for those journals. The overall distribution of reading patterns of all journals specified is shown in Table 49 of Part III of this publication.

From that list, the most frequently read publications were selected for this secondary analysis: *American Journal of Nursing (AJN)*, *Nursing '76*, *RN*, and the special area journals related to the clinical interests of the graduates. The data in tables 4.58, 4.59, and 4.60 show that, journal by journal, the reading patterns among the three groups did not differ substantially either in cover-to-cover reading, scanning the journals, or reading articles of special interest. However, general index of overall reading consumption—the "per capita readership"—indicated that in all three readership styles, the group nominated as most promising did more professional reading.

A second opportunity for professional development is provided by professional organizations. Respondents were asked to list the professional organizations in which they were members and to describe their level of participation. These data are shown in tables 4.62 and 4.63. While overall professional membership was not very high (the ANA is highest with 21 percent) the data in table 4.62 show that the "most promising" group had the highest "per capital membership" rate and the nonselected group had the lowest rate. Likewise, meeting attendance shows the same pattern. Very few of any group had yet held office in their professional organizations.

The last area of professional participation about which the respondents were queried was that of professional presentations and publications. The data in table 61 show that the overall rate of contribution among these first-year nurse graduates was low (altogether less than 15 percent) and there was very little difference in these behaviors between the selected and nonselected graduates.

Summary

The purposes of this section have been to describe the extra-job professional participation of the recent nurse graduates and to compare the levels of participation of those graduates who were nominated as "most promising," those who were nominated as "promising," and those who were not selected for either group by their nursing school administrators/faculty.

- The most frequently read nursing publications were (in order) the *American Journal of Nursing*, *Nursing '76*, *RN*, and the special area journals related to the graduates' clinical area of practice.

- A general index of overall reading consumption—the "per capita readership"—showed that the group nominated as most promising did more professional reading.
- In general, membership in professional organizations was relatively low. The ANA was highest with 21 percent of the respondents reporting that they were members.
- The graduates nominated as "most promising" had the highest per capita membership" rate in professional organizations; the non-selected group had the lowest rate. Attendance at meetings showed the same pattern.
- The overall rate of professional presentations and publications for the first-year nurse graduates was quite low (less than 15 percent) and there were no differences between the selected and non-selected graduates on this professional behavior.

V. NURSE GRADUATES' PERCEPTIONS OF THE QUALITY OF THEIR BASIC NURSING EDUCATION RELATIVE TO THEIR PRESENT PERFORMANCE

Background

The heart of the nurse graduate appraisal forms was the set of 66 nurse behaviors which were developed for the study to use as a basis for a valid, reliable nurse performance measure. Each responding graduate was asked three questions about each behavior: (1) how often they performed the behavior in their current job; (2) how well they thought they performed the behavior; and (3) how well their nursing school had perpared them for that behavior.

When all self-appraisal and employer appraisal data had been collected, a principal components analysis of the graduates' and employers' responses to the 66 nurse behavior items was performed. This resulted in a 42-item performance appraisal instrument consisting of five subscales: Leadership; Critical Care; Planning/Evaluation; Teaching/Collaboration; and Interpersonal Relations/Communications. A sixth 10-item subscale, Professional Development, is a part of the total performance instrument (the Six-Dimension Scale of Nursing Performance), but is not of interest in the question which is addressed in this section.

The purpose of the analysis reported in this section is to determine the nature of the relationship between the nurse graduates' perceptions of the quality of their basic preparation for nursing, i.e., their nursing school education, and their level of performance on the job approximately 1 year after graduation.

Findings

The data in table 4.64 show that graduates of diploma schools of nursing consistently rated the quality of their preparation higher than graduates of either AD or baccalaureate programs. By contrast, the data in table 4.65 show that there were no significant differences in the perceived quality of nursing school preparation between most promising, promising or nonselected nurse graduates.

In order to determine the nature of the relationship between actual nurse performance and the nurse graduates' perceptions of the quality of their basic nursing education, correlation coefficients (Pearson r) were computed between the graduates' ratings of their preparation and the performance rating which was given to those graduates by their immediate supervisor. The subroutine, PEARSON CORR of the Statistical Package for the Social Sciences (SPSS) was applied to the data. The default option for the PEARSON CORR program is pairwise deletion of cases in which either of the values to be correlated is nursing. Therefore the r's in table 4.66 and 4.67 are based strictly on the number of cases with scale scores for both school appraisal by the graduate and a performance appraisal score from the graduates' supervisor.

The data in the last columns of tables 4.66 and 4.67 show that, while they are statistically significant (because of the relatively large N's involved) the r's between all the graduates' perceptions of quality of nursing education and the supervisors' ratings of their nursing performance are all quite low. They range from a low of .079 on the Leadership subscale to a high of .169 on the Critical Care subscale. This indicates that, overall, the graduates' opinions of how well they were prepared bore little relationship to the quality of their nursing performance 1 year after graduation.

Table 4.66 shows that in general the correlations between graduates' perceptions of their preparation and supervisors' evaluations of graduate performance was highest among the graduates of AD programs. This is consistent with the findings reported in Part III of the project that the AD graduates rated their preparation the lowest, rated their own performance the lowest, and were rated the lowest on performance by their supervisors. The r's between graduates' perceived quality of preparation and employer evaluation of actual performance were the lowest for the baccalaureate

graduates in all five performance areas. It is notable that on the Critical Care subscale the correlation was actually negative. This would seem to suggest that the baccalaureate graduates may be getting a better nursing education in that area than they think they are.

While the diploma graduates had consistently rated their basic nursing preparation highest, the correlations between those ratings and the supervisors ratings of their subsequent nursing performance were quite low.

In order to determine if graduates' perceptions of preparation were differentially associated with evaluation of later nursing performance according to nomination status, the data shown in table 4.67 were calculated. Those r's are also quite low, but it may be seen that, with the exception of the Critical Care area, the correlations are the highest for the graduates who were not selected by their administrators/faculty as either "promising" or "most promising." It should be noted here that the graduates who were nominated as most promising and promising were subsequently shown to have received higher performance ratings from employers on all subscales than the nonselected group.

In summary, these data suggest that the diploma graduates tended to overestimate the quality of their preparation, the baccalaureate graduates tended to underestimate theirs, and that in the aggregate the graduates' opinions of how well they were prepared bore little relationship to the quality of their nursing performance after 1 year of nursing practice.

Summary

The purpose of this section was to report the findings related to the relationship between the responding nurse graduates' perceptions of the quality of their basic preparation for nursing and their level of job performance 1 year after graduation.

- Graduates from diploma schools rated their nursing school preparation highest in all five performance areas; AD graduates rated theirs lowest in all areas except Critical Care.
- Graduates who were nominated as "most promising," "promising," and nonselected did not rate the quality of nursing preparation differently.
- Correlations between graduates' perceptions of the quality of their nursing education and their supervisors' ratings of the graduates' actual nursing performance were generally quite low.
- Diploma graduates overestimated the quality of their preparation; baccalaureate graduates underestimated theirs.
- In the aggregate the graduates' opinions of how well they were prepared for nursing bore little relationship to the quality of their nursing performance after 1 year of practice.

VI. SUMMARY

The purpose of this report has been to address five question areas of particular interest to the Division of Nursing. The report was based on secondary analysis of selected data from the study. We wished to determine:

- the relationship between the type of educational program and the utilization of the graduate on the job, and the extent of congruence in job performance appraisal by employer and newly employed graduates;
- variables which influence choice of a particular educational program and a particular job;
- motivational and other characteristics of graduates acording to their prenursing perceptions and background, their present position and performance, and their future professional educational and employment aspirations;
- the extra-job professional activities among recent graduates, and the relationship of such activities with prediction categories; and
- differential perceptions of quality of basic education relative to present performance.

Findings

1. Nursing Preparation, Job Utilization, and Congruence of Self-Appraisals and Employer Appraisals of Performance

- Graduates from diploma programs reported the highest rate of employment in hospital settings, and proportionately more of them were in medical-surgical practice than were either AD or baccalaureate graduates.
- Over 80 percent of the responding nurse graduates held staff nurse positions 1 year after graduation. There were no differences by school type in the types of positions held nor in unit assignments. Baccalaureate graduates earned higher salaries and had fewer evening and night staff assignments.
- Comparisons of the graduates' self-appraisal scores in six performance areas and the appraisal scores given them by their supervisors showed that in general the graduates rated themselves higher in the areas of Leadership, Interpersonal Relations/Communication, and Professional Development than their supervisors did. This was particularly true of the diploma graduates. By contrast, the graduates rated their performance in the Critical Care area lower than their supervisors rated them.
- The nurse graduates who had been nominated as "most promising" tended to underrate their own performance, and those who were in the "promising" and nonselected groups tended to overrate their performance.

2. The Nurse Graduates: Choice of School and Choice of Job

- Compared to baccalaureate and diploma graduates, responding nurse graduates from associate degree programs showed the lowest level of academic achievement in high school, had selected their school type most often on factors of expediency, and least often cited as job-choice factors that the job was in their clinical area of choice or that the job afforded additional learning experiences.
- Baccalaureate graduates' responses showed a consistently high interest in economic and professional advancement factors. They, more than AD or diploma graduates, reported that a major consideration in their choice of type of nursing program had been that they felt a baccalaureate preparation would afford them better opportunities for advancement in nursing. They more often cited the economic stability of nursing as a factor in their choice of nursing in the first place. They more often indicated that they had chosen their current jobs as preparation for another. They anticipated more job mobility; and factors of individual status, chance for advancement and professional independence had more appeal to them as possible reasons for changing jobs.
- The comparison of job-choice factors reported by nurse graduates employed in specialty units and those who worked on general units showed that more of those who worked in specialty units had selected their

job because it was in their clinical area of choice (three-fourths compared to less than one-half) and that general unit nurses more often cited factors of employment convenience.

- Nurses in the lower salary categories differed from higher salaried nurses in both job choice factors and factors which could influence them to change jobs. They more often gave job choice factors of limited job availability, convenience of location and financial need. The considerations of higher salary, and better working conditions and hours also had more job-change appeal for the lower salaried group, while the higher salaried nurses said they would be more influenced to change jobs by such factors as advancement, professional independence, and higher job status.
- There were no differences in factors associated with school choice, job choice, or job changing either by nomination status or the geographic regions in which the respondents lived.

3. Motivational and Background Factors Associated with Nursing Performance and Aspirations

- Differences in performance on State Board Test Pool Examinations were associated with three of the five selected prenursing characteristics. Higher SBTPE scores were obtained by graduates who had been in the upper ranks of their high school graduating class and by those who had indicated that their prenursing image of the profession was "idealistic", or "romantic." Lower SBTPE scores were obtained by graduates whose primary reason for entering nursing was the influence of some other individual — usually a parent or other relative.
- There was very little association between the graduates' particular worksite and the five selected background characteristics. The only difference we observed was that a higher proportion of nurses who were employed in inpatient general units had graduated in the upper quarter of their high school class than graduates employed in the other worksite categories. This difference is not judged to have substantive significance, however.
- Within 1 year after graduation 81 percent of the respondents were staff nurses and 6 percent were in supervisory positions. While the differences were not statistically significant, it was observed that proportionally fewer supervisory nurses reported that their first reason for going into nursing was "service to others" and proportionally more cited prior experience and personal interest/motivation. Supervisory nurses were also less likely to have had the image of nursing as an occupation dedicated to "helping people" and more likely to have held what they considered to be a "realistic" image of the profession even before they entered nursing school.
- None of the selected prenursing school characteristics were statistically significantly related to the nursing performance scale scores given to the graduates by their supervisors. However, the scores of graduates who had been in the upper 10 percent of their high school graduating class tended to be given higher performance scores, as did those who indicated that their primary reason for choosing the nursing profession was to increase their own knowledge.
- No statistically significant differences were observed in the selected prenursing school variables between the graduates who intended to stay in nursing and those who intended to leave temporarily or permanently. It should be recalled however, that very few of the respondents expressed the intention to leave, so we do not consider this finding particularly useful or telling.

4. Professional Activities and Contributions

- The most frequently read nursing publications were (in order) the *American Journal of Nursing*, *Nursing '76*, *RN*, and the special area journals related to the graduates' clinical area of practice.
- A general index of overall reading consumption — the "per capita readership" — showed that the group nominated as most promising did more professional reading.
- In general, membership in professional organizations was relatively low. The ANA was highest with 21 percent of the respondents reporting that they were members.
- The graduates nominated as "most promising" had the highest "per capita membership" rate in professional organizations; the nonselected group had the lowest rate.

Attendance at meetings showed the same pattern.

- The overall rate of professional presentations and publications for the first-year nurse graduates was quite low (less than 15 percent) and there were no differences between the selected and nonselected graduates on this professional behavior.

5. *Nurse Graduates' Perceptions of the Quality of Their Basic Nursing Education Relative to Their Present Performance*

- Graduates from diploma schools rated their nursing school preparation highest in all five performance areas; AD graduates rated theirs lowest in all areas except Critical Care.
- Graduates who were nominated as "most promising," "promising," and nonselected did not rate the quality of their nursing preparation differently.
- Correlations between graduates' perceptions of the quality of their nursing education and their supervisors' ratings of the graduates' actual nursing performance were generally quite low.
- Diploma graduates overestimated the quality of their preparation; baccalaureate graduates underestimated theirs.
- In the aggregate the graduates' opinions of how well they were prepared for nursing bore little relationship to the quality of their nursing performance after 1 year of practice.

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Table 4.1. — Distribution of nurse graduates by type of nursing school and employing agency

Employing agency	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Hospital	242	73	283	85	169	71	694	76
Long-term care facility	12	4	4	1	0	-	16	2
Government	4	1	5	1	27	10	43	4
Private clinics/practitioner, industry, etc.	16	5	10	2	4	2	20	2
Public health	1	<1	7	2	12	5	20	2
Schools of nursing	1	<1	1	<1	5	2	7	<1

Table 4.2. — Distribution of nurse graduates by type of nursing school and clinical practice area

Clinical area	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Medical	61	18	56	17	48	20	165	18
Surgical	45	13	61	18	33	14	139	15
Med.-Surg.	92	27	95	29	44	18	231	25
O.B.	16	5	19	6	12	5	47	5
Psychiatric	5	2	18	5	9	4	32	4
Geriatrics	14	4	3	1	2	1	19	2
Pediatrics	19	6	26	8	39	16	84	9
Specialty/Other	10	4	6	2	5	2	21	2

Table 4.3. — Distribution of nurse graduates by type of nursing school and hospital worksite

Hospital worksite	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Inpatient general unit	157	46	167	50	118	49	442	48
Intensive care unit	26	8	32	10	33	14	91	10
Coronary care unit	13	4	11	3	6	3	30	3
ICU-CGU	13	4	17	5	9	4	39	4
Operating room	10	3	17	5	5	2	32	4
Recovery room	0	-	2	<1	2	<1	4	<1
Nursery	3	1	6	2	3	1	12	1
Labor and delivery	6	2	5	2	4	2	15	2

Table 4.4. — Distribution of nurse graduates by type of nursing school and type of position held

Type of position	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Staff nurse	240	70	300	90	198	83	738	81
Private duty nurse	2	<1	1	<1	0	-	3	<1
Assistant head nurse	10	3	3	1	0	-	13	1
Head nurse	21	6	6	2	7	3	34	4
Supervisor	8	2	4	1	1	<1	3	1
Instructor	1	<1	1	<1	7	3	9	1

Table 4.5. — Distribution of nurse graduates by type of nursing school and working hours[1]

Working hours	AD		Diploma		Baccalaureate	
	No.	Pct.	No.	Pct.	No.	Pct.
Days	106	31	82	25	67	28
Evenings	93	27	86	26	41	17
Nights	62	18	68	21	26	11
Rotating shifts	71	21	115	35	111	46
Hours flexible and self-determined	16	5	11	3	9	4
Some weekends	210	61	225	68	152	63

[1] Respondents were directed to check as many categories as were applicable in their jobs.

Table 4.6. — Distribution of nurse graduates by type of nursing school and salary 1 year after graduation

Salary	School type							
	AD		Diploma		Baccalaureate		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
<$6,000	22	6	16	5	12	5	50	5
6,000 - 7,999	54	16	33	10	10	4	97	11
8,000 - 9,999	108	32	122	37	73	30	303	33
10,000 - 11,999	81	26	114	34	91	37	294	32
12,000 - 14,999	16	5	27	8	26	11	69	8
15,000 - 16,999	0	-	1	<1	2	<1	3	<1
17,000 and above	0	-	0	-	6	3	6	<1

Table 4.7. — Comparisons of self-appraisals and employer appraisals of nurse graduate performance on six subscale scores: AD, diploma, and baccalaureate graduates

Subscales	AD		Diploma		Baccalaureate		Total	
	Self $\bar{X}$	Employer $\bar{X}$	Self $\bar{X}$	Employer $\bar{X}$	Self $\bar{X}$	Employer $\bar{X}$	Self $\bar{X}$	Employer $\bar{X}$
Leadership	2.99	2.87	3.14	2.84	3.04	2.89	3.06	2.86
Critical Care	2.85	3.01	3.03	3.09	2.90	3.09	2.93	3.06
Teaching/Collaboration	2.55	2.64	2.69	2.68	2.77	2.88	2.66	2.72
Planning/Evaluation	2.80	2.84	2.91	2.93	2.98	3.03	2.89	2.92
IPR/Communications	3.12	3.07	3.28	3.06	3.25	3.15	3.22	3.09
Professional Development	2.76	2.73	2.79	2.74	2.75	2.76	2.77	2.74

Table 4.8. — Comparisons of self-appraisals and employer appraisals of nurse graduate performance on six subscale scores: most promising, promising, and nonselected graduates

Subscales	Most promising		Promising		Nonselected		Total	
	Self $\bar{X}$	Employer $\bar{X}$	Self $\bar{X}$	Employer $\bar{X}$	Self $\bar{X}$	Employer $\bar{X}$	Self $\bar{X}$	Employer $\bar{X}$
Leadership	3.04	2.93	3.09	2.89	3.05	2.77	3.06	2.86
Critical Care	2.93	3.16	2.97	3.05	2.90	2.95	2.93	3.06
Teaching/Collaboration	2.70	2.82	2.62	2.69	2.65	2.63	2.66	2.72
Planning/Evaluation	2.90	3.04	2.91	2.89	2.86	2.83	2.89	2.92
IPR/Communications	3.22	3.15	3.23	3.09	3.19	3.01	3.22	3.09
Professional Development	2.81	2.79	2.77	2.76	2.72	2.68	2.77	2.74

Table 4.9. — Multiple regression of self/supervisor appraisal discrepancy scores on school type, nomination status, and worksite for hospital-employed nurse graduates

Dependent variables	Beta			R	R^2	Sig.
	School type	Nomination status	Worksite			
Leadership discrepancy	.044	-.003	-.124	.130	.017	.01
Critical Care discrepancy	.007	.010	-.040	.041	.002	[1]ns
Teaching/Collaboration discrepancy	.004	-.000	-.069	.069	.005	ns
Planning/Evaluation discrepancy	-.017	.020	-.065	.070	.005	ns
IPR/Communication discrepancy	.032	.012	-.076	.082	.007	ns
Professional Development discrepancy	.003	.017	-.005	.018	.000	ns

[1] Not significant.

Table 4.10. — Distribution of nurse graduates by nursing school type and rank in high school graduating class

High school rank	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Upper 10 percent	140	40	145	44	135	56	420	46
Upper 25 percent	103	30	112	34	72	30	287	31
Upper 50 percent	68	20	58	18	19	8	145	16
Lower 50 percent	10	3	11	3	11	5	32	4

Table 4.11. — Distribution of nurse graduates by nursing school type and community of residence while in high school

Community of residence	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Rural or farm	71	21	76	23	36	15	183	20
Town or small city not near large city	112	33	92	28	67	28	271	30
Suburban area near large city	106	31	113	34	93	39	312	34
Large city	46	14	44	14	39	16	129	14

Table 4.12. — Distribution of nurse graduates by first reason given for choosing nursing school type[1]

Reasons	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Expediency	231	67	108	32	21	9	360	39
Geographic location	60	18	17	5	6	3	83	9
Recommendation	5	2	25	8	10	4	40	4
Program quality	18	5	141	43	56	23	215	24
Career advancement	5	2	2	1	134	56	141	15
Personal	8	2	28	8	4	2	40	4
Other	2	1	2	1	5	2	9	1

[1] $X^2 = 658.08$, df = 14, $p = .001$

Table 4.13. — Distribution of nurse graduates by first reasons given for choosing their particular nursing school and school type

Reasons	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Expediency	91	27	52	16	64	27	207	23
Geographic location	182	53	95	29	79	33	356	39
Recommendation	16	5	58	18	22	9	96	11
Program quality	31	9	107	32	52	22	190	21
Career advancement	0	-	0	-	6	3	6	<1
Personal	13	4	15	5	8	3	36	4
Other	4	1	1	<1	4	2	9	1

Table 4.14. — Distribution of nurse graduates by first reason given for choosing nursing school type and nomination status[1]

Reason	Status						Total	
	Most promising		Promising		Nonselected			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Expediency	138	42	125	41	97	35	360	39
Geographic location	36	11	26	9	21	8	83	9
Recommendation	16	5	13	4	11	4	40	4
Program quality	71	22	78	26	66	24	215	24
Career advancement	51	16	42	14	48	17	141	15
Personal	10	3	12	4	18	6	40	4
Other	1	<1	3	1	5	2	9	1

[1] $X^2 = 24.07$, df = 14, $p = .06$.

Table 4.15. — Distribution of nurse graduates by first reason given for choosing their particular nursing school and nomination status

Reason	Status						Total	
	Most promising		Promising		Nonselected			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Expediency	81	25	66	22	60	22	207	23
Geographic location	132	40	118	39	106	38	356	39
Recommendation	30	9	29	10	37	13	96	11
Program quality	67	21	70	23	53	19	190	21
Career advancement	4	1	1	<1	1	<1	6	<1
Personal	6	2	14	5	16	6	36	4
Other	1	<1	4	1	4	1	9	1

Table 4.16. — Distribution of nurse graduates by first reason given for entering nursing and nursing school type

Reason	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Service to others	168	49	162	49	89	37	419	46
Economic stability	40	12	40	12	51	21	131	14
Influence of significant others	20	6	22	7	11	5	53	6
Expediency	5	2	2	<1	1	<1	8	1
Prior related experience	20	6	18	5	9	4	47	5
To increase knowledge	8	2	6	2	6	3	20	2
Substitute for medicine	11	3	15	5	19	8	45	5
Personal interest/satisfaction	50	15	50	15	37	15	137	15
Religious motivation	2	<1	6	2	3	1	11	1

Table 4.17. — Distribution of nurse graduates by second reason given for entering nursing and nursing school type

Reason	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pt.	No.	Pct.	No.	Pct.	No.	Pct.
Service to others	5	2	8	2	10	4	23	3
Economic stability	35	10	19	6	10	4	64	7
Influence of significant others	7	2	12	4	7	3	26	3
Expediency	2	<1	2	<1	0	-	4	<1
Prior related experience	6	2	8	2	5	2	19	2
To increase knowledge	5	2	6	2	9	4	20	2
Substitute for medicine	17	5	16	5	18	8	51	6
Personal interest/satisfaction	88	32	115	42	74	27	277	30
Religious motivation	4	1	2	<1	3	1	9	1

Table 4.18. — Distribution of nurse graduates by reasons (total of first and second) given for entering nursing and school type[1]

Reason	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Service to others	173	51	170	51	99	41	442	49
Economic stability	70	22	59	18	61	25	195	21
Influence of significant others	27	8	34	11	18	8	79	9
Expediency	7	2	4	2	1	<1	12	1
Prior related experience	26	8	26	7	14	6	66	7
To increase knowledge	13	4	12	4	15	7	4	4
Substitute for medicine	28	8	31	10	37	16	96	11
Personal interest/satisfaction	138	47	165	57	111	42	414	45
Religious motivation	6	1	8	2	6	1	20	2

[1] Since these are cumulative percentages all column totals exceed 100 percent.

Table 4.19. — Distribution of nurse graduates by reasons for job choice and school type[1]

Reasons	School type							
	AD		Diploma		Baccalaureate		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
It is my clinical area of choice.	141	41	188	57	126	53	[3]455	50
I felt I could benefit from additional learning experiences.	178	52	203	61	145	61	[3]526	58
The salary is good.	96	28	117	35	77	32	290	32
There is a good chance for advancement.	50	15	36	11	34	14	120	13
The position offers good fringe benefits.	69	20	83	25	57	24	209	23
Working conditions were favorable.	132	39	161	49	90	38	[4]383	42
It is a place where I can use my education and abilities.	165	48	188	57	125	52	478	52
It was the only job available here.	35	10	32	10	17	7	84	9
I was limited to this locality.	47	14	48	15	42	18	137	15
I needed the money.	40	12	38	11	28	12	106	12
As preparation for another job.	34	10	44	13	42	18	[3]120	13
It is convenient in terms of transportation to and from work.	87	25	85	26	46	19	[2]218	24

[1] Reasons were not mutually exclusive choices.
[2] $< .001$.
[3] $< .05$.
[4] $< .01$.

Table 4.20. — Distribution of nurse graduates by reasons for job choice and geographic region

Reasons	Geographic region									
	North Atlantic		Midwest		South		West		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Clinical choice	102	44	167	54	117	52	69	47	455	50
Additional learning	139	60	186	60	125	55	76	52	526	58
Salary	83	36	98	32	59	26	50	34	290	32
Advancement	32	14	37	12	35	15	16	11	120	13
Fringes	57	25	69	22	49	22	34	23	209	23
Favorable working conditions	90	39	140	45	91	40	62	43	283	42
Use education and abilities	125	54	163	52	123	54	67	46	478	52
Only job available	30	13	26	8	19	8	9	6	84	9
Limited to locality	33	14	48	15	40	18	16	11	137	15
Needed money	33	14	39	13	27	13	7	5	[1]106	12
Preparation for other job	42	18	38	12	18	8	22	15	[2]120	13
Convenient	59	26	72	23	55	24	32	22	218	24

[1] $p < .05$.
[2] $p < .01$.

Table 4.21. — Distribution of nurse graduates by reasons for job choice and nomination status

Reasons	Status							
	Most promising		Promising		Nonselected		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Clinical choice	172	53	157	51	126	45	455	50
Additional learning	193	59	185	61	148	53	526	58
Salary	104	32	96	31	90	32	290	32
Advancement	44	14	41	13	35	13	120	13
Fringes	69	21	75	25	65	23	209	23
Favorable working conditions	154	47	112	37	117	42	[1]383	42
Use education and abilities	198	61	153	50	127	45	[2]478	52

Table 4.21. — Distribution of nurse graduates by reasons for job choice and nomination status — Continued

Reasons	Status						Total	
	Most promising		Promising		Nonselected			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Only job available	31	10	21	7	32	11	84	9
Limited to locality	54	17	40	13	43	15	137	15
Needed money	34	10	31	10	41	15	106	12
Preparation for other job	45	14	41	13	34	12	120	13
Convenient	72	22	79	26	67	24	218	24

[1] $p < .05$
[2] $p < .001$

Table 4.22. — Distribution of nurse graduates by reasons for job choice and clinical area[1]

Reasons	Clinical area								Total	
	Med/Surg.		Obstetrics		Psychiatric		Pediatric			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Clinical choice	284	53	35	75	26	81	66	79	455	50
Additional learning	365	68	23	50	16	50	52	62	526	58
Salary	188	35	18	38	16	50	20	33	290	32
Advancement	80	15	6	13	8	25	8	10	120	13
Fringes	130	24	12	26	12	38	22	26	209	23
Favorable working conditions	239	45	23	50	15	47	37	44	[2]383	42
Use education and abilities	308	58	30	64	18	56	45	54	[2]478	52
Only job available	53	10	1	2	3	9	5	6	84	9
Limited to locality	90	17	9	19	2	6	11	13	137	15
Needed money	72	13	5	11	3	9	10	12	106	12
Preparation for other job	77	14	6	13	7	22	11	13	120	13
Convenient	148	28	12	26	5	16	23	27	218	24

[1] Reasons were not mutually exclusive choices.
[2] $p < .05$
[3] $p < .001$

Table 4.23. — Distribution of nurse graduates by reasons for job choice and worksite[1]

Reasons	Worksite										Total	
	General inpatient unit		ICU-CCU		Operating room		Emergency room		Nursery lab.-del.			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Clinical choice	215	49	120	75	24	75	26	72	22	81	455	50
Additional learning	279	63	118	74	17	53	18	72	12	44	526	58
Salary	170	39	54	34	11	34	9	25	9	33	290	32
Advancement	70	16	24	15	4	13	1	3	4	15	120	13
Fringes	116	26	39	24	9	28	6	17	6	22	209	23
Favorable working conditions	198	45	67	42	20	63	14	40	11	41	383	42
Use education and abilities	254	58	98	61	11	34	18	50	16	59	478	52
Only job available	58	13	9	6	2	6	0	-	-	-	84	9
Limited to locality	87	20	16	10	3	10	2	6	6	22	137	15
Needed money	74	18	12	8	2	6	4	11	2	7	106	12
Preparation for other job	67	15	22	14	8	25	5	14	2	7	120	13
Convenient	137	31	31	19	5	16	6	17	7	26	218	24

[1] The worksite categories are those in which the largest groups of respondents were employed. Due to the total of N's in the five categories does not equal the figures in the total column. The figures in the total column have been included for the reader's ease of reference.

Table 4.24. — Distribution of nurse graduates by reasons for job choice and salary range

Reasons	Salary range								Total	
	<$8,000		$8,000-$9,999		$10,000-$11,999		$12,000- and over			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Clinical choice	47	32	179	59	172	59	51	65	[1]455	50
Additional learning	80	54	195	64	201	68	45	58	[1]526	58
Salary	26	18	79	26	133	45	48	62	[1]290	32
Advancement	15	10	41	14	51	17	12	15	[2]120	13
Fringes	23	16	59	20	100	34	25	32	[2]209	23
Favorable working conditions	57	39	143	47	148	50	30	38	[2]383	42
Use education and abilities	64	44	175	58	192	65	43	55	[2]478	52
Only job available	27	18	29	10	26	9	2	3	[2]84	9
Limited to locality	41	28	50	17	40	14	6	8	[2]137	15
Needed money	31	21	41	14	27	9	7	9	[2]106	12
Preparation for other job	22	15	43	14	39	13	14	18	120	13
Convenient	55	37	73	24	72	25	14	18	[2]218	24

[1] $p < .01$.
[2] $p < .05$.

Table 4.25. — Distribution of nurse graduates by reasons for job choice and type of position[1]

Reasons	Position				Total	
	Staff nurse		Head nurse, asst. head nurse or supervisor			
	No.	Pct.	No.	Pct.	No.	Pct.
Clinical choice	417	57	30	50	455	50
Additional learning	486	66	28	47	526	58
Salary	266	36	16	27	290	32
Advancement	101	14	15	25	120	13
Fringes	184	25	14	23	209	23
Favorable working conditions	329	45	32	53	383	42
Use education and abilities	424	58	37	62	478	52
Only job available	75	10	8	13	84	9
Limited to locality	126	17	7	12	137	15
Needed money	98	13	5	8	106	12
Preparation for other job	109	15	7	12	120	13
Convenient	198	27	17	28	218	24

[1] The type of position categories are those in which the largest groups of respondents were employed. Therefore the total of N's in the two categories does not necessarily equal the figure in the total column. The figures in the total column have been included for the reader's ease of reference.

Table 4.26. — Distribution of nurse graduates by motivation for a job change and school type

I plan to stay in my current job until I find a job:	School type						Total	
	AD		Diploma		Baccalaureate			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
with more individual status	26	8	37	11	41	17	[1]104	11
with higher salary	65	19	50	15	46	19	161	18
with better working hours	74	22	81	24	70	29	225	25
with chance for advancement	63	18	65	20	65	27	[1]193	21
with better working conditions	48	14	46	14	39	16	133	15
in the clinical area I prefer	59	17	67	20	44	18	170	19
with more professional independence	38	11	55	17	77	32	[2]170	19
outside of the nursing field	3	1	4	1	3	1	10	1
in a better location	34	10	38	11	26	11	98	11
I do not anticipate changing jobs	107	31	107	32	50	21	[3]264	29

[1] $p < .05$.
[2] $p < .001$.
[3] $p < .01$.

Table 4.27. — Distribution of nurse graduates by motivation for a job change and geographic region

I plan to stay in my current job until I find a job:	Geographic region								Total	
	North Atlantic		Midwest		South		West			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
with more individual status	34	15	32	10	27	12	11	8	104	11
with higher salary	48	21	43	14	52	23	18	12	[1]161	18
with better working hours	59	26	79	25	58	26	29	20	225	25
with chance for advancement	58	25	52	17	52	23	31	21	193	21
with better working conditions	32	14	41	13	42	19	18	12	133	15
in the clinical area I prefer	51	22	59	19	28	12	32	22	[2]170	19
with more professional independence	52	23	64	21	30	13	24	16	[2]170	19
outside of the nursing field	5	2	3	1	1	-	1	1	10	1
in a better location	30	13	30	10	20	9	18	12	98	11
I do not anticipate changing jobs	57	25	92	30	74	33	41	28	264	29

[1] $p < .01$.
[2] $p < .06$.

Table 4.28. — Distribution of nurse graduates by motivation for a job change and nomination status

I play to stay in my current job until I find a job:	Status						Total	
	Most promising		Promising		Nonselected			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
with more individual status	35	11	34	11	35	13	104	11
with higher salary	55	17	56	18	50	18	161	18
with better working hours	79	24	75	25	71	25	225	25
with chance for advancement	70	21	58	19	65	23	193	21
with better working conditions	49	15	44	14	40	14	133	15
in the clinical area I prefer	54	17	54	18	62	22	170	19
with more professional independence	64	20	56	18	50	18	170	19
outside of the nursing field	1	-	6	2	3	1	10	1
in a better location	29	9	35	11	34	12	98	11
I do not anticipate changing jobs	92	28	94	31	78	28	264	29

Table 4.29. — Distribution of nurse graduates by motivation for a job change and clinical area[1]

I plan to stay in my current job until I find a job:	Clinical area								Total	
	Medical/ Surgical		Obstetrics		Psychiatric		Pediatrics			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
with more individual status	74	14	4	9	3	9	12	14	104	11
with higher salary	99	19	11	23	7	22	13	16	161	18
with better working hours	144	27	12	26	9	28	36	43	225	25
with chance for advancement	124	23	11	23	6	19	21	25	193	21
with better working conditions	92	17	8	17	3	9	12	14	133	15
in the clinical area I prefer	113	21	4	9	5	16	13	16	170	19
with more professional independence	112	21	9	19	7	22	23	27	170	19
outside of the nursing field	7	1	1	2	1	3	0	-	10	1
in a better location	74	14	3	6	2	6	5	6	98	11
I do not anticipate changing jobs	166	31	16	34	13	41	30	36	264	29

[1] The clinical area categories are those in which the largest groups of respondents were employed. Therefore the total of N's in the four categories does not necessarily equal the figure in the total column. The figures in the total column have been included for the reader's ease of reference.

Table 4.30. — Distribution of nurse graduates by motivation for a job change and worksite[1]

I plan to stay in my current job until I find a job:	Worksite										Total	
	General inpatient unit		ICU-CCU		Operating room		Emergency room		Nursery lab.-del.			
	No.	Pct.	No.	Pct.	No.	Pct	No.	Pct.	No.	Pct.	No.	Pct.
with more individual status	55	12	24	15	6	19	5	14	3	11	104	11
with higher salary	81	18	29	18	7	22	6	17	5	19	161	18
with better working hours	132	30	54	34	2	6	6	17	7	26	225	25
with chance for advancement	100	23	36	23	7	22	7	19	4	15	193	21
with better working conditions	79	18	23	14	2	6	7	19	5	19	133	15
in the clinical area I prefer	110	25	18	11	4	13	4	11	2	7	170	19
with more professional independence	99	22	32	20	6	19	8	22	5	19	170	19
outside of the nursing field	5	1	4	3	0	-	0	-	1	4	10	1
in a better location	50	11	26	16	2	6	5	14	0	-	98	11
I do not anticipate changing jobs	122	28	60	38	12	38	16	44	9	33	264	29

[1] The worksite categories are those in which the largest groups of respondents were employed. Therefore the total of N's in the five categories does not equal the figure in the total column. The figures in the total column have been included for the reader's ease of reference.

Table 4.31. — Distribution of nurse graduates by motivation for a job change and type of position[1]

I plan to stay in my current job until I find a job:	Position				Total	
	Staff nurse		Head nurse, asst. head nurse or supervisor			
	No.	Pct.	No.	Pct	No.	Pct.
with more individual status	95	13	5	8	104	11
with higher salary	140	19	13	22	161	18
with better working hours	208	28	11	18	225	25
with chance for advancement	169	23	13	22	193	21
with better working conditions	120	16	11	18	133	15
in the clinical area I prefer	154	21	10	17	170	19
with more professional independence	159	22	8	13	170	19
outside of the nursing field	10	1	0	-	10	1
in a better location	91	12	7	12	98	11
I do not anticipate changing jobs	225	31	27	45	264	29

[1] The type of position categories are those in which the largest groups of respondents were employed. Therefore the total of N's in the two categories does not necessarily equal the figure in the total column. The figures in the total column have been included for the reader's ease of reference.

Table 4.32. — Distribution of nurse graduates by motivation for a job change and salary range

I plan to stay in my current job until I find a job:	Salary range								Total	
	<$8,000		$8,000-$9,999		$10,000-$11,999		$12,000 and over			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
with more individual status	16	11	32	11	40	14	14	18	[1]104	11
with higher salary	41	28	65	22	46	16	9	12	[2]161	18
with better working hours	45	31	81	27	79	27	18	23	[2]225	25
with chance for advancement	27	18	71	23	72	25	20	26	[3]193	21
with better working conditions	28	19	49	16	42	14	12	15	[3]133	15
in the clinical area I prefer	44	30	55	18	56	19	15	19	[2]170	19

Table 4.32. — Distribution of nurse graduates by motivation for a job change and salary range — Continued

I plan to stay in my current job until I find a job:	Salary range								Total	
	$8,000		$8,000-$9,999		$10,000-$11,999		$12,000 and over			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
with more professional independence	24	16	51	17	67	23	26	33	[2]170	19
outside of the nursing field	2	1	4	1	4	1	0	-	10	1
in a better location	19	13	35	12	34	12	9	12	98	11
I do not anticipate changing jobs	40	27	96	32	100	34	23	29	[2]264	29

[1] $p < .01$.
[2] $p < .001$
[3] $p < .05$.

Table 4.33. — Comparison of nurse graduates' mean scores on State Board Test Pool Examinations by first reason given for choosing nursing as a career

Reasons	SBTPE					Total
	Medical	Surgical	Obstetrics	Pediatrics	Psychiatric	$\bar{X}$
Service to others	564	563	557	556	548	558
Economic stability	573	571	564	570	569	569
Influence of others	534	552	543	532	527	538
Prior experience	569	583	564	554	542	562
Increase knowledge	561	579	570	572	559	568
Substitute for medicine	581	564	562	579	577	572
Personal interest motivation	581	576	564	570	566	571

[1] $p < .05$.

Table 4.34. — Comparison of nurse graduates' mean scores on State Board Test Pool Examinations by prenursing perceptions of the nursing profession

Perceptions	SBTPE				
	Medical	Surgical	Obstetrics	Pediatrics	Psychiatric
Helping others	558	557	545	548	538
Dignified profession	550	557	559	545	545
Romantic image	589	585	581	573	578
Realistic	567	582	566	570	550
Hard work	549	543	539	557	548
Doctor's assistant	585	593	574	571	566
Easy work	588	569	575	538	577
Limited professional scope	570	557	561	569	572
No idea, limited, or vague	576	566	548	563	558
Idealistic	594	593	595	605	588

[1] $p < .05$.

Table 4.35. — Comparison of nurse graduates' mean scores on State Board Test Pool Examination by high school rank[1]

High school rank	SBTPE scores				
	Medical	Surgical	Obstetrics	Pediatrics	Psychiatric
Top 10 percent	588	586	580	578	575
Top 25 percent	559	555	550	554	542
Top 50 percent	521	528	520	519	516
Lower 50 percent	520	520	503	486	510

[1] All differences $p < .01$.

Table 4.36. — Comparison of nurse graduates' mean scores on State Board Test Pool Examinations by father's occupation

Father's occupation	SBTPE				
	Medical	Surgical	Obstetrics	Pediatrics	Psychiatric
Health related	578	561	552	565	572
Non-health related	565	566	558	558	552

Table 4.37. — Comparison of nurse graduates' mean scores on State Board Test Pool Examinations by mother's occupation

Mother's occupation	SBTPE				
	Medical	Surgical	Obstetrics	Pediatrics	Psychiatric
Health-related	573	571	559	563	547
Non-health realted	565	564	558	557	558

Table 4.38. — Distribution of nurse graduates by worksite and first reason given for choosing nursing as a career

Reasons	Worksite							
	Outpatient and nonhospital		General inpatient unit		Nursery lab.-del.		ICU/CCU, O.R., E.R., & R.R.	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Service to others	22	36	236	49	14	52	104	45
Economic stability	10	16	64	13	1	4	38	16
Influence of others	3	5	28	6	1	4	16	7
Prior experience	3	5	19	4	3	11	14	6
Increase knowledge	1	2	12	3	0	-	4	2
Substitute for medicine	2	3	25	5	0	-	10	4
Personal interest/motivation	13	21	67	14	3	11	34	15

Table 4.39. — Distribution of nurse graduates by worksite and prenursing perceptions of the nursing profession

Perceptions	Worksite							
	Outpatient and nonhospital		General inpatient unit		Nursery lab.-del.		ICU/CCU, O.R., E.R., and R.R.	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct
Helping others	14	23	157	33	5	19	71	31
Dignified profession	2	3	45	9	2	7	21	9
Romantic image	5	8	39	8	3	11	21	9
Realistic	3	5	34	7	2	7	16	7
Hard work	4	7	17	4	0	-	14	6
Doctor's assistant	1	2	27	6	4	15	14	6
Easy work	3	5	8	2	0	-	8	3
Limited professional scope	10	16	16	3	0	-	5	2
No idea, limited, or vague	3	5	49	10	5	19	16	7
Idealistic	-	2	23	5	0	-	6	3

Table 4.40. — Distribution of nurse graduates by worksite and high school rank

High school rank	Worksite							
	Outpatient and nonhospital		General inpatient unit		Nursery lab.-del.		ICU/CCU, O.R., E.R., and R.R.	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Top 10 percent	28	46	224	47	9	33	107	46
Top 25 percent	18	30	162	34	11	41	64	28
Top 50 percent	10	16	68	14	4	15	46	20
Lower 50 percent	1	2	14	3	0	-	10	4

Table 4.41. — Distribution of nurse graduates by worksite and father's occupation

Father's occupation	Worksite							
	Outpatient and nonhospital		General inpatient unit		Nursery lab.-del.		ICU/CCU, O.R., E.R., and R.R.	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Health related	3	5	27	6	2	7	8	3
Non-health related	52	85	443	93	24	89	221	95

Table 4.42.— Distribution of nurse graduates by worksite and mother's occupation

Mother's occupation	Worksite							
	Outpatient and nonhospital		General inpatient unit		Nursery lab.-del.		ICU/CCU, O.R., E.R., and R.R.	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Health related	5	8	43	9	1	4	2	9
Non-health related	51	84	417	87	26	96	207	89

Table 4.43. — Distribution of nurse graduates by position and first reason given for choosing nursing as a career

Reasons	Position			
	Staff		Supervisory	
	No.	Pct.	No.	Pct.
Service to others	361	49	25	42
Economic stability	103	14	7	12
Influence of others	42	6	2	3
Prior experience	35	5	6	10
Increase knowledge	14	2	1	2
Substitute for medicine	35	5	1	2
Personal interest motivation	102	14	13	22

Table 4.44. — Distribution of nurse graduates by position and prenursing perceptions of the nursing profession

Perceptions	Position			
	Staff		Supervisory	
	No.	Pct.	No.	Pct.
Helping others	236	32	11	18
Dignified profession	62	8	8	13
Romantic image	65	9	5	8
Realistic	50	7	8	13
Hard work	33	5	3	5
Doctor's assistant	46	6	0	-
Easy work	13	2	4	7
Limited professional scope	30	4	1	2
No idea, limited, or vague	74	10	2	3
Idealistic	28	4	2	3

Table 4.45. — Distribution of nurse graduates by position and high school rank

High school rank	Position			
	Staff		Supervisory	
	No.	Pct.	No.	Pct.
Top 10 percent	342	46	25	42
Top 25 percent	237	32	19	32
Top 50 percent	115	16	13	22
Lower 50 percent	25	3	2	3

Table 4.46. — Distribution of nurse graduates by position and father's occupation

Father's occupation	Position			
	Staff		Supervisory	
	No.	Pct.	No.	Pct.
Health related	36	5	3	5
Non-health related	689	93	54	90

Table 4.47. — Distribution of nurse graduates by position and mother's occupation

Mother's occupation	Position			
	Staff		Supervisory	
	No.	Pct.	No.	Pct.
Health related	59	8	9	15
Non-health related	659	89	49	82

Table 4.48. — Comparison of nurse graduates' mean scores from supervisors on six performance subscales by first reason given for choosing nursing as a career

Reasons	Performance subscales					
	Leadership	Critical Care	Teaching/ Collaboration	Planning/ Evaluation	IPR/ Communications	Professional Development
Service to others	2.91	3.09	2.76	2.96	3.11	2.76
Economic stability	2.80	2.99	2.63	2.83	3.01	2.72
Influence of others	2.73	2.98	2.62	2.85	3.02	2.74
Prior experience	2.78	3.02	2.57	2.78	3.10	2.79
Increase knowledge	3.11	3.33	3.08	3.00	3.32	2.79
Substitute for medicine	2.96	3.26	2.88	3.07	3.23	2.81
Personal interest/ motivation	2.80	2.95	2.65	2.92	3.01	2.69

Table 4.49. — Comparison of nurse graduates' mean scores from supervisors on six performance subscales by prenursing perceptions of the nursing profession

Perceptions	Performance subscales					
	Leadership	Critical Care	Teaching/ Collaboration	Planning/ Evaluation	IPR/ Communications	Professional Development
Helping others	2.89	3.09	2.74	2.99	3.12	2.77
Dignified profession	2.73	3.07	2.71	2.89	3.04	2.72
Romantic image	2.88	3.03	2.67	2.90	3.08	2.79
Realistic	2.83	2.97	2.62	2.82	3.00	2.65
Hard work	2.73	2.96	2.70	2.75	3.03	2.70
Doctor's assistant	3.00	3.17	2.74	3.01	3.16	2.76
Easy work	2.94	3.20	2.84	2.93	3.03	2.78
Limited professional scope	3.03	3.07	2.95	3.02	3.16	2.78
No idea, limited, or vague	2.91	3.09	2.65	2.87	3.08	2.77
Idealistic	2.70	2.90	2.75	2.88	3.06	2.65

Table 4.50. — Comparison of nurse graduates mean scores from supervisors on six performance subscales by high school rank

High school rank	Performance subscales					
	Leadership	Critical Care	Teaching/ Collaboration	Planning/ Evaluation	IPR Communications	Professional Development
Top 10 percent	2.90	3.10	2.77	2.99	3.13	2.78
Top 25 percent	2.84	3.03	2.69	2.88	3.04	2.73
Top 50 percent	2.85	3.09	2.73	2.90	3.11	2.67
Lower 50 percent	2.64	2.88	2.49	2.67	2.90	2.70

Table 4.51. — Comparison of nurse graduates' mean scores from supervisors on six performance subscales by father's occupation

Father's occupation	Performance subscales					
	Leadership	Critical Care	Teaching Collaboration	Planning Evaluation	IPR Communications	Professional Development
Health related	2.96	2.91	2.71	2.90	3.12	2.69
Non-health related	2.86	3.07	2.72	2.93	3.09	2.75

Table 4.52. — Comparison of nurse graduates' mean scores from supervisors on six performance subscales by mother's occupation

Mother's occupation	Performance subscales					
	Leadership	Critical Care	Teaching/ Collaboration	Planning/ Evaluation	IPR/ Communications	Professional Development
Health related	2.94	3.08	2.82	3.02	3.15	2.73
Non-health related	2.86	3.07	2.72	2.93	3.09	2.74

Table 4.53. — Distribution of nurse graduates by first-stated future plans and first reason given for choosing nursing as a career

Reasons	Future Plans							
	Continue, same area		Continue, different area		Continue, nursing education		Leave nursing temporary or permanent	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Service to others	166	48	99	47	82	42	12	25
Economic stability	47	14	35	17	30	15	11	24
Influence of others	20	6	8	4	13	6	5	11
Prior experience	23	7	11	5	8	4	3	6
Increase knowledge	9	3	5	2	5	3	0	-
Substitute for medicine	12	3	7	3	17	9	4	9
Personal interest/motivation	52	15	29	14	31	16	8	17

Table 4.54. — Distribution of nurse graduates by first-stated future plans and prenursing perceptions of the nursing profession

Perceptions	Future Plans I							
	Continue, same area		Continue, different area		Continue, nursing education		Leaving nursing temporary or permanent	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Helping others	119	34	61	29	50	25	12	25
Dignified profession	33	10	17	8	16	8	2	4
Romantic image	33	10	18	9	9	5	8	17
Realistic	25	7	17	9	12	6	6	13
Hard work	16	5	10	5	9	5	2	4
Doctor's assistant	21	6	9	4	12	6	3	6
Easy work	4	1	7	3	7	4	1	2
Limited professional scope	10	3	9	4	15	8	0	-
No idea, limited, or vague	28	8	21	10	23	12	6	13
Idealistic	13	4	9	4	11	6	2	4

Table 4.55. — Distribution of nurse graduates by first-stated future plans and high school rank

High School rank	Future plans I							
	Continue, same area		Continue, different area		Continue, nursing education		Leave nursing temporary or permanent	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Top 10 percent	157	45	96	45	93	47	23	49
Top 25 percent	115	23	67	32	60	31	12	26
Top 50 percent	55	16	39	18	27	14	7	15
Lower 50 percent	12	4	4	2	10	5	1	2

Table 4.56. — Distribution of nurse graduates by first-stated future plans and father's occupation

Father's occupation	Future Plans I							
	Continue, same area		Continue, different area		Continue, nursing education		Leave nursing temporary or permanent	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Health related	14	4	15	7	9	5	3	6
Non-health related	327	94	192	91	182	92	42	89

Table 4.57. — Distribution of nurse graduates by first-stated future plans and mother's occupation

Mother's occupation	Future Plans I							
	Continue, same area		Continue, different area		Continue, nursing education		Leave nursing temporary or permanent	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Health related	28	8	20	9	16	8	6	13
Non-health related	311	89	185	87	172	87	40	85

Table 4-58. — Distribution of nurse graduates by professional reading patterns and nomination status: read publications cover to cover

Publication	Nomination status							
	Most promising		Promising		Nonselected		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
American Journal of Nursing	50	15	48	16	40	14	138	15
Nursing 76	117	36	100	33	78	28	295	32
RN	50	15	49	16	45	16	144	16
Special area journal	29	9	20	7	15	5	64	7
"Cover to cover per capita readership index"		.75		.71		.63		.70

Table 4.59. — Distribution of nurse graduates by professional reading patterns and nomination status: scan entire publication

Publication	Nomination status							
	Most promising		Promising		Nonselected		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
American Journal of Nursing	66	20	55	18	54	19	175	19
Nursing 76	53	16	39	13	44	16	147	15
RN	44	14	42	14	41	15	127	14
Special area journal	11	3	15	5	3	1	29	3
Per capita "scan readership index"		.53		.49		.51		.52

Table 4.60. Distribution of nurse graduates by professional reading patterns and nomination status: read articles of interest

Publication	Nomination status							
	Most promising		Promising		Nonselected		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
American Journal of Nursing	168	51	157	51	130	46	455	50
Nursing 76	118	36	94	31	108	38	320	35
RN	89	27	88	29	71	25	248	27
Special area journals	39	12	29	10	21	8	89	10
Per capita "article of interest readership index"		1.27		1.20		1.17		1.21

Table 4.61. — Distribution of nurse graduates by professional presentations/publications and nomination status

Activity	Nomination status						Total	
	Most promising		Promising		Nonselected			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Given workshop(s)	35	11	20	7	24	9	79	9
Given speech(es)	20	6	12	4	7	3	39	4
Written article(s)	3	1	6	2	2	1	11	1
Per capita "contribution index"		.20		.13		.12		.14

Table 4.62. — Distribution of nursing graduates by professional organization membership and nomination status

Organization	Nomination status						Total	
	Most promising		Promising		Nonselected			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
American Nurses' Association	86	26	55	18	47	17	188	21
Special area organization	20	6	19	6	10	4	49	5
Nursing honor society	13	4	15	5	3	1	31	3
Alumni association	13	4	8	3	8	3	29	3
Per capita "membership index"		.40		.32		.24		.32

Table 4.63. — Distribution of nurse graduates by type of participation in professional organizations and nomination status

Nature of participation	Nomination status						Total	
	Most promising		Promising		Nonselected			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Attend meetings	72	22	57	19	45	16	174	19
Hold office	7	2	6	2	2	1	15	2

Table 4.64. — Nurse graduates' evaluation of school preparation: AD, diploma, and baccalaureate graduates

Performance subscale	$\bar{X}$ for AD's	$\bar{X}$ for Diplomas	$\bar{X}$ for Baccalaureates	p
Leadership	2.91	3.30	2.96	.01
Critical Care	2.83	3.25	2.71	.01
Teaching/Collaboration	2.90	3.20	3.17	.01
Planning/Evaluation	3.29	3.53	3.39	.01
IPR/Communications	3.26	3.50	3.35	.01

Table 4.65. — Nurse graduates' evaluation of school preparation: most promising, promising, and nonselected graduates

Performance subscale	$\bar{X}$ for most promising	$\bar{X}$ for promising	$\bar{X}$ for nonselected	p
Leadership	3.05	3.11	3.06	ns[1]
Critical Care	2.93	3.00	2.95	ns
Teaching/Collaboration	3.09	3.09	3.07	ns
Planning/Evaluation	3.41	3.41	3.40	ns
IPR/Communications	3.39	3.40	3.33	ns

[1] Not significant

Table 4.66. — Correlations between nurse graduates' perceptions of the quality of their preparation for nursing and the employers' evaluations of nursing performance of those graduates: AD, diploma, and baccalaureate graduates

Performance subscales	Zero-order r's			
	AD	Diploma	Baccalaureate	Total
Leadership	.092	[1].114	.051	[1].079
Critical Care	[2].266	.080	-.067	[2].116
Teaching/Collaboration	[2].297	.094	.023	[2].169
Planning/Evaluation	[2].240	[1].116	.025	[2].153
IPR/Communications	[3].177	.070	.027	[3].095

[1] $p < .05$.
[2] $p < .001$.
[3] $p < .01$.

Table 4.67. — Correlations between nurse graduates' perceptions of the quality of their preparation for nursing and the employers' evaluations of those graduates: most promising, promising, and nonselected graduates

Performance subscales	Zero-order r's			Total graduates
	Most promising	Promising	Nonselected	
Leadership	.055	.003	[1].168	[2].079
Critical Care	[1].158	[2].119	.075	[3].116
Teaching/Collaboration	[2].117	.060	[3].319	[3].169
Planning/Evaluation	.097	[2].158	[3].212	[3].153
IPR/Communications	.026	.091	[2].149	[1].095

[2] $p < .01$.
[1] $p < .05$.
[3] $p < .001$.

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