



1976

College of Nursing: Psychological Predictors of Counseling Service Use

Audrey Marie Ruth Van Natta Melamed
Loyola University Chicago

Follow this and additional works at: https://ecommons.luc.edu/luc_theses

 Part of the [Education Commons](#)

Recommended Citation

Melamed, Audrey Marie Ruth Van Natta, "College of Nursing: Psychological Predictors of Counseling Service Use" (1976). *Master's Theses*. 2812.
https://ecommons.luc.edu/luc_theses/2812

This Thesis is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Master's Theses by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a [Creative Commons Attribution-NonCommercial-No Derivative Works 3.0 License](#).
Copyright © 1976 Audrey Marie Ruth Van Natta Melamed

**COLLEGE OF NURSING:
PSYCHOLOGICAL PREDICTORS OF COUNSELING SERVICE USE**

by

Audrey Ruth Melamed

elamed



**A Thesis Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy**

June

1976

TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT.....	i
ACKNOWLEDGEMENTS.....	iii
VITA.....	iv
LIST OF TABLES.....	vi
CONTENTS OF APPENDICES.....	ix
 CHAPTER	
I. INTRODUCTION.....	1
Purpose.....	8
Limitations.....	10
Organization.....	11
II. REVIEW OF THE LITERATURE.....	12
General Overview.....	12
Studies Differentiating Seekers from Non-Seekers.....	14
Nursing Students Discriminants of Educational/Vocational/Personal/ Counseling.....	28
Preventive Services.....	44
Summary.....	48
III. RESEARCH DESIGN.....	50
Description of the Population.....	51
Instruments.....	56
Personal Orientation Inventory.....	56
California Psychological Inventory... Millon Illinois-Self Report	57
Inventory Medical Form.....	58
Procedure.....	58
Data Processing.....	60
Data Analysis.....	60

	<u>Page</u>
IV. RESULTS AND DISCUSSION.....	62
Profiles: Education Level - Millon Illinois-Self Report Inventory, Form M, California Psychological Inven- tory and Personal Orientation Inventory.....	62
Differences of Education Levels: Millon Illinois-Self Report Inventory Form M.....	70
Difference of Education Levels: California Psychological Inventory...	73
Differences of Education Levels: Personal Orientation Inventory.....	77
Discriminant Analysis.....	79
Discriminant Analysis of Education Levels - Millon Illinois-Self Report Inventory Form M, California Psycho- logical Inventory and Personal Orientation Inventory.....	80
Discriminant Analysis of Education Levels: Millon Illinois-Self Report Inventory Form M.....	89
Discriminant Analysis of Education Levels: California Psychological Inventory.....	93
Discriminant Analysis of Education Levels: Personal Orientation Inventory.....	99
Summary of Differentiating Education Levels.....	105
Profiles: Non-Seekers and Seekers - Millon Illinois-Self Report Inventory Form M, California Psychological In- ventory and Personal Orientation Inventory.....	106
Discriminant Analysis of Non-Seekers and Seekers - Millon Illinois-Self Report Inventory Form M, California Psychological Inventory and Personal Orientation Inventory.....	116
Discriminant Analysis of Non-Seekers and Seekers - Millon Illinois-Self Report Inventory Form M.....	122
Discriminant Analysis of Non-Seekers and Seekers - California Psycholo- gical Inventory.....	128
Discriminant Analysis of Non-Seekers and Seekers - Personal Orientation Inventory.....	133
Summary of Differentiating Non- Seekers From Seekers.....	138
Judges' Prediction.....	139

	<u>Page</u>
V. SUMMARY.....	145
Subjects.....	146
Instruments.....	147
Research Design.....	147
Assumptions and Hypotheses.....	147
Data Analysis.....	148
Results.....	148
Conclusions.....	150
Recommendations.....	153
BIBLIOGRAPHY.....	155
APPENDIX A - BIOGRAPHICAL QUESTIONNAIRE (BQ).....	164
APPENDIX B - STUDENT SERVICE QUESTIONNAIRE (SSQ).....	171
APPENDIX C - PERSONAL ORIENTATION INVENTORY.....	176
APPENDIX D - CALIFORNIA PSYCHOLOGICAL INVENTORY.....	179
APPENDIX E - MI-SRI FORM M.....	182
APPENDIX F - RELEASE FORM.....	185
APPENDIX G - DR. HELEN K. GRACE.....	187
APPENDIX H - LETTER DATED DECEMBER 23, 1975 AND SIGNED BY AUDREY MELAMED.....	191
APPENDIX I - DR. HELEN K. GRACE FOLLOW-UP.....	193
APPENDIX J - LETTER DATED JANUARY 21, 1976 AND SIGNED BY AUDREY MELAMED.....	195
APPENDIX K - GUIDELINES.....	197

Audrey Ruth Melamed
Loyola University of Chicago
COLLEGE OF NURSING: PSYCHOLOGICAL PREDICTORS OF
COUNSELING SERVICE USE

This study concerned a cross-sectional sample of students entering the College of Nursing of the University of Illinois at the Medical Center. The purpose was to attempt to identify differences between non-seekers and seekers of counseling services.

The population consisted of entering students to the College of Nursing September 1975. Sixty-nine percent of the class completed the battery of tests: Millon Illinois-Self Report Inventory Form M (MI-SRI Form M); California Psychological Inventory (CPI); Personal Orientation Inventory (POI) and the Biographical Questionnaire (BQ). Of that group seventy-one percent or forty-nine percent of the original group completed the follow-up Student Service Questionnaire (SSQ).

All who completed the first battery of tests were included in assessing the differences on educational levels between Group I (Graduates), Group II (Continuation) and Group III (Sophomores). Only those answering the SSQ were included in differentiating the non-seekers from seekers.

An ANOVA and discriminant analysis was performed on both sets of data. Significant differences were found among Group I, Group II and Group III on four of the MI-SRI Form M

scales, ten of the CPI and all scales of the POI. Discriminant analysis was significant utilizing all three instruments together and on the CPI and POI, but not on the MI-SRI Form M individually.

Statistical procedures were identified for differentiating non-seekers (Group 0) from seekers (Group 1). On the ANOVA only one scale on the MI-SRI Form M was statistically significant and none on the CPI and POI. However, on the discriminant analysis utilizing all instruments individually and together, statistical significance was found.

Three judges viewed the individual test profiles of the sample to predict Group membership. Two out of three judges were more accurate in predicting Group 0 (non-seekers).

In conclusion, differences as measured by these tests can be found among students at various levels of education in the nursing profession. Personality profiles are similar. Education and work experience appeared to enhance growth and maturity. Differences can be found between non-seekers and seekers of counseling. Utilizing more refined statistical analysis allows the investigator to gain a broader perspective of the constellation of similarities and differences between educational level groups and need for counseling. The results indicate the possibility for utilization of weighted scales to predict possible need and establish preventive programs.

ACKNOWLEDGEMENTS

Trust is the cornerstone
of the question;
Humility is the touchstone
of the answer.
a. melamed

The author would like to thank the members of her committee, Dr. John Wellington, Dr. Jack Kavanagh and Dr. Theodore Millon for their professional assistance in completing this dissertation. Special thanks to Dr. Manuel S. Silverman who has been my advisor and mentor throughout my graduate career, encouraging and enhancing my academic growth and freedom.

For their helpfulness in this research the author is most grateful to the College of Nursing at the University of Illinois, and to those women in the nursing profession who gave of their time in order to make the study possible.

Special thanks to Michael Macewich at the Loyola Data Center for his assistance with computer programming. My thanks to all of my teachers and classmates at Lake Forest College and Loyola University of Chicago for creating a milieu in which creative learning is nurtured.

My children have been most supportive throughout my academic career, but without the strength, support and love from my husband, Myron, this project would never have reached fulfillment.

VITA

The author Audrey Marie Ruth Van Natta Melamed is the daughter of Gunvor Johnson Van Natta and Walton Calton Van Natta. She was born January 24, 1927 in Jersey City, New Jersey. She is the wife of Myron Melamed M.D. and the mother of Karen and Johanna.

Her elementary education was obtained in the public schools of Jersey City, New Jersey and secondary education at Henry Snyder High School, Jersey City, New Jersey, where she was graduated in 1944.

In February 1945, she entered the Mount Sinai Hospital School of Nursing in New York City, New York, where she was graduated and became a Registered Nurse in February of 1948. While attending the Mount Sinai Hospital School of Nursing she was president of her class and received the Guggenheim and Blumenthal Scholarships. In 1948 she was Head Nurse in the X-ray Department and in 1949 Head Nurse in the Surgical and Tumor Clinic at the Mount Sinai Hospital.

In September 1964, she entered Lake Forest College, Lake Forest, Illinois, and in June 1970, received the degree of Bachelor of Arts with honors, majoring in psychology. While attending Lake Forest College she was elected to Psi Chi Honorary Psychology in 1966 and to Phi Beta Kappa Junior Year 1969, and was a Woodrow Wilson Nominee in 1970. In September 1970, she entered Loyola University of Chicago and received a Master of Arts degree in 1973.

In 1974 she was granted an assistantship in Guidance and Counseling at Loyola University of Chicago, which she held for two years. In 1974 she was summer faculty at Loyola University of Chicago. In 1975 she became a Research Associate at the University of Illinois at the Medical Center in the Department of Psychiatry.

She has published the following: "Three Year Follow-Up of Women Religious on the 16 Personality Factor Questionnaire" by A. R. Melamed, M. S. Silverman and G. L. Lewis, Review of Religious Research, 1974, 15, 64-70; "Personality Characteristics of Women Religious: A Three Year Follow-Up" by A. R. Melamed, Educational Resources Information Center, November 9, 1974, 4-9; "Personal Orientation Inventory: Three Year Follow-Up of Women Religious" by A. R. Melamed, M. S. Silverman and G. L. Lewis, Review of Religious Research, 1975, 16, 105-110; "Psychological and Behavioral Correlates of Mother's Choice of Postpartum Nearness to Infant" by N. Newton, N. Paschall, A. R. Melamed and E. Ryan, Proceedings of the Fourth International Congress of Psychosomatic Obstetrics and Gynecology, H. Hirsch (Ed.), Basel (Switzerland): S. Karger, 1975; Authentic Reflexive Communication by M. S. Silverman, J. D'Aguiar, A. R. Melamed, spiral bound, Copyright 1975.

LIST OF TABLES

	<u>Page</u>
TABLE 1 - STUDENT POPULATION SAMPLE.....	53
TABLE 2 - AGE AND MARITAL STATUS.....	54
TABLE 3 - AGE AND MARITAL STATUS.....	55
TABLE 4 - MILLON ILLINOIS-SELF REPORT INVENTORY PROFILE.....	64
TABLE 5 - MI-SRI FORM M.....	65
TABLE 6 - PROFILE SHEET FOR THE CALIFORNIA PSYCHOLOGICAL INVENTORY.....	66
TABLE 7 - CPI.....	67
TABLE 8 - PROFILE SHEET FOR THE PERSONAL ORIENTATION INVENTORY.....	68
TABLE 9 - POI.....	69
TABLE 10 - MILLON ILLINOIS-SELF REPORT INVENTORY FORM M - ANOVA.....	71
TABLE 11 - CALIFORNIA PSYCHOLOGICAL INVENTORY - ANOVA.	74
TABLE 12 - PERSONAL ORIENTATION INVENTORY - ANOVA.....	78
TABLE 13 - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - MI-SRI FORM M CPI POI.....	82
TABLE 14 - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - MI-SRI FORM M.....	83
TABLE 15 - PREDICTION RESULTS - MI-SRI FORM M CPI POI.....	84
TABLE 16 - DIFFERENTIATING EDUCATION LEVELS - MI-SRI FORM M CPI POI.....	85
TABLE 17 - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - MI-SRI FORM M.....	90
TABLE 18 - MAHAL METHOD - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - MI-SRI FORM M.....	91

	<u>Page</u>
TABLE 19 - PREDICTION RESULTS - MI-SRI FORM M.....	92
TABLE 20 - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - CPI.....	94
TABLE 21 - MAHAL METHOD - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - CPI.....	95
TABLE 22 - PREDICTION RESULTS - CPI.....	96
TABLE 23 - DIFFERENTIATING EDUCATION LEVELS - CPI.....	97
TABLE 24 - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - POI.....	100
TABLE 25 - MAHAL METHOD - DISCRIMINANT ANALYSIS - GROUP I GROUP II GROUP III - POI.....	101
TABLE 26 - PREDICTION RESULTS - POI.....	102
TABLE 27 - DIFFERENTIATING EDUCATION LEVELS - POI.....	103
TABLE 28 - MILLON ILLINOIS-SELF REPORT INVENTORY PROFILE.....	107
TABLE 29 - MEANS AND STANDARD DEVIATIONS - NON-SEEKERS AND SEEKERS - MILLON ILLINOIS-SELF REPORT INVENTORY FORM M.....	108
TABLE 30 - PROFILE SHEET FOR THE CALIFORNIA PSYCHOLOGICAL INVENTORY.....	109
TABLE 31 - MEANS AND STANDARD DEVIATIONS - NON-SEEKERS AND SEEKERS - CALIFORNIA PSYCHOLOGICAL INVENTORY.....	110
TABLE 32 - PROFILE SHEET FOR THE PERSONAL ORIENTATION INVENTORY.....	111
TABLE 33 - MEANS AND STANDARD DEVIATIONS - NON-SEEKERS AND SEEKERS - PERSONAL ORIENTATION INVENTORY	112
TABLE 34 - MILLON ILLINOIS-SELF REPORT INVENTORY - ANOVA.....	113
TABLE 35 - CALIFORNIA PSYCHOLOGICAL INVENTORY - ANOVA..	114
TABLE 36 - PERSONAL ORIENTATION INVENTORY - ANOVA.....	115
TABLE 37 - DISCRIMINANT ANALYSIS - MI-SRI FORM M CPI POI - NON-SEEKERS/SEEKERS.....	117

	<u>Page</u>
TABLE 38 - DISCRIMINANT ANALYSIS - MI-SRI FORM M CPI POI - NON-SEEKERS/SEEKERS.....	118
TABLE 39 - PREDICTION RESULTS - MI-SRI FORM M CPI POI.....	119
TABLE 40 - DIFFERENTIATING NON-SEEKERS AND SEEKERS - MI-SRI FORM CPI POI.....	121
TABLE 41 - DISCRIMINANT ANALYSIS - MI-SRI FORM M - NON-SEEKERS/SEEKERS.....	123
TABLE 42 - DISCRIMINANT ANALYSIS - MI-SRI FORM M - NON-SEEKERS/SEEKERS.....	124
TABLE 43 - PREDICTION RESULTS - MI-SRI FORM M.....	125
TABLE 44 - DISCRIMINANT ANALYSIS - MI-SRI FORM M - NON-SEEKERS/SEEKERS.....	127
TABLE 45 - DISCRIMINANT ANALYSIS - CPI - NON-SEEKERS/ SEEKERS.....	129
TABLE 46 - DISCRIMINANT ANALYSIS - CPI.....	130
TABLE 47 - PREDICTION RESULTS - CPI.....	131
TABLE 48 - DISCRIMINANT ANALYSIS - CPI - NON-SEEKERS/ SEEKERS.....	132
TABLE 49 - DISCRIMINANT ANALYSIS - POI - NON-SEEKERS/ SEEKERS.....	134
TABLE 50 - DISCRIMINANT ANALYSIS - POI.....	135
TABLE 51 - PREDICTION RESULTS - POI.....	136
TABLE 52 - DISCRIMINANT ANALYSIS - POI - NON-SEEKERS/ SEEKERS.....	137
TABLE 53 - ANOVA - JUDGE BY TEST.....	140
TABLE 54 - TEST BY JUDGE.....	142
TABLE 55 - PERCENTAGES CORRECT BY JUDGE AND TEST COMPARED TO COMPUTER PREDICTION.....	143

CONTENTS OF APPENDICES

	<u>Page</u>
APPENDIX A - BIOGRAPHICAL QUESTIONNAIRE (BQ).....	164
APPENDIX B - STUDENT SERVICE QUESTIONNAIRE (SSQ).....	171
APPENDIX C - PERSONAL ORIENTATION INVENTORY.....	176
APPENDIX D - CALIFORNIA PSYCHOLOGICAL INVENTORY.....	179
APPENDIX E - MI-SRI FORM M.....	182
APPENDIX F - RELEASE FORM.....	185
APPENDIX G - DR. HELEN K. GRACE.....	187
APPENDIX H - LETTER DATED DECEMBER 23, 1975 AND SIGNED BY AUDREY MELAMED.....	191
APPENDIX I - DR. HELEN K. GRACE FOLLOW-UP.....	193
APPENDIX J - LETTER DATED JANUARY 21, 1976 AND SIGNED BY AUDREY MELAMED.....	195
APPENDIX K - GUIDELINES.....	197

CHAPTER I

INTRODUCTION

The rapid rise of guidance and counseling services within the American educational system appears to reflect humanistic values and concern with the individual, to some extent supported by a relatively affluent economy. It was only at the turn of this century that Davis in 1898¹ initiated a counseling program for high school students. Numerous social, psychological and economic factors have since fostered the remarkable emergence and growth of this major educational profession.

Forty years ago, E. G. Williamson established the first formal college counseling center at the University of Minnesota.² Torrop investigated the psychological needs of student nurses and found numerous problem areas in the spheres of their "social, personal and emotional, professional and educational, vocational, financial, health-

¹Bruce Shertzer and Shelley Stone, Fundamentals of Counseling (Boston, Mass.: Houghton Mifflin Co., 1968), p. 29.

²C. H. Miller, Foundations of Guidance (New York, N.Y.: Harper and Row, 1961), p. 167.

physical and mental, and family" life.³ She recommended that planned guidance programs similar to those established by Williamson be developed for schools of nursing. In 1946, the National League of Nursing (NLN) published a pamphlet concerning guidance programs for schools of nursing. The purpose of such services was to foster better adjustment of individual students. This purpose alone, according to the NLN, was felt to be sufficient justification for establishing guidance programs. The most recent NLN publication delineating basic fundamentals of guidance and counseling, as applicable to a hospital school of nursing, was published in 1958. Whitmore⁴ surveyed 126 fully accredited NLN schools and felt personnel and guidance services needed improvement. According to Kaback⁵ appropriate guidance in a school of nursing would give opportunities for optimum physical, emotional, social, intellectual and spiritual growth and development.

Considering the phasing out of many hospital schools of nursing, since 1958, the interest of the NLN in-depth

³H. M. Torrop, "Guidance Programs in Schools of Nursing," The American Journal of Nursing, 1939, 39 (2), 176-186.

⁴F. D. Whitmore, "Student Personnel and Guidance Services in Schools of Nursing," University of Colorado, 1958, Microfilm.

⁵G. R. Kaback, "Guidance and Counseling for Hospital Schools of Nursing," National League for Nursing, 1958, VI, p. 93.

studies has shifted to other matters. However, interest in the psychological well-being of students in the nursing profession has not diminished. Counseling services have become integral components of college and university systems, and colleges of nursing have had access to these facilities.

The major emphasis in nursing student research has been on studies of attrition, particularly as related to personality and achievement variables.^{6, 7, 8, 9} Attrition is a pressing problem, and has been investigated in order to minimize the loss of talented and motivated young nursing students. According to Zenberg et al,¹⁰ the nursing student differs from the average college student in that the experiences and situations encountered are more drastic, anxiety

⁶J. R. Thurston and H. L. Brunclik, "Search or Research? The Prediction of Success in Schools of Nursing," Nursing Outlook, 1965, 69.

⁷J. R. Thurston and H. L. Brunclik, "The Relationship of Personality to Achievement in Nursing Education," Nursing Research, 1965, 14 (3), 203-209.

⁸Benjamin Bernfeld, "MMPI Variables in the Prediction of Attrition of Students of Nursing in a Hospital School Program" (Unpublished doctoral dissertation, New York University, 1967).

⁹H. S. Rubin, "The Prevention of Student Attrition in Nursing Education: A Community Psychology Approach," Dissertation Abstracts International, 1971, 33 (3-B), 1296.

¹⁰Norman Zenberg, David Shapiro, and Walter Green, "Some Vicissitudes of Nursing Education," Nursing Outlook, 1962, 10, 795-798.

provoking, with more severe authority conflicts, and require closer supervision.

Guidance and Counseling can provide emotional support in handling these conflict areas. Litwack, Sakata and Wykle have done an in-depth study, entitled Counseling Evaluation and Student Development in Nursing Education; their investigation into the many facets involved has been extensive and their findings indicate many contradictions in data, particularly as related to research on attrition. In their opinion, nursing educators have emphasized the prediction of success and failure, employing screening devices that focus on but one aspect of the range of students' problems. Their recommendations for future work would not only reduce the rate of attrition in nursing schools, but also enhance the entire learning process. Listed are a few of their recommendations:

Greater improvement is needed in acquainting student applicants with career opportunities in nursing. Better recruitment and orientation methods will help students gain a better understanding of themselves in relation to the various career opportunities in nursing. The development of a strong guidance and counseling program would be useful in assisting students toward greater self-understanding and achievement in maturity, as well as assisting them in dealing with personal concerns that are affecting their performance. Much greater emphasis is needed on remedial and tutorial programs to help students overcome academic deficiencies that lead to failure. New and creative educational programs need to be developed that will challenge students, maintain their interest and help them achieve. ¹¹

¹¹L. Litwack, R. Sakata, and Wykle, Counseling Evaluation and Student Development in Nursing Education (Philadelphia, PA.: W. B. Saunders Co., 1972), p. 201.

As indicated by Litwack, Sakata and Wykle, no one factor can determine whether a nursing student will complete training. The geographical location of the school of nursing was found to contribute to attrition.¹² Of particular significance is the interaction between the character and style of the school and the student's personality. The external institutional environment impinges upon the internal emotional well-being of the student; a poor match will interfere with professional training.¹³

Numerous studies have sought to evaluate novel approaches to counseling nursing students. Preventive counseling and remedial tutoring in diploma schools of nursing with a number of academic high risk students was provided to assist students in completing their three year diploma program.^{14, 15} The implementation of these studies represents

¹²B. L. Tate, "Attrition Rates in Schools of Nursing," Nursing Research, 1961, 10 (2), 91-96.

¹³J. C. Diller and E. W. Fuller, "Adjusted and Maladjusted Student Nurses," Journal of Social Psychology, 1952, 36, 45-52.

¹⁴Rubin, "The Prevention of Student Attrition in Nursing Education: A Community Psychology Approach," 1971.

¹⁵M. Heins and M. Davis, "How Do We Help 'High Risk' Students?," Nursing Outlook, 1972, 20 (2).

positive approaches toward assisting students in the nursing profession. However, both studies cited represent a selected sample of the nursing student population. Thus far preventive counseling has only been investigated and implemented with "high risk students" leaving a void which needs to be examined.

In addition to the problem of attrition, many professional nurses leave the field of nursing when faced with what Kramer termed Reality Shock.

Reality shock is a term used to describe the phenomenon and the specific shocklike reaction of new workers when they find themselves in a work situation for which they have spent several years preparing and for which they thought they were going to be prepared and then suddenly find that they are not...the discrepancy and the shocklike reactions that follow when the aspirant professional perceives that many professional ideals and values are not operational and go unrewarded in the work setting. 16

Assisting nursing students to bridge those gaps and make adjustments to professional life is another area which needs examination and exploration. Counseling and preventive intervention appears to be necessary in order for the educational experience to be congruent with the work setting. Counseling students in nursing during their professional training encompasses a wider scope than the usual college setting, for the strains and stresses are accentuated.

Although there are differences in the external institutional environments between nursing students and college

¹⁶Marlene Kramer, Reality Shock (St. Louis, MO.: C.U. Mosby Co., 1974).

students, similarities can be related to how students cope emotionally within the educational process. Much of the research has been done in non-medical counseling centers to discriminate seekers (clients) from non-seekers (non-clients).^{17, 18, 19, 20, 21} Investigations have examined the characteristics of seekers from non-seekers in which personality differences have been delineated. Neither the methodology nor the results are consistent in these investigations. Variables such as sex, cultural and family background, nature of the problem, previous experience with "helpers" and the setting of the counseling center, all have been identified as relevant dimensions. In addition, some students do not use counseling centers because they are

¹⁷N. S. Greenfield and W. F. Fey, "Factors Influencing Utilization of Psychological Therapeutic Services in Male College Students," Journal of Clinical Psychology, 1956, 12, 276-279.

¹⁸A. B. Heilbrun, Jr., "Personality Differences Between Adjusted and Maladjusted College Students," Journal of Applied Psychology, 1960, 44, 341-346.

¹⁹G. A. Mendelsohn and B. A. Kirk, "Personality Differences Between Students Who Do and Do Not Use a Counseling Facility," Journal of Counseling Psychology, 1962, 9, 341-346.

²⁰M. E. Meadows and M. C. Oelke, "Characteristics of Clients and Nonclients," Journal of College and Student Personnel, 1968, 9, 153-157.

²¹H. A. Rose and C. F. Elton, "Identification of Potential Personal Problem Clients," Journal of Counseling Psychology, 1972, 19 (1), 8-10.

unaware of the facilities; others prefer first to problem solve with friends, relatives and faculty, then seek psychological counseling services.²² By contrast there has been little research to differentiate seekers from non-seekers among nursing students specifically.

The training of the professional nurse requires both a personal investment of time, money, energy and emotion on the part of the student; and a similar investment of health care resources by the existing health care industry. Given the ever increasing need for trained professional nurses, to invest scarce resources of time, money and manpower without attempting to provide every assurance of success, is wasteful and non-productive at best. The need for an a priori approach in evaluating client characteristics is important.

Purpose

Previous research in nursing education has leaned heavily on investigations concerning either attrition or personality characteristics. However, counseling centers are increasingly becoming sources of information and research concerning the characteristics of nursing students in relation to optimal use of student services.

The Counseling Center at the University of Illinois Medical Center services six colleges plus faculty and staff.

²²J. F. Snyder, C. A. Hill, and T. P. Derksen, "Why Some Students Do Not Use University Counseling Facilities," Journal of Counseling Psychology, 1972, 4 (2), 63-68.

The College of Nursing represents 27% of the clients using counseling-psychotherapy services and 30% of the clients using academic support services. Accordingly, factors presented in the introduction have initiated this attempt to examine nursing students relative to their use of counseling and health services. The results of this investigation may establish some initial guidelines toward a preventive program for nursing students, a program which would assist nursing students in effectively completing professional education and the transition into the work world.

Specifically, this study will attempt to assess the predictive value of psychological test results in differentiating the potential seekers from non-seekers of personal and academic assistance. The subjects had all chosen nursing as a profession and were at various stages of their professional development and education. They represent three different groups of nurses; graduate Master of Science in Nursing (MSN), Group I (Class size = 95); Registered Nurse (RN) continuation Bachelor of Science in Nursing (BSN), Group II (Class size = 80); sophomore (RN, BSN), Group III (Class size = 181). In addition to providing useful data for counseling programs, this investigator believes that further research could increase the overall understanding of the role of counseling in the health fields.

This study will attempt to develop predictors that would distinguish student service seekers (psychological and academic) from non-seekers. This information may serve as a

helpful reference for the advisor or counselor in the school in detecting future students with potential problems before they reach a crisis state. This would permit a preventive orientation in counseling as opposed to a remedial orientation which allows problems to develop. The latter would obviously have a negative effect on educational, vocational, interpersonal learning and growth.

This study asks the following question: When utilizing a Biographical Questionnaire (BQ), the California Psychological Inventory (CPI), the Personal Orientation Inventory (POI), the Millon Illinois-Self Report Inventory Form M (MI-SRI Form M) and the Student Service Questionnaire (SSQ), what discriminants will be found which predict students' use of student services in a college of nursing?

Utilizing the above mentioned instruments, and in light of the assumption that discriminants can be found which will differentiate seekers from non-seekers, the data were analyzed to test the following hypothesis:

1. There are no significant differences between the three groups of nursing students.
2. There are no significant differences between seekers and non-seekers of student services.

Limitations

1. Although the University of Illinois Medical Center has student services, its location in a metropolitan area means that many students commute and have other facilities

available.

2. Follow-up validation of the use of student services could not be done. Concerns about confidentiality and the variety of facilities both on and off campus limited the follow-up to self report.

3. The students' perception of a counseling center often determines how the facility will be utilized. That is, a negative perception of a counseling center might cause this facility to be under-utilized.

Organization

Chapter I has presented an introduction and brief overview of the research project. Chapter II presents a review of the literature relevant to the present study. Chapter III will include the methodology of the research design, description of the instruments utilized, the subjects and the statistical procedures employed. Chapter IV delineates the results of the data analyses and Chapter V offers a summary, conclusions and recommendations.

CHAPTER II

REVIEW OF THE LITERATURE

In light of the limited research on counseling among nursing students, this review will also encompass studies in a parallel subject of interest, that of college student counseling.

General Overview

Layton et al have aptly extended the genetic/environmental, nature/nurture discussion to include student development "as the product of person-environmental interaction."¹ Following this theme, personal development and maturation depends in part on how students utilize their environment for psychological growth.

The most salient changes observed among college students, according to Newcomb and Feldman² are a decrease in conservatism regarding public issues and increases in open-mindedness, a growing aesthetic sensitivity and an awareness of inner experiences. Independence, dominance, confidence

¹W. L. Layton, G. A. Sandeen, and R. D. Baker, "Student Development and Counseling," Annual Review of Psychology, 1971, 22, p. 533.

²I. M. Newcomb and K. A. Feldman, The Impact of College on Students (San Francisco, CA.: Jossey Bass, 1969).

and spontaneity increase along with students' intellectual interest and capacities; conversely, religious values tend to decrease.

Academic programs at college are not the only milieu affecting student growth and change; the peer environment adds another significant dimension.^{3, 4} In studying the complexity of the interactive dimensions that define maturing, Heath⁵ concludes that change is mediated mostly by the quality of interpersonal relationships and the expectations others have on the type of person one becomes. College can serve various liberating functions when there is a communal feeling that gives coherency of purpose in college life.

Despite the above possibilities, Katz,⁶ after reviewing the results of a freshman study at Stanford University, concluded: 1) the academic and intellectual offerings of the college do not merge with the motivation of many students, hampering adequate learning and personal involvement in the process of intellectual inquiry; 2) problem solving

³A. W. Astin and R. J. Panos, Educational and Vocational Development of College Students (Washington, D. C.: American Council of Education, 1969).

⁴Newcomb and Feldman, The Impact of College on Students, 1969.

⁵D. H. Heath, Growing Up in College (San Francisco, CA.: Jossey Bass, 1968).

⁶J. Katz, Growth and Constraint in College Students (Palo Alto, CA.: Institute for the Study of Human Problems, Stanford University, 1967).

is not utilized by many students to enhance their own development; and 3) the non-intellectual aspects of the individual are not given ample opportunity for development.

Clearly, the possibilities exist for fruitful and meaningful growth, but too often these possibilities fail to materialize. It is in this regard that special student services may play a significant role.

Studies Differentiating Seekers from Non-Seekers

Williamson not only established the first formal university counseling center in the mid 1930's but was also first to do a comprehensive study of the differences between seekers and non-seekers. Williamson and Bordin⁷ investigated the following variables reported by students: 1) parental support regarding education; 2) aptitude and achievement test scores; 3) Minnesota Personality Scale; and 4) Strong Vocational Interest Blank, yielded no significant differences. The authors concluded that those who came for testing were not a "distinctly atypical group."

A series of studies have been carried out at the University of Wisconsin with the MMPI, which was routinely administered to all incoming freshmen. Greenfield and Fey⁸

⁷E. G. Williamson and E. S. Bordin, "Evaluating Counseling by Means of a Control Group Experience," School and Social, 1940, 52, 434-440.

⁸N. S. Greenfield and W. F. Fey, "Factors Influencing Utilization of Psychological Therapeutic Services in Male College Students," Journal of Clinical Psychology, 1956, 12, 276-279.

studied 132 male college students' MMPI profiles. Certain scales which had been previously formulated (anxiety in terms of Welsh Internalization Ratio; subjective discomfort; Gallagher's Maladjustment Scale) were examined in relation to the number of months intervening between when tests were taken and when counseling was sought. The results indicated students seeking counseling generally have more elevated MMPI scores, a finding supported by subsequent work by Cooke and Kiesler.⁹

Personality differences between adjusted and maladjusted college students were investigated by Heilbrun in 1960.¹⁰ Judges rated personality variables as they were related to adjustment. Twenty-six psychologists ranked the 15 Edwards' variables; abasement was correlated highly with maladjustment. The seekers of college counseling services were considered maladjusted and the general college population considered adjusted. The two groups differed on nine scales with close agreement between these empirical findings and psychologists' judgment.

⁹M. K. Cooke and D. J. Kiesler, "Prediction of College Students Who Later Require Personal Counseling," Journal of Counseling Psychology, 1967, 14 (4), 346-349.

¹⁰A. B. Heilbrun, Jr., "Personality Differences Between Adjusted and Maladjusted College Students," Journal of Applied Psychology, 1960, 44, 341-346.

Mendelsohn and Kirk¹¹ utilized the Myers-Briggs Type Indicator in assessing the differences between a matched group of students who were seekers and non-seekers. They found differences which differentiated the two groups on Judgment-Perception and Sensation-Intuition. Extroversion-Introversion and Thinking-Feeling did not show differences. Seekers scored less toward the judging side, and more toward the introversion side. This suggested that subjective experience of intuitive type and tolerance for ambiguity predisposes students toward the use of counseling.

Data based on the CPI in a university counseling center were factor analyzed to determine personality differences between seekers and non-seekers; and to assess the structure of the personality characteristics within the instrument.^{12, 13} Differences were found to exist between those students who seek counseling for personal change or to improve adjustment, who seek vocational-educational guidance

¹¹G. A. Mendelsohn and B. A. Kirk, "Personality Differences Between Students Who Do and Do Not Use a Counseling Facility," Journal of Counseling Psychology, 1962, 9, 341-346.

¹²L. D. Goodstein, J. O. Crites, A. B. Heilbrun, Jr., and P. J. Rempel, "The Use of the California Psychological Inventory in a University Counseling Center," Journal of Counseling Psychology, 1961, 8, 2, 147-153.

¹³J. O. Crites, H. P. Bechtoldt, L. D. Goodstein, and A. B. Heilbrun, Jr., "A Factor Analysis of the California Psychological Inventory," Journal of Applied Psychology, 1961, 45 (6), 408-414.

and those who do not utilize the services of a counseling center.

Crites¹⁴ characterized seekers with personal-adjustment problems as "rebellious intellectual;" seekers with vocational-educational problems as "cautious committer;" and non-seekers as "reasonable adventurer." The scales which were found to best represent the factors in the CPI were Dominance, Good Impression, Communality, Flexibility and Femininity. Significant interactions were found between all of the scales and the three groups (two seeker types and non-seekers).

In analyzing the differences on the Mooney Problem Checklist between students who expressed interest in counseling and those who actually became seekers, Doleys¹⁵ found that seekers expressed significantly more total problems. Hartman¹⁶ surveyed freshman and sophomore males and females and found differences between type and number of problems for males and females. The males listed both a greater number of problems and those of a more serious nature than did

¹⁴J. O. Crites, "Test Reviews--The California Psychological Inventory As a Measure of Client Personalities," Journal of Counseling Psychology, 1964, 11 (3), 299-306.

¹⁵R. J. Doleys, "Difference Between Clients and Non-clients on Mooney Problem Checklist," Source Journal of College Student Personnel, 1964, 6, 21-24.

¹⁶B. J. Hartman, "Survey of College Students' Problems Identified by the Mooney Problem Checklist," Psychological Reports, 1968, 22, 715-716.

the females. The three areas of greatest concern for both groups were Adjustment to College Work, Personal-Psychological Relations, Social-Recreational Activities.

Minge and Bowman¹⁷ utilized the Edwards Personal Preference Survey to delineate differences between seekers and non-seekers matched in academic class, sex, marital status and college residence. Vocational-educational and personal counseling seekers scored significantly higher on the Abasement subscale and lower on Dominance than did non-seekers.

Thelen¹⁸ found differences on the MMPI derived Repression-Sensitization scale comparing seekers and non-seekers. Thelen and Varble¹⁹ also found differences on coping and defense scales as measured on the CPI and MMPI.

Meadows and Oelke²⁰ found that seekers and non-seekers appeared to be differentiated on academic achievement and

¹⁷M. R. Minge and T. F. Bowman, "Personality Differences Among Nonclients and Vocational-Educational and Personal Counseling Clients," Journal of Counseling Psychology, 1967, 14, 137-139.

¹⁸Mark Thelen, "Repression-Sensitization: Its Relation to Adjustment and Seeking Psychotherapy Among College Students," Journal of Consulting and Clinical Psychology, 1969, 33 (2), 161-165.

¹⁹Mark Thelen and Duane Varble, "Comparison of College Students Seeking Psychotherapy with Nontherapy Students on Coping and Defense Scales," Journal of Clinical Psychology, 1970, 26 (1), 123-124.

²⁰M. E. Meadows and M. C. Oelke, "Characteristics of Clients and Nonclients," Journal of College and Student Personnel, 1968, 9, 153-157.

vocational direction. Seekers were lower in academic achievement and were more uncertain vocationally and participated less in extracurricular activities.

Hoover²¹ investigated the issue of why some students do not seek counseling during periods of academic difficulty. The students who did not seek counseling perceived less demand for academic achievement and had a lower level of achievement, perceived college as conducive to friendship and had a desire for self sufficiency.

Christensen²² investigated the relationship of educational-occupational background, stereotype, value systems, sex and academic aptitude to seeking counseling. Educational-Occupational Background Index, Inventory of Beliefs, Differential Values Inventory and College Qualifications Test were the instruments used. Students having stereotyped belief systems tend not to use counseling services, particularly if their concerns are of a personal-social nature. Male non-seekers were found to be more rigid (stereotypic) than male seekers. Although females seem to be more amenable to counseling, Hartman found that males admitted more

²¹B. Hoover, "College Students Who Did Not Seek Counseling During a Period of Academic Difficulty" (Unpublished doctoral dissertation, University of Florida, 1966).

²²Kent Christensen, "The Relationship of Educational-Occupational Background, Stereotype, Traditional-Emergent Values, Sex and Academic Aptitude of College Students to Counseling Pursuit" (Unpublished doctoral dissertation, Michigan State University, 1965).

problems. What the interaction is between problems and seeking counseling is a difficult question to answer. Christensen's findings did not support the inverse relationship between academic aptitude and pursuit of counseling found by Meadows and Oelke.

Heilbrun²³ used four scales of the CPI, Self-Acceptance, Good Impression, Responsibility and Psychological-Mindedness to determine counseling readiness as gauged by an instrument to measure readiness. A significant correlation was found between the four CPI scales and the readiness measure. The author felt these results might be useful in determining whether seekers were ready for counseling.

The 16 Personality Factor Questionnaire was utilized by DeBlasie²⁴ evaluating two types of seekers and non-seekers. Significant differences were found between vocational-educational seekers and non-seekers. The male seekers in this group were more intelligent, placid, self-sufficient and relaxed than the non-seekers. The female seekers were found to be more intelligent, self-sufficient and imaginative, and less happy-go-lucky than the non-seekers. Significant differences were found on 11 of the

²³A. B. Heilbrun, Jr. and D. J. Sullivan, "The Prediction of Counseling Readiness," Personnel and Guidance Journal, 1962, 41 (2), 112-117.

²⁴Richard R. DeBlasie, "Personality Variables As a Function of College Students Seeking Counseling" (Unpublished doctoral dissertation, University of Arizona, 1967).

16 factors for the males and 8 of the 16 factors for the females. The male personal-social seekers were found to be more reserved, humble, emotionally unstable, sober, shy, imaginative, forthright, apprehensive, self-sufficient, casual and tense than non-seekers. The female personal-social seekers were more intelligent, emotionally unstable, sober, expedient, shy, forthright, self-sufficient and casual than non-seekers. The author concludes that the 16 PF seems to differentiate adequately between types of seekers and non-seekers.

Lowenthal²⁵ administered the CPI to students seen at a counseling center and were rated as having either a moderate or extreme emotional-social problem. A control group four times as large as the experimental group was used. The controls were of the same sex, received the CPI on the same date as the experimental group, but had never been to the counseling center. A comparison of the means for the experimental and control groups revealed no significant differences. All scores were within one standard deviation of the mean for the published norms. The experimental and control groups were separated and item analysis of the CPI with cross validation of derived items performed. On the first analysis 24 items were found significant and 22 held up on cross validation. There appeared to be a loading of

²⁵A. M. Lowenthal, "An Anxiety Scale for the CPI," Journal of Clinical Psychology, 1966, 22, 459-461.

depression and withdrawal in these items. Moreover, there was a suggestion of a positive relationship between scale scores and the length of counseling. No relationship was found between scale score and student academic ability.

Rossmann and Kirk²⁶ reported on all incoming freshmen at the University of California (1,648 men and 1,243 women) who completed the Omnibus Personality Inventory (OPI) and the School and College Ability Test (SCAT). Sex differences were found on both the OPI and the SCAT. The OPI differentiated seeker and non-seeker men on Personal Integration, Anxiety Level and Masculinity-Femininity; it differentiated women on Impulse Expression. On the SCAT female seekers scored significantly higher on quantitative than non-seekers and there was no difference for men. Seeker and non-seeker men had divorced or separated parents, adjustment problems, perceived their parents as strict in high school and had difficulty communicating with their parents. Women seekers came from families who earned less than \$15,000 per year and were planning on full-time work upon graduation. Unfortunately, no pattern representing seekers seemed to emerge, and no one common variable was found for men and women seekers and non-seekers.

Further investigation of the above study over the four year college career indicated that the rate of initiation of

²⁶J. E. Rossmann and B. A. Kirk, "Comparison of Counseling Seekers and Non-Seekers," Journal of Counseling Psychology, 1970, 17 (2), 184-188.

counseling declined over time, both by years and within quarters within years.²⁷ Occasionally a reversal occurred with the females. None of the instruments for male or female seekers differed significantly by test results when time or counseling was considered by the four academic quarters. In busy times surrounding midterms and finals, the students who initiate counseling are those who test at entrance as being most vulnerable psychologically. The differentiating scales on the OPI were Impulse Expression, Personal Integration and Anxiety Level.

Galassi²⁸ and Galassi and Galassi²⁹ reported a comparison of counseling seekers and non-seekers administering the Lowe and Damankos Anomie Scale, Berger's Self-Acceptance Scale, Dean's Social Isolation Scale and Keniston's Cultural Alienation Scale. Alienation is a construct according to the author that is most adequately conceptualized as a multidimensional construct. Personal adjustment seekers measure greater alienation than vocational-

²⁷W. H. Sharp and B. A. Kirk, "A Longitudinal Study of Who Seeks Counseling When," Journal of Counseling Psychology, 1974, 21 (1), 43-50.

²⁸J. P. Galassi, "Alienation in College Students: A Comparison of Counseling Seekers and Non-Seekers" (Unpublished doctoral dissertation, University of California, Berkeley, 1971).

²⁹J. P. Galassi and M. D. Galassi, "Alienation in College Students: A Comparison of Counseling Seekers and Non-Seekers," Journal of Counseling Psychology, 1973, 20 (1), 44-49.

educational seekers. Except for the cultural alienation scale, seekers have higher alienation scores than non-seekers and the personal adjustment seekers have the most elevated scores. There are no significant differences between vocational-educational seekers and non-seekers.

Sharf and Bishop³⁰ administered the Opinion, Attitude and Interest Survey (OAIS) and a battery of other tests to all incoming freshmen at an eastern university. Students who sought counseling were classified according to Apostol-Miller Diagnostic Categories Plan which delineated three major problem areas: vocational, academic and personal. A small percentage could not be categorized and were labeled "other." The OAIS social adjustment and emotional adjustment scales were used to test differences between the three major problem areas, other and those who received no counseling. No significant differences were found when all counseled students were compared to all non-counseled students. Significant differences did exist in social adjustment and emotional adjustment scores between the general population and seekers who came with personal problems rather than for educational or vocational assistance.

³⁰R. S. Sharf and J. B. Bishop, "Adjustment Differences Between Counseled and Noncounseled Students At a University Counseling Center," Journal of Counseling Psychology, 1973, 20 (6), 509-512.

Snyder, Hill and Derksen³¹ investigated reasons why students do not use counseling services when they have problems. There were four major findings: 1) subjects were favorable to the concept of counseling and stigma was of little concern in seeking counseling; 2) minimal information was reported by subjects about the counseling center and the counseling process; 3) friends were the first choice for help, close relatives second and faculty and psychological services the last choice; 4) depression, choice of major and future were the most common problems, and alcohol and drugs least common.

Personality factors on the CPI yielded no statistical differences between seekers of a university counseling center and non-seekers with problems.³² The sample consisted of 16 seekers and a random sampling of 100 non-seekers. The author stated that the size of the sample could have been a factor and in addition the study was conducted after counseling had occurred, thus the profile of seekers may be similar to non-seekers. Many of the college freshman non-seekers were experiencing problems which might tend to eliminate differences between seekers and non-seekers.

³¹J. F. Snyder, C. A. Hill, and T. P. Derksen, "Why Some Students Do Not Use University Counseling Facilities," Journal of Counseling Psychology, 1972, 4 (2), 63-68.

³²B. L. Faison, Jr., "A Comparative Study of Some Personality Factors of Users of a University Counseling Center and of Non-Users With Problems" (Unpublished doctoral dissertation, St. Louis University, 1972).

Faison suggests that investigations are needed to ascertain why students seek help and how students cope with problem areas.

In a retrospective study of 1,290 university students, Reinhold³³ found that 19.4% had been seekers of one or both campus formal mental health services for students. The University Counseling Service (UCS) accounted for 13.2% and the Student Health Service Psychiatric Clinic (SHSPC) for the remaining 9%. In addition, these seekers were also more frequent seekers of the medical service. UCS seekers had more difficulties with studying, concentrating and with career planning. SHSPC seekers reported more depression, anxiety, fear of nervous breakdown and thoughts of suicide. Seekers who expressed concern about interpersonal relationships, sexual behavior, trouble with sleep, loneliness, apathy, sought help in either UCS or SHSPC. UCS seekers were more conservative about seeking mental health help.

The likelihood of seeking counseling as a function of potential type of counseling problem category and ethnicity was investigated by Fager.³⁴ Findings indicated: 1) regardless of problem, counselors were preferred source;

³³J. E. Reinhold, "Users and Nonusers of College Counseling and Psychiatric Services," Journal of the American College Health Association, 1973, 21, 201-208.

³⁴L. E. Fager, "University Student Likelihood of Seeking Counseling, Problem Category and Ethnicity" (Unpublished doctoral dissertation, New Mexico State University, 1973).

2) vocational and educational problems by all ethnic groups preferred counselor; 3) for social adjustment problems the counseling psychologist was preferred; 4) for emotional problems the psychiatrist or the counseling psychologist was preferred; 5) the Anglo-American and the Spanish-American ethnic groups preferred the counselor.

Allen³⁵ feels strongly that there is a need for analysis of seeker characteristics before counseling. This type of research approaches the problem of evaluating student population in general, thus providing information about the student who comes for counseling, rather than comparing students in counseling with matched random samples of students at large.

This review of the literature relative to seekers and non-seekers indicates that differences of personality are frequently observed, although the type of test, method of data collecting and comparison of subjects has rarely been uniform.

³⁵T. W. Allen, "An Overview of Counseling Research" in J. Whitely (Ed.), Research in Counseling Examination and Examination and Refocus (Columbus, OH.: Merrill, 1968), Task Group Report One, pp. 219-238.

Nursing Students Discriminants of Educational/
Vocational/Personal Counseling

Predictive studies in nursing and related areas for a period of thirty years was surveyed by Taylor et al.^{36, 37} Six hundred and ninety-eight schools of nursing representing 67% of the total number in the United States and Puerto Rico supplied data pertaining to procedures and instruments. In addition, the authors reviewed almost 300 published and unpublished studies concerned with prediction and validation.

A moderate degree of accuracy in predicting academic success in schools of nursing could be determined from weighted test battery scores and high school grades. However, no one test or battery was found which was generalizable across all schools. Results even within and across schools shifted, possibly indicating the changing milieu of the person-environment interaction. Nothing definitive has been found in predicting clinical performance or perseverance.

The 698 schools administered 35 different personality and interest tests. The authors felt the tests probably helped in guiding students, but were not of predictive value.

³⁶C. W. Taylor et al, Selection and Recruitment of Nurses and Nursing Students: A Review of Research Studies and Practices (Salt Lake City, UT.: University of Utah Press, 1963).

³⁷C. W. Taylor et al, Report on Measurement and Prediction of Nursing Performance (Salt Lake City, UT.: University of Utah Press, 1965), Part I.

This may indicate that the approach to identifying personality characteristics should be varied....It seems reasonable to expect that one or more personality traits would be essential for a person to function well within the general field of nursing and additional and different traits would be required for different nursing specialties. 38

An unresolved question in nursing, the authors said, is the relevance of traditional curriculum and on-the-job professional success, for nursing practice now and in the future. A difficulty that arises is the criterion which is utilized for different skills and capacities. Taylor et al aptly stated, "...if the criterion measures of nursing performance should focus on only one thing, it should be on the care of people."³⁹

Further statistical study was done by Taylor et al⁴⁰ in order to determine: 1) academic and clinical achievement interrelationships among selection devices; 2) correlation between qualities/abilities in nursing and grades; 3) the degree to which the instruments predict performance in clinical nursing courses were not closely related. Clinical grades which include application of theory may go beyond academic intellectual course work. Possible evaluation

³⁸C. W. Taylor et al, Report on Measurement and Prediction of Nursing Performance, 1965, p. 50.

³⁹Ibid., p. 61.

⁴⁰Ibid.

deficiencies exist in the traditional manner in which students are rated and in the method of teaching theory. Behavioral objectives and detailed criterion formulation need to be established.

Predictors of intellectual or academic ability and achievement predict only a narrow spectrum of nursing education. Conversely, application data could not predict achievement. The correlation between achievement and patient care showed little or no relationship. The authors recommended an examination of the theoretical and applied aspects of nursing programs with the defining of behavioral objectives for clinical practice and appropriate evaluation measures.

Little research has been done in colleges of nursing to discriminate the seeker from the non-seeker but, as Taylor and his associates have indicated, emphasis has been placed on studying attrition and prediction as related to personality and achievement.^{41, 42, 43, 44, 45, 46, 47, 48, 49, 50}

⁴¹J. R. Thurston and H. L. Brunclik, "Search or Research? The Prediction of Success in Schools of Nursing," Nursing Outlook, 1965.

⁴²J. R. Thurston and H. L. Brunclik, "The Relationship of Personality to Achievement in Nursing Education," Nursing Research, 1965, 14 (3), 203-209.

⁴³J. R. Thurston, H. L. Brunclik, and J. F. Feldhusen, "The Relationship of Personality to Achievement in Nursing Education, Phase II," Nursing Research, 1968, 17 (3), 265-268.

⁴⁴Benjamin Bernfeld, "MMPI Variables in the Prediction of Attrition of Students of Nursing in a Hospital School Program" (Unpublished doctoral dissertation, New York University, 1967).

⁴⁵H. S. Rubin, "The Prevention of Student Attrition in Nursing Education: A Community Psychology Approach," Dissertation Abstracts International, 1971, 33 (3-B), p. 1296.

⁴⁶R. Raderman and D. O. Allen, "Registered Nurse Students in a Baccalaureate Program: Factors Associated With Completion," Nursing Research, 1974, 23 (1), 71-73.

⁴⁷E. E. Levitt, B. Lubin, and K. N. Dewitt, "An Attempt to Develop an Objective Test Battery for the Selection of Nursing Students," Nursing Research, 1971, 20 (3), 255-258.

⁴⁸A. Q. Sartain, "Predicting Success in a School of Nursing," Journal of Applied Psychology, 1946, 30, 234-240.

⁴⁹G. K. Bennett and H. P. Gordon, "Personality Test Scores and Success in the Field of Nursing," Journal of Applied Psychology, 1944, 28, 267-278.

⁵⁰L. Litwack, R. Sakata, and Wykle, Counseling Evaluation and Student Development and Nursing Education (Philadelphia, PA.: W. B. Saunders Co., 1972).

The best predictors of academic success are ACT⁵¹, ⁵² and SAT.

Tate⁵³ emphasized that the geographical location should be noted as attrition increases from east to west. Her findings also indicated that more baccalaureate than diploma students dropped out of nursing at the end of the first year.

Dorfield, Ray and Baumberger⁵⁴ substantiated the presence of academic findings as related to attrition as well as matrimony, dislike for nursing, personal reasons, health and unsuitable personality. Positive self-concept has also been found to be related to achievement and attrition.^{55, 56, 57}

⁵¹Rubin. "The Prevention of Student Attrition in Nursing Education: A Community Psychological Approach," 1971.

⁵²Raderman and Allen. "Registered Nurse Students in a Baccalaureate Program: Factors Associated with Completion," 1974.

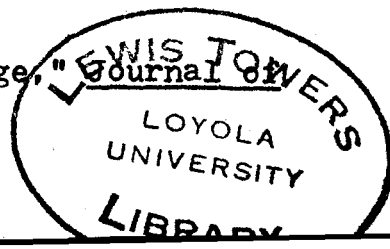
⁵³B. L. Tate. "Attrition Rates in Schools of Nursing," Nursing Research, 1961, 10 (2), 91-96.

⁵⁴M. E. Dorfield, T. S. Ray, and T. S. Baumberger, "A Study of Selection Criteria for Nursing School Applicants," Nursing Research, 1958, 7, 67-70.

⁵⁵C. D. Achord, "Impact of Attrition on Self-Concept and Anxiety Level of Freshman Nursing Students at the University of Northern Colorado," Dissertation Abstracts International, 1973, 33 (11-A), 6166-6167.

⁵⁶N. Komorita, "Self Concept Measures as Related to Achievement in Nursing Education," Dissertation Abstracts International, 1972, 32 (12-A), 6809.

⁵⁷J. E. Klahn, "Self Concept and Change," Nursing Education, 1969, 8 (2), 11-16.



According to Benjamin⁵⁸ counseling in nursing schools could be improved. In 1958 Whitmore surveyed 126 National League of Nursing fully accredited schools and felt personnel and guidance services needed improvement. It would appear that good guidance in a school of nursing would give opportunities for optimum physical, emotional, social, intellectual and spiritual growth and development.⁵⁹ Pre-entrance psychological examinations could be used more advantageously by college counselors. Although Sink⁶⁰ found that some college counselors were not adequately prepared in interpreting results to full advantage, when such test results were used by knowledgeable counselors, fewer students dropped out.

Motivation for nursing as a career was questioned by Bernstein, Turrell and Dana⁶¹ who found student nurses disturbed in their interpersonal relationship with parents.

⁵⁸N. Benjamin and D. Cicatiello, "Needed: Career Counseling for Nursing Students," Nursing Outlook, 1964, 12, 56-59.

⁵⁹G. R. Kaback, "Guidance and Counseling for Hospital Schools of Nursing," National League for Nursing, 1958, VI, p. 93.

⁶⁰W. R. Sink, "A Study of the Use of Pre-Entrance Psychological Examinations in Counseling of Students in Selected Schools of Nursing in Indiana" (Unpublished Ed.D. dissertation, Indiana University, 1959).

⁶¹L. Bernstein, E. S. Turrell, and R. H. Dana, "Motivation for Nursing," Nursing Research, 1965, 14, 222-226.

In discussing physician-patient and nurse-patient relationships, Jourard warned of the "character armor," a rigidity of interpersonal behavior which can be acquired for coping with anxieties--defenses fostering self-alienation--and a desensitization to one's own experience, acting as a deterrent to insight and empathy with patients. Jourard states:

The becoming general nursing practitioner is a person who is open, open to her own experience, who genuinely cares about people and about herself....A person who is always in the process of maturing and growing....This openness to herself makes it possible for her to establish empathic contact with the patients as they come and go. 62

The most extensive study of nursing school experience is a four-year Stress Satisfaction Project.⁶³ A further analysis of this data was done in terms of school characteristics and practices related to student stress and satisfaction.^{64, 65} Approximately 4,000 students in 29 schools were

⁶²S. M. Jourard, The Transparent Self: Self-Disclosure and Well-Being (Princeton, N.J.: D. Van Nostrand Company, 1964), pp. 136-137.

⁶³D. J. Fox, L. K. Diamond, R. C. Walsh, L. Knopf, and J. Hodgin, "Correlates of Satisfaction and Stress with Nursing School Experience," Nursing Research, 1963, 12, 83-88.

⁶⁴D. J. Fox, L. K. Diamond, R. C. Walsh, L. Knopf, and J. Hodgin, "Correlates of Satisfaction and Stress with Selected Clinical Aspects of Nursing School Experience," Nursing Research, 1963, 12, 157-161.

⁶⁵D. J. Fox et al, Factors Related to Student Nursing School Experience (New York, N.Y.: Institute of Research and Service in Nursing Education Teachers College, Columbia University, 1963).

part of a random sampling of NLN accredited programs within a 1,000 mile radius of New York City. A group of 15 women's colleges from 1,500 students provided comparative data.

There were few differences in responses to the personal, social and, to a lesser extent, the academic category. Clinical experiences were the dominant theme for nursing students in percentage to total response. Situations extrinsic to nursing itself, such as educational stress, were the principal cause of clinical stress. Compared to other educational programs the nursing milieu was unique in "the social context of the danger situation." The realities of the hospital setting contributed to stress by suppression of spontaneity and release of tension. The situations were not stressful in and of themselves, but contained the potential for both stress and satisfaction in varying degree.

The varying reactions of students to comparable experiences further suggests the complexities of the interaction between the person and environment. The authors concluded that in order to understand the individual student's reaction to any experience both the potential of the situation and the variables which are unique to the individual must be considered.

From a sociologist's standpoint, Mauksch⁶⁶ dealt also with the multi-dimensional aspects of the interaction

⁶⁶H. D. Mauksch, "Becoming a Nurse: A Selective View," Annals of the American Academy of Political and Social Science, 1963, 88-98.

between the newcomer and the actual occupational system in becoming a member of the nursing profession. Mauksch identified rapidly imposed adulthood, the shift from ego to role emphasis, modification of ideas of privacy and modesty, as being more stressful than dramatic. In addition, one has to face the expected events of death. Moreover, these experiences usually occur at a time of life when the student is still unsure of his/her place in the adult world and is feeling insecure and inadequate in the nursing role.

The literature thus far has indicated that all students can have problems and seek assistance. The environment of the student nurse produces greater stress than that of the college student because of the setting and character of the professional nurse training. It is surprising, therefore, that there has been little research concerning the differences between seekers and non-seekers.

Adjusted and maladjusted student nurses were studied by Diller and Fuller.⁶⁷ Thirty-seven of the 59 maladjusted group were self-seekers; 22 were referred by faculty. Comparisons were made by discussions with a psychiatrist, and comparing personal and familial characteristics. The majority of the maladjusted students were bothered by problems relating to marriage, family and love situations. They experienced difficulties in social adjustment, immaturity,

⁶⁷J. C. Diller and E. W. Fuller, "Adjusted and Maladjusted Student Nurses," Journal of Social Psychology, 1952, 36, 45-52.

emotional instability and inferiority. More maladjusted students came from broken or unhappy homes, were only children, came from small families and some did not complete nurses training.

The effect of self and role perception on dropouts from schools of nursing was investigated by Kibrick.⁶⁸ Instruments for measuring role perception, self-concept, motivation, socio-economic background and anticipated adjustment were administered to 460 freshman nursing students from 7 hospital schools of nursing. After six months of training, 71 had withdrawn from the program. Certain personality characteristics were shown to be significantly related to perseverance. Those students remaining in school were "nurturant" and placed the welfare of others above their own personal interest.

They (in reference to retainees) were attaining their goal by abiding according to the rules and regulations of the hospital and performing in a manner expected of them.⁶⁹

Students who withdrew "resented authority" and were "less willing to submit to the routine and practice of the school."

⁶⁸A. Kibrick, "Dropouts in Schools of Nursing: The Effect of Self and Role Perception," Nursing Research, 1963, 12, 140-149.

⁶⁹Ibid., p. 148.

They (in reference to withdrawals) had a desire for independence which showed itself through aggressive behavior; they were rejecting of their classmates and subordinates and less concerned with the welfare of patients than were the remaining students; and they were desirous of going their own way unhampered by obligation toward others. ⁷⁰

Green⁷¹ tested the relationship of a measure of self-actualization and satisfaction in students in the sophomore year of a baccalaureate program in nursing. The POI scales of Time Competence, Spontaneity, Synergy and Self-Regard had a significant relationship with achievement and scholastic aptitude. Scholastic aptitude was less significant in clinical situations than Synergy and Spontaneity. In addition, the student's sensitivity of response to her own feelings, as measured by the Feeling Reactivity scale, became an additional factor in contributing to clinical success. The Aggression scale and the Time Competence Ratio scale had a significant relationship to the instructor rating for personal qualities and attitudes. The author concluded that the nursing sample was similar to college samples in its achievement of self-actualization. Low scores on Time Competence, Existentiality and Capacity for Intimate Contact suggested a possible element of anxiety which might

⁷⁰Kibrick, "Dropouts in Schools of Nursing: The Effect of Self and Role Perception," 1963, p. 148.

⁷¹E. J. Green, "The Relationship of Self-Actualization to Achievement in Nursing" (Unpublished doctoral dissertation, Indiana University, 1967).

interfere with effective use of time, flexibility and warm relationships. However, the nursing student did have a relatively high value orientation--on the self-actualizing values, the positive view of mankind and the tendency to be guided by internalized values. Clinical practice in nursing was associated with attributes related to self-understanding and understanding of others, and reflected the importance of interpersonal interaction in clinical nursing situations.

In contrast to Green, Gunter⁷² also using the POI found that nursing students made significantly higher scores than a female college freshman sample on the scales relating to Time Competence, Self-Regard and the constructive Nature of Man. Gunter's sample scored lower than Shostrom's self-actualized norm group on all scales except Self-Actualizing values and the constructive Nature of Man scales. Gunter felt since her sample scored higher than the college sample, although lower than the self-actualized norm, that these results lent credibility to the concept that nursing students are developing. In addition, the author felt the results indicated that the students do not yet have the capacity to establish warm and significant interpersonal relationships with patients. Gunter recognized that professionals who are immature are in a position to inflict damage on those they would serve. She believes studies are needed which relate

⁷²L. M. Gunter, "The Developing Nursing Student," Nursing Research, 1969, 18 (1), 60-64.

to the nature and actual consequences of the nurse-patient relationship (therapeutic and non-therapeutic). Raising the question as to whether training for professional practice can be independent of the student's emotional development, both Green and Gunter found the student nurses had a lack of capacity for intimate contact. This investigator hypothesized that this might be related to the student's lack of clinical experience. The process of becoming a nurse might at this point still be cognitive rather than experiential.

Pittman and Kerchner⁷³ did a study of the relationship between staff attitudes and dimensions of supervisory self-actualization in Public Health Nursing. The supervisors were given the POI and the nurses were mailed attitude scales. The 24 nursing supervisors were above Shostrom's clinically nominated self-actualized scores in Time Competence, Self-Actualizing Value, Spontaneity, Self-Regard, Nature of Man constructive and Synergy and no scores were below the normal adult group. Comparisons were made with a faculty of a baccalaureate school of nursing, with Gunter's sample of sophomore nursing students and Robert's sample of public health nursing staff from two health departments in Washington. The supervisors were higher in all dimensions

⁷³Rosemary Pittman and Lila Kerchner, "A Study of the Relationship Between Staff Attitudes and Dimensions of Supervisory Self Actualization in Public Health Nursing," Nursing Research, 1970, 19 (3), 231-238.

than the nursing students which might be expected considering the maturity of the public health supervisor. Compared to the faculty group, the sample of public health supervisors scored significantly higher on the scales measuring Inner-Directedness, Spontaneity, Self-Acceptance and views concerning the Nature of Man. In addition, their scores were higher than the public health staff nurse in all areas and significantly higher in Inner-Directedness, Self-Actualizing Values, Spontaneity, Self-Regard, Nature of Man constructive and Capacity for Intimate Contact. Spontaneity, capacity to be oneself, was a differentiating scale with all groups as well as the Nature of Man constructive. In addition, in all the comparisons the public health nursing supervisors appeared to be more inner-directed. Results of the total comparisons would appear to indicate that the public health nursing supervisor in Washington is quite self-actualized. Supervisors with master's preparation appeared more self-actualized than other supervisors. No correlation was found between self-actualization and staff satisfaction in this sample.

Mealey and Peterson⁷⁴ administered the POI to 39 senior diploma nursing students before and after their psychiatric nursing course. Following the course, students showed significant improvement on the Inner-Directedness

⁷⁴A. R. Mealey and T. L. Peterson, "Self-Actualization of Nursing Students Resulting from a Course in Psychiatric Nursing," Nursing Research, 1974, 23 (2), 138-143.

scale but only slight improvement on the Time Competence. The remaining ten scales also went up in the direction of self-actualization values, which led the authors to conclude that observed personality changes that occur during a psychiatric nursing course can be both identified and measured. Course content can be specifically geared for teaching interpersonal and self awareness.

In an eastern university hospital, four psychological inventories, the MMPI, 16 PF, CPI and EPPS were given to 545 employed RNs.⁷⁵ Hospital administration selected 120 of these as candidates for evaluation for promotion to leadership positions and 42 were promoted. All four tests were utilized in a cross-validation multiple regression analysis in order to arrive at a predictive efficiency of test variables utilizing the criterion: promoted not promoted. Of the six correlation models only one was significant at the .05 level. The best predictors of promotion were capacity for status, a feminine attitude and a relaxed demeanor, when other things such as education were equal. On the CPI the scale Intellectual Efficiency was significantly higher. Of the 61 variables, the most significant differences were found between emotional stability, poise, capacity to withstand pressure rather than to being dominant, sociable or good managers.

⁷⁵W. L. Kelly, "Psychological Prediction of Leadership in Nursing," Nursing Research, 1974, 23 (1), 38-42.

Kelly cautions that the use of a general purpose inventory in a specific situation requires empirical validation. In addition, considering the shrinkage from 61 to 13 variables, caution should be used in the use of a test for prediction in an instance as specific as promotion. Indeed, according to the author, the cross validation may, in this study, be defining the promotion policy of a particular institution rather than leadership in general.

Baker⁷⁶ studied associate degree nursing students in order to assess the differences between dropouts and graduates. A comprehensive battery of tests was designed to measure the non-intellectual characteristics of 112 students entering five associate degree programs. At the end of two years, differences were found between the 73 graduates and the 32 dropouts. The six scales on the CPI which differentiated the two groups indicated that the graduates had an overall higher level of personal and social maturity and were more responsible, dependable and resourceful. In addition, the graduates had attained a greater degree of self-control, were more tolerant, accepting and non-judgmental toward others, while being more concerned and responsive to the needs of others. In a cognitive mode graduates showed more achievement potential, more independence and self reliance, combined with a tendency to develop and follow a

⁷⁶E. J. Baker, "Associate Degree Nursing Students: Nonintellective Differences Between Dropouts and Graduates," Nursing Research, 1975, 24 (1), 42-44.

meaningful plan of action.

Preventive Services

College freshmen are unusually vulnerable to stresses induced during the early months of college. Many freshmen bring unsolved problems with them. For example, Cassell, Marty and Richman⁷⁷ found that students at Syracuse University reported numerous psychological difficulties such as irritability, insomnia, anxiety and depression during the preceding three years before college. Freshmen constitute a specific high-risk group and the prevalence of emotional maladjustment is increasing.^{78, 79, 80, 81} Katz et al in reviewing their studies with Stanford and Berkeley undergraduates comment:

⁷⁷W. A. Cassell, F. N. Marty, and J. L. Richman, "The Prevalence of Psychiatric Symptomatology in First Year University Students," Journal of the American Health Association, 1967, 15, 335-340.

⁷⁸R. W. Baker, "Incidence of Psychological Disturbance in College Students," Journal of the American College Health Association, 1965, 13, 532-540.

⁷⁹H. G. Whittington, Psychiatry on the College Campus (New York, N.Y.: International University Press, 1963).

⁸⁰B. E. Segal, T. M. Walsh, and R. J. Wesiss, "Emotional Maladjustment in an Undergraduate Population: An Analytical Assessment of Six-Year Trends," Journal of the American College and Health Association, 1966, 14, 190-196.

⁸¹E. A. Gardner and R. Glaser, "The Future is Here," Journal of the American College Health Association, 1968, 16, 350-353.

Our study has impressed us with the importance of the freshman year, particularly its early phases. The entering student faces many sudden challenges and threats; separation from home, sudden exposure to large groups of strangers, who may seem threatening or superior, new academic demands....It seems very desirable that college divert their basic resources to the problems of the freshman. 82

Two complementary approaches to primary prevention of emotional disorders have been suggested by Caplan: social action and interpersonal action; in Caplan's words, "the first of these aims to produce changes in the community; the second has the goal of changing the particular individuals."⁸³ Two methods were delineated: 1) the crisis intervention strategy--mental health professionals can work with the population at risk; 2) anticipatory guidance strategy--people can be helped in anticipation of crisis and emotional disorders prevented, increasing emotional maturity.

In surveying 75 counseling centers and psychiatric clinics at University Services, Bloom⁸⁴ found that more than 90% believed preventive services are not only important but perhaps more important than direct clinical services. At the same time, over 70% of the respondents indicated that

⁸²K. Katz et al, No Time for Youth (San Francisco, CA.: Jossey Bass, 1968), p. 109.

⁸³G. Caplan, Principles of Preventive Psychiatry (New York, N.Y.: Basic Books, 1964).

⁸⁴B. L. Bloom, "Current Issues in the Provision of Campus Community Mental Health Services," Journal of the American College Health Association, 1970, 18, 257-264.

their programs did not provide preventive programs. Stated differently, almost all respondents believed that early identification and intervention of emotional disorders is necessary, yet only 30% had resources to accomplish this task.

As a method for initiating communication between mental health professionals and members of a vulnerable student population, Bloom⁸⁵ established an anticipatory guidance program at the University of Colorado in 1968. There were three objectives to the program: 1) to learn relevant aspects of student personality problems when entering college; 2) to learn how the university student life is viewed by students; and 3) to develop an ongoing communication process with students to reduce stress and enhance growth. Despite some minor inadequacies in the program (e.g., those who participated were volunteers) the results of the program was encouraging. Bloom believes that if university resources were utilized to reach out to students there will be greater emotional maturation and an increase in successful college student careers.

Emotional factors have been found to be more important than intellectual ones in identifying problem areas and implementing remedial intervention of both academic and

⁸⁵B. L. Bloom, "A University Freshman Preventive Intervention Program: Report of a Pilot Project," Journal of Consulting and Clinical Psychology, 1971, 37 (2), 235-242.

personal factors.^{86, 87} In Rubin's study, focus was placed on the relationships of variables related to success and failure for the purpose of intervention and prevention. Phase one dealt with the identification and assessment of the attrition risk population at a Chicago hospital school of nursing. Phase two attempted to reduce attrition by intervening in the risk population. Out of 116 subjects, 71 were identified as high risk and 48 assigned to one of three treatment conditions: 1) remediation in basic skills; 2) appropriate psychotherapy; 3) both 1 and 2. Twenty-three subjects with matching grade point average and achievement test scores were assigned to control group which received no treatment. Remaining samples tested on adjustment and satisfaction was used for comparison. Grade point average improved significantly in treatment groups 1 and 3 but no significant differences in achievement test scores. Although adjustment was significantly related to success in academic course work, expressed level of satisfaction was not related to success. However, satisfaction measures differentiated between types of attrition. The methods of identification and intervention accounted for a 24% reduction in attrition; the annual attrition had been 45%.

⁸⁶Rubin, "The Prevention of Student Attrition in Nursing Education: A Community Psychological Approach," 1971.

⁸⁷H. A. Cohen and F. P. Gesner, "Dropouts and Failures: A Preventive Program," Nursing Outlook, 1972, 20 (11), 723-725.

Rose and Elton⁸⁸ compared student counselors who had classified their problems as vocational, academic or personal to non-counselees on the first ten scales of the Omnibus Personality Inventory by means of a criterion analysis. The freshman class was then tested and letters were sent to the freshmen concerning orientation test interpretations. It was predicted that those students with scores indicative of a need of counseling would respond earlier. Some results yielded statistical significance. The authors indicated that there was generally a low acceptance rate of counseling. They suggested that a better method than that of global mailings should be found to persuade students to enter growth-producing experiences. They note that early identification and preferred assistance would serve as a way to prevent student woes, general unhappiness, withdrawal, drop-out and underachievement.

Summary

A review of the literature related to the present study has been presented in terms of several general topics, first a broad overview of influences and interactions between student and school were summarized. A major theme was sought to review studies which differentiate seekers and non-seekers in college settings. Although there is little

⁸⁸H. A. Rose and C. F. Elton, "Identification of Potential Personal Problem Clients," Journal of Counseling Psychology, 1972, 19 (1), 8-10.

research in the literature, discriminants related to counseling among nurses were briefly noted. Programs to identify and work preventatively with students were described.

Among the major findings in the literature was the fact that consistent differences between seekers and non-seekers of counseling are rarely obtained. Despite the variety of methodologies employed, there are no overall discriminants which differentiated seekers from non-seekers. Among the few findings that appear promising are the following: seekers are higher in abasement scores, higher in MMPI profiles, lower in dominance, more prone to list problems, more rigid, are of the intuitive type and are emotionally unstable.

Nursing students coming into the stressful situations of their new profession are potentially a high-risk group. Altering the environment and aiding the individual are two complementary ways of shifting the interaction. Another major focus has been directed to predicting perseverance in nursing education. No single test or battery of tests has thus far been found to accomplish this task.

Despite the failure to uncover clear-cut predictions of emotional adjustment in the students of the nursing profession, it is a sufficiently worthwhile endeavor to continue the research.

CHAPTER III

RESEARCH DESIGN

This chapter will describe the research sample, the instruments employed, the procedures followed for obtaining the data and the statistical methods used for these analyses.

Setting

The University of Illinois at the Medical Center campus includes Colleges of Dentistry, Medicine, Nursing and Pharmacy, School of Public Health, School of Associated Medical Sciences and a Graduate College. The services and health resources of the University are shared by all of the colleges and schools of the campus.

Special courses in pediatric nursing were initiated in the early 1940's, marking the beginning of formal nurse training at the University of Illinois. In 1949 the University awarded its first BSN degree to students who had matriculated and graduated from four affiliated hospital schools of nursing in Chicago. A university based School of Nursing was established in 1951 with a Bachelor's Degree program for registered nurses.

In 1953 approval was granted for a four year course combining general education and professional nursing

instruction leading to BSN. Graduate study was organized in 1962 and was approved by the Board of Trustees in 1963. A Nurse Scientist grant was awarded the college in 1969 to support professional nurses through doctoral studies in one of the basic sciences. In addition, a Ph.D. program in nursing research was approved in 1974 with the first class entering in September, 1975.

Description of the Population

Three hundred fifty-six students of nursing at the University of Illinois Medical Center were afforded the opportunity to take a battery of tests. The primary purpose was to attempt to determine correlates and predictors regarding the use of student counseling services.

The subjects were all currently enrolled at one of three levels of education in the College of Nursing. Group I (Graduates) was composed of students who were Registered Nurses (RN) who had completed their Bachelor of Science in Nursing (BSN) and were working on their Master of Science in Nursing (MSN) in one of the following areas: Maternity Nurse--Midwifery; Nursing Service Administration; Psychiatric Nursing; Medical-Surgical Nursing; Public Health Nursing. Group II (Continuation) was composed of Registered Nurses (RN) who had graduated from hospital diploma schools and were currently seeking a BSN. Group III (Sophomores) consisted of students who had finished basic college requirements for admission into the College of Nursing in

order to complete an RN and BSN four year program.

Two hundred forty-seven or 69% of all entering students completed the first battery of tests. The six males who completed the forms (Group I = 2, Group II = 1, Group III = 3) were dropped from the study because the small number involved might have confounded the data. The breakdown of the completed questionnaire was: Group I = 72 of 93 or 77%; Group II = 36 of 79 or 45%; Group III = 127 of 178 or 71%; Total = 241 of 350 or 69% (see Table 1, page 53, for details of Groups by test). The Student Service Questionnaire (SSQ) follow-up was distributed January of 1976 and return was: Group I = 55 of 95 (enrollment) or 58%, 55 of 72 (completed initial testing) or 76%; Group II = 20 of 79 (enrollment) or 25%, 20 of 35 (completed initial testing) or 56%; Group III = 95 of 178 (enrollment) or 53%, 95 of 127 (completed initial testing) or 75%; Total = 170 of 350 (enrollment) or 49%, 170 of 241 (completed initial testing) or 71%. Six students withdrew, three from Group I and three from Group III. Fifteen students completed the SSQ who had not completed the initial testing. One student returned the SSQ after the deadline and could not be included in the statistical analysis. Two additional subjects were eliminated because of inadequate protocol. One student from Group I wrote refusing to answer the SSQ and one student from Group I used a false name which made follow-up impossible.

TABLE 1
STUDENT POPULATION SAMPLE

	GROUP I	GROUP II	GROUP III	TOTAL
ENROLLMENT OF 1975 CLASS				
Females and Males	95	80	181	356
Females	93	79	178	350
Males	2	1	3	6
COMPLETED INITIAL TESTING				
Tested	72	36	127	235
MI-SRI Form M	68	35	118	221
CPI	67	35	120	222
POI	65	36	125	226
COMPLETED STUDENT SERVICE QUESTIONNAIRE FOLLOW-UP				
SSQ	55	20	95	170

Of those who completed the initial testing, the age range was: Group I ranged from 21 through 46 with a mean equal to 29.8; Group II ranged from 21 through 48 with a mean equal to 31.3; Group III ranged from 18 through 44 with

a mean equal to 21.5; Total ranged from 18 through 48 with a mean equal to 25.4. In Group I 46 or 64% were married, 22 or 31% were single and 4 or 6% were other; Group II 19 or 53% were married, 14 or 39% were single and 3 or 9% were other; Group III 18 or 14% were married, 101 or 80% were single and 6 or 5% were other; Total 84 or 35% were married, 142 or 59% were single and 13 or 6% were other (see Table 2).

TABLE 2
AGE AND MARITAL STATUS

	GROUP I	GROUP II	GROUP III	TOTAL
COMPLETED INITIAL TESTING				
Age Range	21-46	18-48	18-44	18-48
Mean	29.4	30.8	21.5	25.4
Married #	33	13	11	84
%	59	68	11	33
Single #	19	6	81	106
%	34	22	84	62
Other #	4	0	3	7
%	8	0	5	4

Of those who completed the Student Service Questionnaire, the age range was: Group I ranged from 21 through 46 with a mean equal to 29; Group II ranged from 21 through 48

with a mean equal to 30.9; Group III ranged from 18 through 44 with a mean equal to 21; Total ranged from 18 through 48 with a mean equal to 27. In Group I 33 or 60% were married, 20 or 36% were single and 2 or 4% were other; Group II 10 or 50% were married, 8 or 40% were single and 2 or 10% were other; Group III 15 or 16% were married, 77 or 81% were single and 3 or 3% were other; Total 57 or 33% were married, 106 or 62% were single and 9 or 5% were other (see Table 3).

TABLE 3
AGE AND MARITAL STATUS

	GROUP I	GROUP II	GROUP III	TOTAL
COMPLETED STUDENT SERVICE QUESTIONNAIRE FOLLOW-UP				
Age Range	21-46	21-48	18-44	18-48
Mean	29	30.9	21	27
Married #	33	20	2	57
%	60	36	4	33
Single #	10	8	2	106
%	50	40	10	62
Other #	15	77	3	9
%	16	81	3	5

Instruments

Three psychological tests were administered to students: the Personal Orientation Inventory (POI), the California Psychological Inventory (CPI) and the Millon Illinois-Self Report Inventory Medical Form (MI-SRI Form M). Each test will be discussed with respect to nature, construction and scoring procedures. A Biographical Questionnaire (BQ) and a Student Service Questionnaire (SSQ) were designed by the investigator (Appendix A, page 164, and Appendix B, page 171, respectively).

Personal Orientation Inventory

As noted in the review of the literature the POI has been used frequently in studying the nursing population, although not specifically related to counseling. In light of this the POI seemed an appropriate instrument to include in the group of tests administered.

In 1963 Shostrom developed the POI based on Maslow's theory of the self-actualized individual. According to Maslow, self-actualizing persons live a fuller life than do average individuals. Such persons are described as "developing and utilizing all of his unique capabilities, or potentialities, free of inhibitions and emotional turmoil of those less self-actualized."¹

¹E. L. Shostrom, Personal Orientation Inventory Manual (San Diego, CA.: Educational and Industrial Testing Service, 1968).

The test consists of 150 two-choice comparative value judgments. Items were chosen from among a series of significant value judgment problems by therapists. The scores were determined by several criteria: Reisman's² concept of inner and outer directed tendencies, Maslow's³ self-actualization notions and May's⁴ views concerning time orientation. The scales are described in Appendix C, page 176.

California Psychological Inventory

In addition to the POI, the literature indicated that the CPI has been used in discriminating seekers from non-seekers in college populations and in addition it has been used with various studies of nursing populations. For these reasons the CPI was included to further the evaluative impact of the test battery.

In 1957 Gough created the CPI with two goals in mind: 1) to use and develop descriptive concepts which would possess broad personal and social relevance; 2) to develop brief, accurate, dependable sub-scales which would identify and measure the variables chosen in the inventory. In contrast to the MMPI, from which it was derived, the CPI is

²D. Reisman et al, The Lonely Crowd (New York, N.Y.: Doubleday, 1950).

³A. Maslow, Motivation and Personality (New York, N.Y.: Harper and Row, 1954).

⁴R. May et al, Existence (New York, N.Y.: Basic Books, 1958).

useful with non-clinical subjects. The test contained 480 items (178 are from the MMPI) and yielded eighteen subscales divided into four classes which are more fully described in Appendix D, page 179.

Millon Illinois-Self Report Inventory Medical Form

In 1969 Millon developed a theory of personality and psychopathology from which several tests were developed. The MI-SRI Form M is a new instrument designed to measure different profiles of personality structure as well as various attitudes relevant to health care. The test consisted of 150 items and was sub-divided into eight personality scales, a psychiatric index and seven medical scales which are further described in Appendix E, page 182.

Procedure

Initial testing was done in September, 1975 at the College of Nursing. Group I (Graduates) was scheduled in the morning, Group II (Continuation) and Group III (Sophomores) in the afternoon. Each student received a manila folder, a release of information slip (see Appendix F, page 185), test booklets and answer sheets for the POI, CPI and the MI-SRI Form M, as well as a Biographical Questionnaire. Group I had an additional questionnaire related to master's degree program choices in nursing.

Those in Group I who were not present at the initial testing received reminders in their mailboxes to pick up

test packets and complete them at school or home and return them to the graduate dean's office. Three additional follow-up reminders were placed in their mailboxes (see Appendix G, page 187).

A second distribution of test packets was distributed to Group II and Group III after a class and students were requested to complete forms at school or home and to return them to the undergraduate dean's office. Since undergraduates do not have individual mailboxes, reminder notices were posted by the dean of the undergraduate school. Test packets were kept at the undergraduate dean's office where they could be obtained and returned.

Group I received the Student Service Questionnaire (SSQ) and a letter (see Appendix H, page 191) in their mailboxes on the first day of the winter term. An additional follow-up letter was distributed by the dean of the graduate school (see Appendix I, page 193).

The Student Service Questionnaire (SSQ) and a letter (see Appendix H, page 191) was distributed to the students in Group II and Group III following class. Many students finished the questionnaire after class and the remainder were instructed to return them to the undergraduate dean's office. A notice was posted informing the students that the SSQ could be obtained and returned to the undergraduate dean's office. In addition those students who had completed the test battery and had not returned an SSQ were sent a letter (see Appendix J, page 195), an SSQ and a return envelope.

Three clinicians (Ph.D.'s, members of the faculty at the University of Illinois or Loyola University of Chicago, members of the American Psychological Association and experienced in test interpretation) did a "blind" and independent analysis of the profile data from each instrument. The three tests for each subject S was studied separately to prevent "halo" effects. Guidelines for test interpretations were distributed to the three judges (see Appendix I, page 193). Each judge was asked to sort each test protocol into one of four categories: 1) ready for counseling would go; 2) ready for counseling would not go; 3) healthy would no go; 4) unsure. Each judge was given separate coding sheets for each test.

Data Processing

The three psychological measures were coded and computer scored. Descriptive statistics were calculated on these data as well as on the Biographical Questionnaire (BQ) and Student Service Questionnaire (SSQ).

Data Analysis

Data from the BQ, SSQ and the raw scores obtained on the POI, CPI and MI-SRI Form M were keypunched on IBM cards and processed at the Loyola Data Processing Center. The Statistical Package for the Social Sciences (SPSS) was utilized for frequencies, means and standard deviations, discriminant analysis and an ANOVA.

An ANOVA followed by a multiple range test was performed to determine if there were differences among the three academic groups of nurses (Group I, Group II and Group III) on the individual scales of each of the three tests. A discriminant analysis was also performed to determine if prediction could be made as to which academic group the students belonged based on all three tests (POI, CPI and MI-SRI Form M) and on each test separately.

The SSQ indicated that twenty-two students were presently in counseling (seekers). A discriminant analysis was performed to determine if the seekers could be predicted from the non-seekers based on the three tests (POI, CPI and MI-SRI Form M) and on each test separately. An ANOVA was done on each scale to determine whether there were differences on individual scales between seekers and non-seekers.

The judges' interrater reliability was analyzed utilizing an ANOVA among judges and among tests. Percentages were then calculated to determine whether the judges could indeed predict who did in fact go into counseling.

This chapter has included a description of the sample population, the instruments, methods and procedures followed in obtaining and processing the data. Chapter IV will present and evaluate the results generated by data analysis.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter reports the findings obtained through the administration to nursing students of the Millon Illinois-Self Report Inventory Form M (MI-SRI Form M), the California Psychological Inventory (CPI), the Personal Orientation Inventory (POI) and the Student Service Questionnaire (SSQ). This chapter will contain the following sections: MI-SRI Form M, POI profiles of each educational group and the total sample; Hypothesis 1, analysis of the data to investigate there are no significant differences between the three groups of nursing students; Hypothesis 2, analysis of the data to investigate there are no significant differences between non-seekers and seekers; analysis of the judges versus statistical probability predictions of non-seekers versus seekers.

Profiles: Education Levels - Millon Illinois-Self Report Inventory Form M, California Psychological Inventory and Personal Orientation Inventory

The overall profiles of the individual inventories followed a similar pattern. On the following pages the profiles for each instrument are followed by Tables listing means, standard deviations and standard scores.

The following profiles and tables which follow are listed below:

	<u>Page</u>
Table 4 - Millon Illinois-Self Report Inventory Profile.....	64
Table 5 - MI-SRI Form M.....	65
Table 6 - Profile Sheet for the California Psychological Inventory.....	66
Table 7 - CPI.....	67
Table 8 - Profile Sheet for the Personal Orientation Inventory.....	68
Table 9 - POI.....	69

MILLON ILLINOIS-SELF REPORT INVENTORY PROFILE

FORM M

TOTAL	BR SCORES*				PROFILE OF BR SCORES					DSM-III: MILLON DIAGNOSIS
	Group I	II	III	0	35	45	55	75	100	
44.9	1	45.6	44.9	44.4						Apathetic
36.9	2	34.6	39.0	37.5						Sensitive
49.2	3	46.3	46.9	51.6						Cooperative
66.4	4	74.0	64.1	62.8						Sociable
60.0	5	64.0	58.7	57.8						Self-Assured
48.0	6	48.7	51.0	46.7						Assertive
44.7	7	34.4	46.1	50.1						Disciplined
37.1	8	33.4	41.3	37.9						Unpredictable
13.0	FL	7.9	12.1	16.3						Flag Score
35.4	M1	30.5	34.4	38.4						Premorbid Pessimism
47.3	M2	45.6	46.0	48.6						Recent Life Stress
43.4	M3	45.4	44.2	42.1						Chronic Tenseness
34.5	M4	33.9	34.9	34.7						Physical Anxieties
37.6	M5	33.4	38.4	39.7						Isolation-Alienation
36.7	M6	37.0	40.3	35.4						Inadaptive Future Orientation
52.6	M7	65.7	54.1	44.8						Negative Medical Attitudes

*Group I = Graduate $\Delta-\Delta$
 Group II = Continuation $\square-\square$
 Group III = Sophomore $\circ-\circ-\circ$

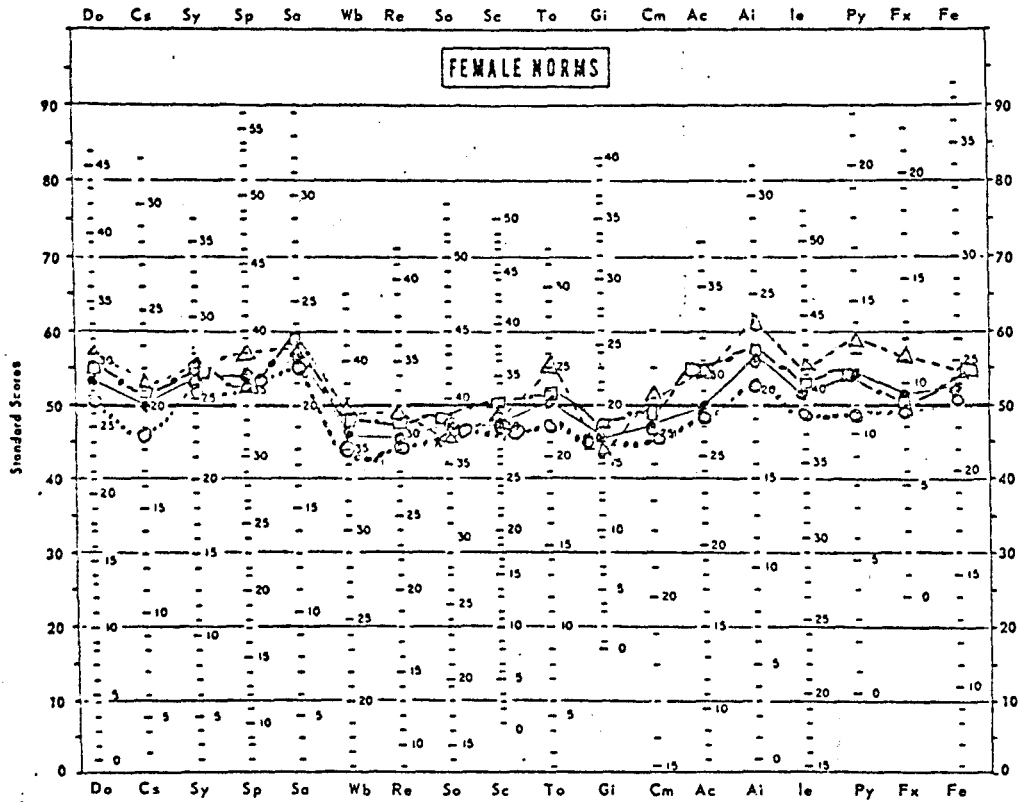
TABLE 5
MI-SRI FORM M

	Total N = 221			Group I N = 68			Group II N = 35			Group III N = 119		
	Raw X		BR	Raw X		BR	Raw X		BR	Raw X		BR
1	16.8	4.24	44.9	16.8	4.25	45.6	16.8	4.08	44.9	16.7	4.31	44.4
2	8.0	5.19	36.9	7.6	4.95	34.6	8.5	5.74	39.0	8.1	5.19	37.5
3	20.9	4.07	49.2	20.5	4.19	46.3	20.6	3.62	46.9	21.3	4.13	51.6
4	28.4	4.6	66.4	29.7	4.39	74.0	27.9	4.41	64.1	27.8	4.67	62.8
5	21.4	4.26	60.0	22.15	3.91	64.0	21.1	4.35	58.7	21.1	4.41	57.8
6	12.5	4.13	48.0	12.7	4.50	48.7	13.0	4.19	51.0	12.2	3.89	46.7
7	24.8	4.65	44.7	23.0	3.84	34.4	25.1	4.68	46.1	25.9	4.78	50.1
8	11.1	5.89	37.1	10.4	5.12	33.4	11.9	6.18	41.3	11.3	6.22	37.9
F1	.9	1.56	13.0	.5	1.10	7.9	.9	1.57	12.1	1.1	1.75	16.3
M1	6.2	5.32	35.4	5.06	4.80	30.5	6.1	4.99	34.4	6.9	5.63	38.4
M2	6.4	2.86	47.3	6.02	2.43	45.6	6.2	2.25	46.0	6.75	3.21	48.6
M3	11.3	4.39	43.4	11.4	4.55	45.4	11.5	4.76	44.2	11.3	4.21	42.1
M4	7.4	3.91	34.5	7.1	3.82	33.9	7.6	3.45	34.9	7.6	4.10	34.7
M5	5.3	4.24	37.6	4.6	4.08	33.4	5.6	4.50	38.4	5.7	4.24	39.7
M6	6.6	4.55	36.7	6.41	4.09	37.0	7.3	4.80	40.3	6.5	4.74	35.4
M7	10.6	4.32	52.6	12.63	3.21	65.7	11.3	5.27	54.1	9.7	4.21	44.8

PROFILE SHEET FOR THE *California Psychological Inventory*: FEMALE

Name _____ Age _____ Date Tested _____

Other Information _____



Notes

- Total N=224
- △---△ Group I N=67
- Group II N=35
- Group III N=120

RAW SCORE	Do	Cs	Sy	Sp	Sa	Wb	Re	So	Sc	To	Gi	Cm	Ac	Ai	Ie	Py	Fx	Fe
STD. SCORE																		

Reproduced from Manual for The California Psychological Inventory, by Harrison G. Gaugh, Ph. D. Copyright by Consulting Psychologists Press, Inc., Palo Alto, California. All rights reserved.

Scanned by NATIONAL COMPUTER SYSTEMS—4401 West 76th St., Minneapolis, Minn.

TABLE 7

CPI

	Total N = 224		Group I N = 67		Group II N = 35		Group III N = 120					
	Raw X	STSC	Raw X	STSC	Raw X	STSC	Raw X	STSC				
Do	28.5	6.19	53	30.5	5.52	56	29.4	5.69	55	27.1	6.41	50
Cs	19.9	3.74	50	21.5	2.76	52	20.4	3.24	51	18.8	4.05	46
Sy	26.1	4.58	53	26.7	4.27	54	26.0	4.54	52	25.7	4.81	53
Sp	36.6	5.93	53	38.1	5.59	56	35.7	5.38	52	36.1	6.23	53
Sa	22.3	3.73	55	22.5	3.85	55	23.0	3.25	56	22.0	3.75	55
Wb	35.7	4.99	46	37.0	4.08	49	36.1	4.51	48	35.0	5.32	44
Re	29.9	4.60	45	31.1	4.46	49	30.9	4.22	48	29.0	4.66	44
So	38.1	5.39	47	37.7	5.13	46	38.0	4.77	46	38.4	5.61	47
Sc	30.4	6.99	47	30.8	6.59	47	31.3	6.15	50	30.0	7.48	47
To	23.1	4.32	50	25.0	3.57	55	23.3	3.86	50	22.0	4.53	48
Gi	17.6	6.01	45	16.6	5.56	44	18.9	5.81	49	17.8	6.18	45
Cm	25.5	3.28	47	26.0	2.52	51	25.8	2.73	48	25.1	3.44	45
Ac	28.8	4.21	50	30.0	4.2	53	30.1	4.05	53	27.8	4.12	48
Ai	21.3	4.18	55	23.4	3.19	60	22.1	3.61	58	20.0	4.27	52
Ie	39.8	5.26	51	41.7	4.89	55	40.7	4.69	54	38.6	5.20	49
Py	12.2	2.58	54	13.2	2.89	57	12.1	2.13	54	11.7	2.33	49
Fx	9.7	3.93	51	11.0	3.89	56	9.49	2.62	51	9.16	3.98	50
Fe	23.9	3.32	52	24.3	3.46	53	24.4	2.74	53	23.9	3.12	50

PROFILE SHEET FOR THE PERSONAL ORIENTATION INVENTORY

N=224 Group I N=65 Group II N=36 Group III N=125

NAME Female Sample DATE TESTED _____

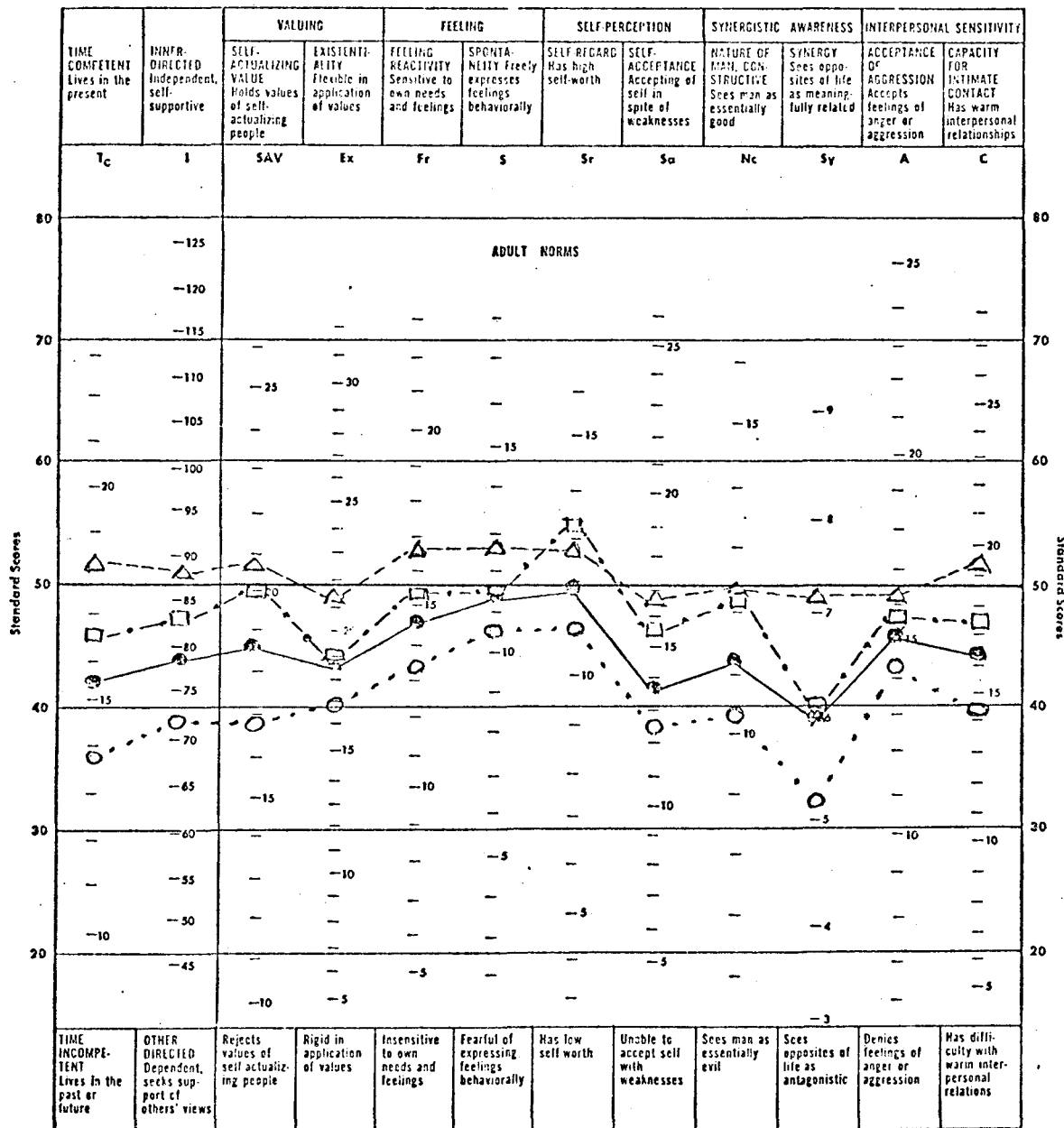
AGE _____ SEX _____ I T₁-T_C (Time) Ratio: Self-Actualizing Average: T₁:T_C = 1:8

1
1 2 3 4 5 6 7 8 9 10

OCCUPATION _____ II O-I (Support) Ratio: Self-Actualizing Average: O:I = 1:3

1
1 2 3 4 5 6 7 8 9 10

Your Ratio: T₁:T_C = 1: _____
Your Ratio: O:I = 1: _____



Row Scores

TABLE 9

POI

	Total N = 224			Group I N = 65			Group II N = 36			Group III N = 125		
	Raw X		STSC	Raw X		STSC	Raw X		STSC	Raw X		STSC
Ti	7.5	3.92	--	4.83	2.7	--	6.5	3.60	--	9.2	3.69	--
Tc	15.5	3.95	41	18.2	2.74	52	16.5	3.60	46	13.8	3.69	35
O	46.3	14.50	--	35.7	12.6	--	41.7	12.47	--	53.2	11.80	--
I	78.5	14.69	43	88.5	13.4	51	83.5	12.25	47	71.8	12.20	38
SAV	18.57	3.91	45	20.9	3.09	51	20.0	2.98	49	16.9	3.74	39
Ex	18.3	4.65	42	21.4	4.92	49	18.6	4.28	43	16.7	3.74	40
Fr	14.5	3.54	47	16.6	2.70	52	15.4	3.48	49	13.2	3.38	43
S	11.4	2.59	49	12.5	2.83	52	11.8	2.38	50	10.7	2.29	45
Sr	11.9	2.77	50	12.9	2.54	52	13.1	2.24	55	11.0	2.67	46
Sa	13.9	4.12	41	16.3	4.03	48	15.3	3.63	46	12.2	3.49	38
Nc	11.2	2.54	42	12.4	2.15	49	12.3	1.91	49	10.3	2.51	39
Sy	6.0	1.87	39	7.3	1.35	49	6.6	1.25	40	5.1	1.8	32
A	15.0	3.15	46	16.3	3.13	49	15.8	2.49	47	14.1	3.09	44
C	16.2	4.47	43	19.1	3.58	51	17.5	3.95	46	14.3	4.06	39

The three inventories indicated a tendency towards an increased sense of self, autonomy and well-being which appeared to be related to education, life experience and age. The sample was well within the normal range. The personality profile indicated on the MI-SRI Form M further validates that individuals who pursue the same careers have similar personality characteristics. The CPI profile indicated that the sample was well within the normal range. Group I (G) appeared to be more self actualized (POI) than Group II (C) or Group III (S).

An ANOVA was performed to determine if there was any statistically significant differences on scales of the MI-SRI Form M, the CPI and the POI among the three groups of nursing students. The Duncan multiple range test was performed to compare specific pairs of Groups.

Differences of Education Levels: Millon Illinois-Self Report Inventory Form M

The null hypothesis was unable to be rejected for 12 of the 16 scales on the MI-SRI Form M and able to be rejected for 4 of the 16 scales as shown on Table 10, page 71. For each of the four significant scales (Sociable, Disciplined, Psychopathology Index and Negative Medical Attitudes) there was some overlap, i.e., the Groups were not completely differentiated. Using the concepts of sets and subsets (Duncan multiple range test), a discussion of the interrelation of the Groups follows. Group I (G) was the most Sociable, not significantly different from Group II

TABLE 10
MILLON ILLINOIS-SELF REPORT INVENTORY FORM M

ANOVA

GROUP I	GROUP II			
GROUP III			D.F. Between 2	Within 218
<u>Scales</u>		<u>F Ratio</u>	<u>F Prob</u>	<u>Duncan</u>
Apathetic		.011	.977	
Sensitive		.352	.709	
Cooperative		.879	.420	
Sociable		3.931	.021*	<u>\bar{X}_3 \bar{X}_2 \bar{X}_1</u>
Self Assured		1.471	.230	
Assertive		.571	.571	
Disciplined		8.939	.000***	<u>\bar{X}_1 \bar{X}_2 \bar{X}_3</u>
Unpredictable		.908	.407	
Psychopathology Index		3.044	.048*	<u>\bar{X}_1 \bar{X}_2 \bar{X}_3</u>
Premorbid Pessimism		2.528	.080	
Recent Life Stress		1.560	.211	
Chronic Tenseness		.059	.933	
Physical Anxieties		.353	.708	
Alienation Isolation		1.493	.225	
Inadaptive Future Orientation		.550	.583	
Negative Medical Attitudes		11.342	.000***	<u>\bar{X}_3 \bar{X}_2 \bar{X}_1</u>

* $p > .05$

*** $p > .001$

Duncan \bar{X}_1 = Group I \bar{X}_2 = Group II \bar{X}_3 = Group III

\bar{X} - Listed lowest to highest. Underline indicates subset.

(C), but significantly different from Group III (S) which was not significantly different from Group II (C). Group III (S) was the most Disciplined and was not significantly different from Group II (C). Group I (G) was the least Disciplined and was significantly different from both Group II (C) and Group III (S). Group III (S) had the highest Pathological Index which was not statistically significant from Group II (C), but was from Group I (G), though Group I (G) was not significantly different from Group II (C). Group III (S) had the lowest Negative Medical Attitudes and was significantly different from Group I (G) and Group II (C).

Summarizing the above for Group I would lead the investigator to conclude that graduate students are more sociable, less disciplined, healthier psychologically and have more negative feelings about health care systems than either Group II, the continuation students, or Group III, the sophomore students. Group II (C) falls between the Groups with middle scores on sociable and psychological health and higher scores on discipline than Group I (G), but has more negative attitudes about health care than Group III (S). The continuation student in Group II has experienced the reality of actual nursing care but is new to the college milieu, which might explain the overlap into both of the other Groups. Group III, the youngest academically and chronologically, appear to be less sociable, more disciplined and

are deficient in psychological well-being and possess fewer negative attitudes about health care systems. Group III (S) scored lowest on Negative Medical Attitudes. This might be related to their newness in the nursing profession and health care system. Based on this sample, it would appear that Negative Medical Attitudes increase with experience in the health care system.

Differences of Education Levels: California Psychological Inventory

The null hypothesis was unable to be rejected for 8 of the 18 scales on the CPI and was able to be rejected for 10 of the 18 scales as shown on Table 11, page 74. For each of the 10 significant scales (Dominance, Capacity for Status, Sense of Well-Being, Responsibility, Tolerance, Achievement via Conformance, Achievement via Independence, Intellectual Efficiency, Psychological Mindedness and Flexibility) there was some overlap and the Groups were not completely differentiated. Group I (G) was highest in leadership ability, persistence and social initiative (Dominance), was not significantly different from Group II (C), but was significantly different from Group III (S) which, in turn, was not significantly different from Group II (C). Group I (G) and Group II (C) both have attributes which underlie and lead to status (Capacity for Status) which are significantly different from Group III (S). Group I (G) was the most energetic and enterprising, free from self doubt (Sense

TABLE 11
CALIFORNIA PSYCHOLOGICAL INVENTORY

ANOVA

GROUP I GROUP II
 GROUP III

D.F. Between 2 Within 225

<u>Scales</u>	<u>F Ratio</u>	<u>F Prob</u>	<u>Duncan</u>
Dominance	6.97	.001***	<u>\bar{X}_3</u> <u>\bar{X}_2</u> \bar{X}_1
Capacity for Status	12.78	.000***	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Sociability	.79	.457	
Social Presence	2.75	.064	
Self Acceptance	1.00	.371	
Sense of Well-Being	3.41	.034*	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Responsibility	5.17	.007**	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Socialization	.7	.504	
Self Control	.68	.514	
Tolerance	10.01	.000***	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Good Impression	2.40	.091	
Communality	1.71	.180	
Achievement via Conformance	7.31	.001***	\bar{X}_3 <u>\bar{X}_1</u> <u>\bar{X}_2</u>
Achievement via Independence	16.20	.000***	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Intellectual Efficiency	7.12	.001***	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Psychological Mindedness	5.86	.003**	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Flexibility	5.28	.006**	<u>\bar{X}_3</u> <u>\bar{X}_2</u> <u>\bar{X}_1</u>
Femininity	.24	.787	

* $p > .05$

** $p > .01$

*** $p > .001$

Duncan \bar{X}_1 = Group I \bar{X}_2 = Group II \bar{X}_3 = Group III

\bar{X} - Listed lowest to highest. Underline indicates subset.

of Well-Being), was not significantly different from Group II (C), but was significantly different from Group III (S) which, in turn, was not significantly different from Group II (C). Group I (G) was the most planful, responsible, resourceful and efficient (Responsibility), was not statistically significant from Group II (C), but was statistically significant from Group III (S) which, in turn, was not statistically significant from Group II (C). Group I (G) was the most tolerant, clear thinking, resourceful, verbally fluent and intellectually able (Tolerance) and was significantly different from both Group II (C) and Group III (S). Group II (C) was the most capable, cooperative and efficient (Achievement via Conformance), was not significantly different from Group I (G); however, both Group II (C) and Group I (G) were significantly different from Group III (S). Group I (G) had the highest level of motivation which facilitates achievement when autonomy and independence are positive behaviors (Achievement via Independence), was not significantly different from Group II (C); however, both Group I (G) and Group II (C) were significantly different from Group III (S). Group I (G) was the most efficient, clear thinking, placing a high value on cognitive and intellectual matters (Intellectual Efficiency), was not statistically significant from Group II (C), but was statistically significant from Group III (S) which, in turn, was not statistically significant from Group II (C). Group I (G) was the most observant, spontaneous, socially ascendant

(Psychological Mindedness), was not significantly different from Group III (S) which, in turn, was not significantly different from Group II (C). Group I (G) was the most insightful, confident, assertive (Flexibility), and was significantly different from both Group II (C) and Group III (S).

Summarizing the above for Group I would lead to the conclusion that graduate students were highest in leadership ability, persistence and social initiative; possessed greater personal qualities and attributes which underlie and lead to status; relatively free of self doubt and responsible; tolerant with broad and varied interests; more independent, self reliant and autonomous, but conforming cooperatively and efficiently when necessary; clear thinking; responsible to inner needs and motives of others and more flexible and adaptable.

The continuation students in Group II were very similar to Group I (G) falling, in some instances, as in the MISRI Form M scales, in the middle. The hospital environment work experience and the doctor nurse game¹ has probably fostered Group II (C) being more cooperative and organized in a setting where conformance is a positive behavior. In addition, they are somewhat less enterprising than the graduates.

¹L. I. Stein, "The Doctor-Nurse Game" in T. Millon (Ed.), Medical Behavior Science (Philadelphia, PA.: W. B. Saunders Co., 1975), pp. 482-487.

The sophomores in Group III again revealed greater resemblance to the continuation students in Group II (C) than to the graduate students in Group I (G). Group III (S) had less capacity for status and were less aware of how to achieve in response to a work setting through conforming or independent behavior. This difference may relate to the lack of experience in the profession of nursing or the world of work.

Differences of Education Levels: Personal Orientation Inventory

The null hypothesis was able to be rejected for all 14 scales of the POI and statistical significance was beyond $p > .000$ as shown on Table 12, page 78. Group I (G), II (C) and III (S) were significantly different from one another with no overlap on Time Incompetent, Time Competent, Other Directed, Existentiality, Synergy and Capacity for Intimate Contact. Group I (G) on the above mentioned scales attained the highest level of self actualization within the normal range, next Group II (C) and then Group III (S). Group I (G) and Group II (C) were not significantly different from one another on Inner Directed, Self Actualizing Value, Feeling Reactivity, Spontaneity, Self Regard, Self Acceptance, Nature of Man, Acceptance of Aggression, and both were significantly different from Group III (S). Only on the Self Regard scale was Group II (C) more self actualized than Group I (G) and both Groups were more self actualized than Group III (S). Group III (S) was totally differentiated on

TABLE 12
PERSONAL ORIENTATION INVENTORY

ANOVA

GROUP I GROUP II
GROUP III

D.F. Between 2 Within 220

<u>Scales</u>	<u>F Ratio</u>	<u>F Prob</u>	<u>Duncan</u>
Time Incompetent	36.07	.000***	\bar{X}_1 \bar{X}_2 \bar{X}_3
Time Competent	37.29	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Other Directed	45.09	.000***	\bar{X}_1 \bar{X}_2 \bar{X}_3
Inner Directed	39.91	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Self Actualizing Value	31.76	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Existentiality	26.46	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Feeling Reactivity	25.17	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Spontaneity	11.96	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Self Regard	16.38	.000***	\bar{X}_3 \bar{X}_1 \bar{X}_2
Self Acceptance	29.16	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Nature of Man	21.90	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Synergy	44.29	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Acceptance of Aggression	12.48	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1
Capacity for Intimate Contact	35.07	.000***	\bar{X}_3 \bar{X}_2 \bar{X}_1

*** $p > .001$

Duncan \bar{X}_1 = Group I \bar{X}_2 = Group II \bar{X}_3 = Group III

\bar{X} - Listed lowest to highest. Underline indicates subset.

every scale of the test and was the least self actualized resembling the non-self actualized student nurse profile.²

Summarizing the above for Group I would lead us to conclude that graduate students are more able to live in the present, more independent, hold some self-actualizing values, are more flexible, more able to respond behaviorally to self needs and feelings, more accepting of self strengths and weaknesses, more positive in viewing man, more apt to see opposites in life as meaningful, more able to accept feelings of anger and aggression within self and more capable of having warm interpersonal relationships. The continuing student in Group II (C) had a greater ability to appreciate self strength, but as noted, were somewhat less self actualized on all other scales than Group I (G). The sophomore students in Group III (S) although, as stated previously, were the least self actualized, the profile was similar to both Groups. Age, maturation and work experience appear to increase self actualization for this sample.

Discriminant Analysis

A discriminant analysis is closely related to a multiple regression utilizing canonical correlation which "handles the relations between sets of independent variables and

²E. L. Shostrom, Personal Orientation Inventory Manual (San Diego, CA.: Educational and Industrial Testing Service, 1968).

sets of dependent variables."³

Discriminant analyses were performed utilizing the MI-SRI Form M, the CPI and the POI, each individually and together, to develop predictive discriminants differentiating the three levels of education (Group I = Graduates (G), Group II = Continuation (C), Group III = Sophomores (S)). An ANOVA and the Duncan multiple range test were also performed to determine the differences among the three Groups on the individual scales of each instrument. Discriminant analyses were performed as well for the MI-SRI Form M, the CPI and the POI, each individually and together, to develop predictive discriminants differentiating between counseling seekers and non-seekers as gauged on the SSQ.

It should be noted that statistical significance obtained with an ANOVA does not necessarily indicate that discriminants will be obtained on the same scales. While the ANOVA compares scale by scale across Groups, the discriminant analysis utilizes a complex intercorrelation matrix between scales and weights them to predict group membership.

Discriminant Analysis of Education Levels - Millon Illinois-Self Report Inventory Form M, California Psychological Inventory and Personal Orientation Inventory

The combined MI-SRI Form M, CPI and POI instrument scales were weighted and placed in the analysis based on

³F. N. Kerlinger, Foundations of Behavioral Research (New York, N.Y.: Holt, Rinehart and Winston, Inc.), 1973.

Wilks' Lambda formula. When the analysis of the independent variables was completed a set of standardized discriminant coefficients was established with controls as shown on Table 13, page 82.

Two functions were necessary to differentiate the three Groups. On Table 14, page 83, the discriminant functions have been listed for an analysis of significance for the combined tests. The chi-square of Function 1 with 46 degrees of freedom was statistically significant with $p > .001$; the chi-square of Function 2 with 22 degrees of freedom was statistically significant with $p > .08$. These results presented in Table 15, page 84, indicated that the discriminants found did differentiate the three Groups and predict Group membership. The percent of "grouped" cases correctly classified by the functions was 77.56%.

The discriminants found for each education level are listed on Table 16, page 85, by Group based on the weighted function. A positive score above zero for Function 1 represents the discriminants for Group I (G) only. A positive score above zero for Function 2 represents the discriminants for Group II (C). The remaining scales with a negative score for Function 2 are the discriminants for Group III (S). The asterisks indicate which scales were statistically significant on the ANOVA. As noted above, significance on the ANOVA is not a requisite for inclusion as a discriminant. To facilitate interpretation of the constellation of

TABLE 13

DISCRIMINANT ANALYSIS

GROUP I GROUP II GROUP III

MI-SRI FORM M CPI POI

Standardized Discriminant Function Coefficients

	<u>Function 1</u>	<u>Function 2</u>
<u>MI-SRI FORM M</u>		
Sociable	.341	-.383
Negative Medical Attitudes	.339	-.054
Inadaptive Future Orientation	.248	.334
Recent Life Stress	-.195	.248
Chronic Tenseness	.191	.196
Self Assured	.179	-.645
Cooperative	.156	-.319
Premorbid Pessimism	.089	-.769
<u>CPI</u>		
Dominance	.307	-.442
Good Impression	-.306	.547
Self Acceptance	-.283	.705
Intellectual Efficiency	-.269	.206
Achievement via Independence	.264	-.110
Achievement via Conformance	.225	.182
Sense of Well-Being	.172	-.225
<u>POI</u>		
Synergy	.573	-.570
Acceptance of Aggression	-.336	.463
Capacity for Intimate Contact	.224	-.156
Feeling Reactivity	.217	-.333
Other Directed	-.215	-.304
Self Regard	-.200	.563
Spontaneity	-.157	-.379
Nature of Man	-.023	.703
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>		
Group I	1.098	-.239
Group II	.202	.871
Group III	-.671	-.136

TABLE 14

DISCRIMINANT ANALYSIS

GROUP I GROUP II GROUP III

MI-SRI FORM M

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi- Square	df	Significance
1	1.56447	89.61	0.781	0	0.3301	211.698	46	0.00
2	0.18130	10.39	0.392	1	0.8465	31.823	22	0.080

TABLE 15
 PREDICTION RESULTS
 MI-SRI FORM M CPI POI

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>		
		<u>Group I</u>	<u>Group II</u>	<u>Group III</u>
Group I	61	51 83.6%	8 13.1%	2 3.3%
Group II	34	6 17.6%	24 70.6%	4 11.8%
Group III	110	5 4.5%	21 19.1%	84 76.4%

Percent of "grouped" cases correctly classified: 77.56%

TABLE 16

DIFFERENTIATING EDUCATION LEVELS

MI-SRI FORM M CPI POI

<u>Group I</u>	<u>Function 1</u>	<u>X̄</u>
<u>Test Scale</u>		
P * Synergy	.573	H
M * Sociable	.341	H
M * Negative Medical Attitudes	.339	H
C * Dominance	.307	H
C Achievement via Independence	.264	H
M Inadaptive Future Orientation	.248	M
C * Achievement via Conformance	.225	H
P * Capacity for Intimate Contact	.244	H
P * Feeling Reactivity	.217	H
M Chronic Tenseness	.191	H
M Self Assured	.179	H
C * Sense of Well-Being	.172	H
M Cooperative	.156	L
M Premorbid Pessimism	.08	L
<u>Group II</u>	<u>Function 2</u>	<u>X̄</u>
C Self Acceptance	.705	H
P * Nature of Man	.703	H
P * Self Regard	.563	H
C Good Impression	.547	H
P * Acceptance of Aggression	.463	M
M Inadaptive Future Orientation	.334	H
M Recent Life Stress	.248	M
C * Intellectual Efficiency	.206	M
M Chronic Tenseness	.196	M
C Achievement via Conformance	.182	M
<u>Group III</u>	<u>Function 2</u>	<u>X̄</u>
M Premorbid Pessimism	-.769	H
M Self Assured	-.649	L
P * Synergy	-.570	L
C * Dominance	-.442	L
M * Sociable	-.383	L
P * Spontaneity	-.379	L
P * Feeling Reactivity	-.333	L
M Cooperative	-.319	M
P * Other Directed	-.304	H
C * Sense of Well-Being	-.225	L
P * Capacity for Intimate Contact	-.156	L
C * Achievement via Independence	-.110	L
M Negative Medical Attitudes	-.054	L

M = MI-SRI Form M

C = CPI

P = POI

* = ANOVA $p > .05$ Group I/Group II/Group III

H = Highest \bar{X} of the three Groups

M = Middle \bar{X} of the three Groups

L = Lowest \bar{X} of the three Groups

discriminants, the Group scale mean was compared to the mean of the other two Groups and considered as high, low or middle.

The discriminants differentiating Group I (G) indicated that the graduate students have the following characteristics: a greater ability to see the opposites of life (Synergy H); ability to relate to others with ease (Sociable H); a distrust for hospitals and, perhaps, a need to effect change (Negative Medical Attitude H); verbal fluency and potential (Dominance H); maturity with superior intellectual ability and judgment (Achievement via Independence H); a tendency not to think of the future or to expect future difficulties (Inadaptive Future Orientation M); an ability to be cooperative, efficient and organized (Achievement via Conformance H); an ability to develop meaningful relationships with other human beings (Capacity for Intimate Contact H); an awareness and sensitivity to one's own needs and feelings (Feeling Reactivity H); a need to be constantly on the go and live under considerable self-imposed pressure (Chronic Tense-ness H); a tendency to be self-confident and somewhat self-centered (Self Assured H); energy, ambition and a value of work for its own sake (Sense of Well-Being H); a tendency to be submissive and generous with others (Cooperative L); a disinclination to see life as a series of troubles and misfortunes (Premorbid Pessimism L).

The discriminants differentiating Group II (C) indicated that continuation students have these characteristics: a positive sense of personal worth, self acceptance and capacity for independent thinking and action (Self Acceptance H); viewing man as essentially good and can resolve some of the dichotomies in the nature of man (Nature of Man H); an ability to like one's self because of one's strength as a person (Self Regard H);⁴ a concern with being cooperative, enterprising, outgoing, sociable and warm as well as diligent and persistent (Good Impression H); a tendency not to think of the future or to expect future difficulties (Inadaptive Future Orientation H); some marked changes in life which might predict poor physical or psychological health (Recent Life Stress M); efficient, clear thinking, intelligent (Intellectual Efficiency L); a need to be constantly on the go and live under considerable self-imposed pressure (Chronic Tenseness H); an ability to be cooperative, efficient and organized (Achievement via Conformance M).

The discriminants differentiating Group III (S) indicated that the sophomore students have the following characteristics: a disinclination to see life as a series of troubles and misfortunes (Premorbid Pessimism H); a tendency to be self-confident and somewhat self-centered (Self Assured

⁴Self Acceptance and Self Regard are paired for self-perception. Self Acceptance measures the ability to like one's self in spite of weaknesses and Self Regard the ability to like one's self because of one's strengths.

L); a lesser ability to see the opposites of life (Synergy L); a lacking in self-confidence in having verbal fluency and leadership potential (Dominance L); ability to relate to others with ease (Sociable L); a tendency to act cautiously in expressing feelings behaviorally (Spontaneity L); an awareness and sensitivity to one's own needs and feelings (Feeling Reactivity L);⁵ a tendency to be submissive and generous with others (Cooperative M); a need for direction from others (Other Directed L); energy, ambition and a value for work for its own sake (Sense of Well-Being L); ability to develop meaningful relationships with other human beings (Capacity for Intimate Contact L); maturity with superior intellectual ability and judgment (Achievement via Independence L); not too distrustful of hospitals, doctors or medications (Negative Medical Attitudes L).

Discriminant Analysis of Education Levels: Millon Illinois-Self Report Inventory Form M

Discriminant analysis was performed utilizing the MI-SRI Form M and Table 17, page 90, lists the standardized discriminant coefficients established with centroids. On Table 18, page 91, the discriminant functions have been listed and statistical significance was not reached, indicating that MI-SRI Form M cannot differentiate the three Groups and predict Group membership. The non-significant prediction results are listed on Table 19, page 92.

⁵Pairing Spontaneity and Feeling Reactivity gives a measure of Feeling taking into account both the level of awareness and the behavioral response.

TABLE 17
 DISCRIMINANT ANALYSIS
 GROUP I GROUP II GROUP III
MI-SRI FORM M

Standardized Discriminant Function Coefficients

<u>Scales</u>	<u>Function 1</u>	<u>Function 2</u>
Negative Medical Attitudes	.939	.565
Sensitive	.831	.264
Self Assured	.791	1.229
Alienation Isolation	-.772	.866
Chronic Tenseness	.499	.240
Cooperative	.427	.936
Psychopathology Index	-.421	.523
Inadaptive Future Orientation	.350	-1.330
Recent Life Stress	-.336	.277
Apathetic	.311	-.079
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>		
Group I	.720	.070
Group II	.145	-.250
Group III	-.444	.038

TABLE 18

MAHAL METHOD

DISCRIMINANT ANALYSIS

GROUP I GROUP II GROUP III

MI-SRI FORM M

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi- Square	df	Significance
1	0.36051	96.54	0.515	0	0.7256	63.336	20	0.000
2	0.01291	3.46	0.113	1	0.9873	2.533	9	0.980

TABLE 19
 PREDICTION RESULTS
 MI-SRI FORM M

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>		
		<u>Group I</u>	<u>Group II</u>	<u>Group III</u>
Group I	61	43 70.5%	11 18.0%	7 11.5%
Group II	34	11 32.4%	6 17.6%	17 50.0%
Group III	110	22 20.0%	18 16.4%	70 63.6%

Percent of "grouped" cases correctly classified: 58.05%

Discriminant Analysis of Education Levels: California Psychological Inventory

Discriminant analysis was performed utilizing the CPI and Table 20, page 94, lists the standardized discriminant coefficients established with centroids. On Table 21, page 95, the discriminant functions have been listed for an analysis of significance. The chi-square of Function 1 with 16 degrees of freedom was statistically significant with $p < .000$; the chi-square of Function 2 with 7 degrees of freedom was statistically significant with $p < .093$. These results presented in Table 22, page 96, indicated that the discriminants found did differentiate the three Groups and predict Group membership. The percent of "grouped" cases correctly classified by the functions was 60.00%.

The discriminants found for each education level are listed on Table 23, page 97, by Group based on the weighted function. As noted previously, a positive score above zero for Function 1 represents the discriminants for Group I (G) only. A positive score above zero for Function 2 represents the discriminants for Group II (C). The remaining scales with a negative score for Function 2 are the discriminants for Group III (S). The asterisks indicate which scales were statistically significant on the ANOVA. Significance on the ANOVA is not a requisite for inclusion as a discriminant.

TABLE 20
 DISCRIMINANT ANALYSIS
 GROUP I GROUP II GROUP III
CPI

Standardized Discriminant Function Coefficients

<u>Scales</u>	<u>Function 1</u>	<u>Function 2</u>
Good Impression	.811	-.461
Achievement via Conformance	-.671	-.450
Capacity for Status	-.608	-.079
Self Acceptance	.595	-.996
Socialization	.441	.324
Achievement via Independence	-.365	-.059
Dominance	-.247	.369
Social Presence	.124	.855
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>		
Group I	-.805	.151
Group II	-.155	-.543
Group III	.494	.084

TABLE 21

MAHAL METHOD

DISCRIMINANT ANALYSIS

GROUP I GROUP II GROUP III

CPI

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi- Square	df	Significance
1	0.49109	88.54	0.574	0	0.6306	91.539	16	0.000
2	0.06358	11.46	0.245	1	0.9402	12.236	7	0.093

TABLE 22
 PREDICTION RESULTS
 CPI

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>		
		<u>Group I</u>	<u>Group II</u>	<u>Group III</u>
Group I	61	41 67.2%	14 23.0%	6 9.8%
Group II	34	9 26.5%	20 58.8%	5 14.7%
Group III	110	20 18.2%	28 25.5%	62 56.4%

Percent of "grouped" cases correctly classified: 60.00%

TABLE 23
DIFFERENTIATING EDUCATION LEVELS

CPI

<u>Scales</u>	<u>Function 1</u>	<u>\bar{X}</u>
<u>Group I</u>		
Good Impression	.811	L
Self Acceptance	.595	M
Socialization	.441	M
Social Presence	.124	H
	<u>Function 2</u>	<u>\bar{X}</u>
<u>Group II</u>		
Social Presence	.855	L
*Dominance	.369	M
Socialization	.324	M
	<u>Function 2</u>	<u>\bar{X}</u>
<u>Group III</u>		
Self Acceptance	-.996	M
Good Impression	-.461	M
*Achievement via Conformance	-.450	L
*Capacity for Status	-.079	L
*Achievement via Independence	-.059	L

* = ANOVA $p > .05$ Group I/Group II/Group III

H = Highest \bar{X} of the three Groups

M = Middle \bar{X} of the three Groups

L = Lowest \bar{X} of the three Groups

The discriminants differentiating Group I (G) indicate that the graduate students have the following characteristics: a concern with being cooperative, enterprising, outgoing, sociable and warm as well as diligent and persistent (Good Impression L); a positive sense of personal worth, self acceptance and capacity for independent thinking and action (Self Acceptance M); conscientious and responsible, self denying and conforming (Socialization M); poise, spontaneity, self confidence and enthusiasm (Social Presence H).

The discriminants differentiating Group II (C) indicate that the continuation students have the following characteristics: poise, spontaneity, self confidence and enthusiasm (Social Presence L); verbal fluency and leadership potential (Dominance M); conscientious and responsible, self denying and conforming (Socialization M).

The discriminants differentiating Group III (S) indicate that the sophomore students have the following characteristics: a positive sense of personal worth, self acceptance and capacity for independent thinking and action (Self Acceptance M); a concern with being cooperative, enterprising, outgoing, sociable and warm as well as diligent and persistent (Good Impression M); an ability to be cooperative, efficient and organized (Achievement via Conformance L); personal qualities and attributes which underlie and lead to status (Capacity for Status L); maturity with superior intellectual ability and judgment (Achievement via Independence L).

Discriminant Analysis of Education Levels: Personal Orientation Inventory

Discriminant analysis was performed utilizing the POI and Table 24, page 100, lists the standardized discriminant coefficients established with centroids. On Table 25, page 101, the discriminant functions have been listed for an analysis of significance. The chi-square of Function 1 with 14 degrees of freedom was statistically significant with $p > .0$; the chi-square of Function 2 with 6 degrees of freedom was statistically significant with $p > .069$. These results presented in Table 26, page 102, indicated that the discriminants found did differentiate the three Groups and predict Group membership. The percent of "grouped" cases correctly classified by the functions was 63.37%.

The discriminants found for each education level are listed on Table 27, page 103, by Group on the weighted function. All scales on the POI were statistically significant on the ANOVA.

TABLE 24

DISCRIMINANT ANALYSIS

GROUP I GROUP II GROUP III

POI

Standardized Discriminant Function Coefficients

<u>Scales</u>	<u>Function 1</u>	<u>Function 2</u>
Synergy	-.428	.502
Other Directed	.397	.402
Time Incompetent	.350	-.465
Spontaneity	.348	.287
Existentiality	-.258	.527
Self Regard	.242	-.925
Nature of Man	-.225	-.669
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>		
Group I	-.865	.185
Group II	-.338	-.520
Group III	.584	.058

TABLE 25

MAHAL METHOD

DISCRIMINANT ANALYSIS

GROUP I GROUP II GROUP III

POI

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi Square	df	Significance
1	0.74515	92.48	0.653	0	0.5403	122.513	14	0.0
2	0.06057	7.52	0.239	1	0.9429	11.702	6	0.069

TABLE 26
 PREDICTION RESULTS
 POI

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>		
		<u>Group I</u>	<u>Group II</u>	<u>Group III</u>
Group I	61	42 68.9%	14 23.0%	5 8.2%
Group II	34	8 23.5%	19 55.9%	7 20.6%
Group III	110	9 8.2%	28 25.5%	73 66.4%

Percent of "grouped" cases correctly classified: 63.37%

TABLE 27
DIFFERENTIATING EDUCATION LEVELS

POI

<u>Scales</u>	<u>Function 1</u>	\bar{X}
<u>Group I</u>		
*Other Directed	.397	L
*Time Incompetent	.350	L
*Spontaneity	.348	H
*Self Regard	.242	M
	<u>Function 2</u>	\bar{X}
<u>Group II</u>		
*Existentiality	.527	M
*Synergy	.502	M
*Other Directed	.402	M
*Spontaneity	.287	M
	<u>Function 2</u>	\bar{X}
<u>Group III</u>		
*Self Regard	-.925	L
*Nature of Man	-.669	L
*Time Incompetent	-.465	H

* = ANOVA $p > .05$ Group I/Group II/Group III

H = Highest \bar{X} of the three Groups

M = Middle \bar{X} of the three Groups

L = Lowest \bar{X} of the three Groups

The discriminants differentiating Group I (G) indicate that the graduate students have the following characteristics: little need for direction from others (Other Directed L); lives in the present (Time Competent L); freedom in expressing feelings behaviorally (Spontaneity H); an ability to like one's self because of one's strength as a person (Self Regard M).

The discriminants differentiating Group II (C) indicated that the continuation students have the following characteristics: flexible in application of values (Existentiality M); some capacity to see the opposites of life (Synergy M); somewhat dependent on the support of others' views (Other Directed M); some freedom in expressing feelings behaviorally (Spontaneity H).

The discriminants differentiating Group III (S) indicated that the sophomore students have the following characteristics: some difficulty in accepting one's strength as a person (Self Regard L); views man as essentially evil (Nature of Man L); lives in the past or future rather than in the here and now (Time Incompetent H).

Summary of Differentiating Education Levels

When all three inventories were combined there was a higher level of group prediction. The MI-SRI Form M alone was not a good predictor of education level. Eight of the scales on the MI-SRI Form M are personality scales. The results indicated similar personality profiles for the three Groups with sociable or submissiveness greater in the sophomores, which might be related to age, education and work experience. Although there are 7 medical scales and 1 psychopathology scale on the inventory, considering the population is well within the normal range, one would not expect to necessarily differentiate education levels based on these scales.

Although both the CPI and the POI are statistically significant, the POI is 3.37% more accurate at predicting than the CPI. The CPI has scales which are particularly relevant to academic achievement and also to levels of maturity in interaction. From this standpoint it would seem logical that the CPI would indeed be able to differentiate education levels.

Although the total group is not self actualized, age, maturation and life experience are measured on the POI. The profiles for the three Groups are similar. Age and work experience overlap for the graduates and continuation students and one might conjecture that increased education does in fact increase self actualization.

Profiles: Non-Seekers and Seekers - Millon Illinois-Self Report Inventory Form M, California Psychological Inventory and Personal Orientation Inventory

The overall profiles of the individual inventories for non-seekers and seekers as with education follow a similar pattern and are within the normal range. On Tables 28, 30 and 32, pages 107, 109 and 111, the inventory profile for each instrument is followed by Tables 29, 31 and 33, pages 108, 110 and 112, listing the means and standard deviations.

An ANOVA was performed to determine if there were any statistically significant differences on scales of the MI-SRI Form M, the CPI and the POI between the non-seekers (Group 0) and the seekers (Group 1). The f ratio and statistical significance for each scale of the MI-SRI Form M are listed on Table 34, page 113, the CPI on Table 35, page 114, and the POI on Table 36, page 115. The null hypothesis was unable to be rejected for 15 of the 16 scales on the MI-SRI Form M and was able to be rejected for 1 of the 16 scales. Seekers (Group 1) are more efficient and disciplined, holding their feelings inside and trying to impress others as being well controlled, serious minded and responsible. The null hypothesis was rejected for all scales on the CPI and the POI as no significant differences were found between Group 0 (N) and Group 1 (S).

MILLON ILLINOIS-SELF REPORT INVENTORY PROFILE

FORM M

		RAW SCORES		PROFILE OF BR SCORES						DSM-III: MILLON DIAGNOSIS
		GROUP 0	1	0	35	60	75	85	100	
Basic Scales	1	16.35	17.05							Apathetic
	2	7.69	8.11							Sensitive
	3	21.29	21.00							Cooperative
	4	28.56	27.11							Sociable
	5	21.57	21.74							Self-Assured
	6	12.20	12.42							Assertive
	7	24.91	27.53							Disciplined
	8	11.08	11.79							Unpredictable
Medical Scales	Fl	1.39	1.21							Flag Score
	M1	5.38	7.42							Premorbid Pessimism
	M2	6.51	6.68							Recent Life Stress
	M3	11.43	12.47							Chronic Tenseness
	M4	7.30	8.58							Physical Anxieties
	M5	5.12	5.37							Isolation-Alienation
	M6	6.33	7.58							Inadaptive Future Orientation
	M7	10.50	9.2.							Negative Medical Attitudes

TABLE 29
MEANS AND STANDARD DEVIATIONS
NON-SEEKERS AND SEEKERS
MILLON ILLINOIS-SELF REPORT INVENTORY FORM M

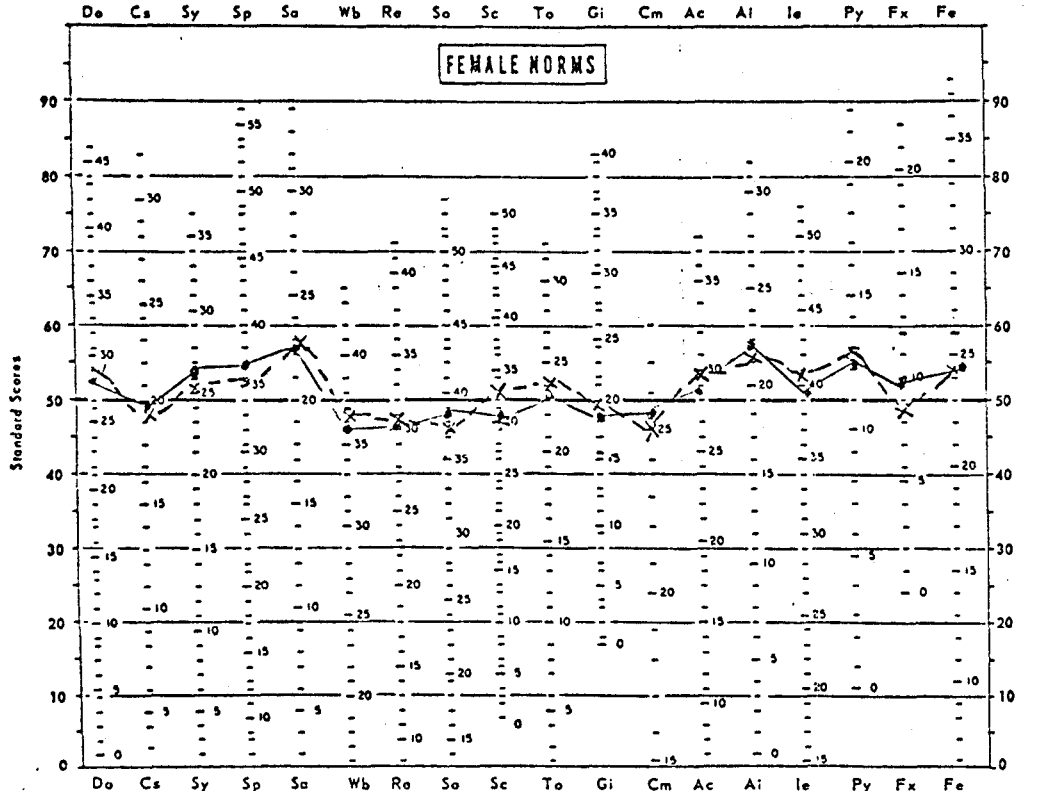
<u>Scales</u>	<u>Non-Seekers</u>			<u>Seekers</u>		
	\bar{X}	SD	BR	\bar{X}	SD	BR
Apathetic	16.35	4.20	44	17.05	4.60	50
Sensitive	7.69	4.68	37	8.11	6.30	41
Cooperative	21.29	4.15	52	21.00	3.20	50
Sociable	28.56	4.29	66	27.11	6.15	59
Self Assured	21.57	4.26	62	21.74	4.50	63
Assertive	12.20	4.08	51	12.42	3.60	52
Disciplined	24.91	4.38	50	27.53	2.84	60
Unpredictable	11.08	5.75	37	11.79	6.47	25
Pathological Index	.89	1.59	9	1.21	1.81	19
Premorbid Pessimism	5.88	5.22	37	7.42	6.84	46
Recent Life Stress	6.51	2.91	52	6.68	3.87	53
Chronic Tenseness	11.43	4.06	44	12.47	5.50	52
Physical Anxieties	7.30	3.86	36	8.58	4.85	44
Alienation and Isolation	5.12	3.86	41	5.37	5.33	42
Inadaptive Future Orientation	6.33	4.30	39	7.58	5.90	47
Negative Medical Attitudes	10.50	3.81	52	9.21	3.39	42

PROFILE SHEET FOR THE *California Psychological Inventory*: FEMALE

Name _____ Age _____ Date Tested _____

Other Information _____

Notes



RAW SCORE																			
STD. SCORE																			

Reproduced from Manual for The California Psychological Inventory, by Harrison G. Gough, Ph. D. Copyright by Consulting Psychologists Press, Inc., Palo Alto, California. All rights reserved.

Scored by NATIONAL COMPUTER SYSTEMS—4401 West 76th St., Minneapolis, Minn.

TABLE 31
 MEANS AND STANDARD DEVIATIONS
 NON-SEEKERS AND SEEKERS
 CALIFORNIA PSYCHOLOGICAL INVENTORY

<u>Scales</u>	<u>Non-Seekers</u>			<u>Seekers</u>		
	\bar{X}	SD	STSC	\bar{X}	SD	STSC
Dominance	28.38	6.36	52	28.63	4.96	54
Capacity for Status	19.91	3.56	50	19.42	4.39	48
Sociability	26.22	4.27	53	25.95	5.66	52
Social Presence	36.74	5.55	55	35.37	6.70	52
Self Acceptance	22.26	3.87	56	22.21	3.55	55
Sense of Well- Being	35.98	4.86	46	36.05	5.19	46
Responsibility	30.34	4.75	42	30.63	3.92	42
Socialization	38.68	5.41	49	37.68	4.04	46
Self Control	30.22	7.25	46	32.26	5.72	50
Tolerance	23.40	4.27	51	23.53	4.00	52
Good Impression	17.05	5.81	48	19.21	7.06	49
Communality	25.64	3.32	49	25.00	2.16	47
Achievement via Conformance	28.89	4.41	52	29.84	3.55	54
Achievement via Independence	21.67	4.12	56	21.32	4.63	57
Intellectual Efficiency	39.89	5.05	51	40.84	4.88	53
Psychological Mindedness	12.13	2.43	54	12.58	2.27	56
Flexibility	9.72	3.97	52	8.58	3.24	49
Femininity	24.56	3.07	55	24.53	3.58	55

PROFILE SHEET FOR THE PERSONAL ORIENTATION INVENTORY

Group 0 = Nonseekers N = 151

Group 1 = Seekers N = 19

NAME _____ DATE TESTED _____

AGE _____ SEX _____

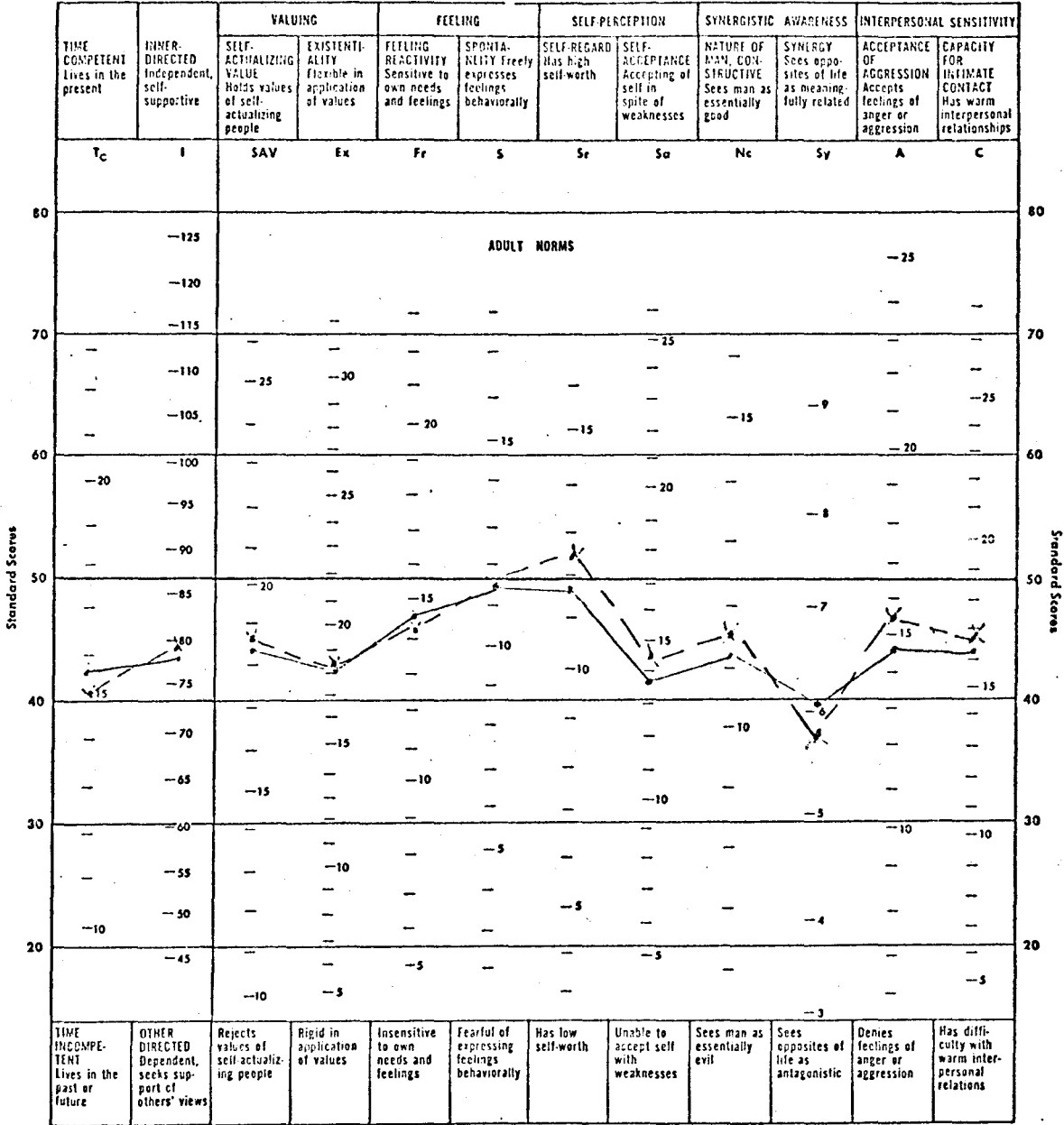
I T₁ - T_C (Time) Ratio:
Self-Actualizing Average: T₁:T_C = 1:8
Your Ratio: T₁:T_C = 1: _____

1
1 2 3 4 5 6 7 8 9 10

OCCUPATION _____

II O - I (Support) Ratio:
Self-Actualizing Average: O:I = 1:3
Your Ratio: O:I = 1: _____

1
1 2 3 4 5 6 7 8 9 10



Row Scores

TABLE 33
 MEANS AND STANDARD DEVIATIONS
 NON-SEEKERS AND SEEKERS
 PERSONAL ORIENTATION INVENTORY

<u>Scales</u>	<u>Non-Seekers</u>			<u>Seekers</u>		
	\bar{X}	SD	STSC	\bar{X}	SD	STSC
Time Incompetent	7.31	3.96	--	8.00	3.92	--
Time Competent	15.69	3.96	43	15.00	3.92	41
Other Directed	45.74	14.73	--	46.74	12.99	--
Inner Directed	78.60	15.28	43	79.63	13.14	45
Self Actualizing Value	18.67	4.13	44	18.74	3.12	45
Existentiality	18.27	4.65	43	18.72	3.39	43
Feeling Reactivity	14.57	3.68	47	14.05	3.88	46
Spontaneity	11.49	2.68	49	11.63	3.11	50
Self Regard	11.81	2.76	49	12.63	2.19	52
Self Acceptance	13.85	4.19	42	14.11	4.07	44
Nature of Man	11.24	2.57	44	11.42	2.67	45
Synergy	6.04	1.95	40	5.84	1.67	39
Acceptance of Aggression	14.96	3.17	44	15.26	3.45	46
Capacity for Intimate Contact	16.16	4.66	44	16.84	3.70	45

TABLE 34
 MILLON ILLINOIS-SELF REPORT INVENTORY
 ANOVA

Group 0 = Non-Seekers

Group 1 = Seekers

D.F. Between 1 Within 156

<u>Scales</u>	<u>F Ratio</u>	<u>F Prob</u>
Apathetic	0.680	.416
Sensitive	0.103	.744
Cooperative	.291	.597
Sociable	1.723	.188
Self Assured	.028	.842
Assertive	.103	.744
Disciplined	5.865	.016*
Unpredictable	.447	.512
Psychopathology Index	.637	.431
Premorbid Pessimism	1.586	.207
Recent Life Stress	.146	.704
Chronic Tenseness	1.123	.291
Physical Anxieties	1.705	.190
Alienation and Isolation	.089	.759
Inadaptive Future Orientation	1.101	.296
Negative Medical Attitudes	2.050	.150

* $p > .05$

TABLE 35
CALIFORNIA PSYCHOLOGICAL INVENTORY

ANOVA

Group 0 = Non-Seekers

Group 1 = Seekers

D.F. Between 1 Within 162

<u>Scales</u>	<u>F Ratio</u>	<u>F Prob</u>
Dominance	.034	.832
Capacity for Status	.548	.467
Socialibility	.077	.773
Social Presence	1.209	.273
Self Acceptance	.085	.764
Sense of Well-Being	.446	.513
Responsibility	.046	.814
Socialization	.639	.431
Self Control	.490	.492
Tolerance	.158	.693
Good Impression	1.135	.288
Communality	.593	.448
Achievement via Conformance	.998	.321
Achievement via Independence	.750	.392
Intellectual Efficiency	.022	.854
Psychological Mindedness	.267	.612
Flexibility	2.922	.085
Femininity	.012	.878

TABLE 36
PERSONAL ORIENTATION INVENTORY

ANOVA

Group 0 = Non-Seekers

Group 1 = Seekers

D.F. Between 1 Within 161

<u>Scales</u>	<u>F Ratio</u>	<u>F Prob</u>
Time Incompetent	1.328	.250
Time Competent	1.443	.229
Other Directed	.423	.524
Inner Directed	.030	.839
Self Actualizing Value	.015	.871
Existentiality	.068	.782
Feeling Reactivity	.889	.350
Spontaneity	.006	.896
Self Regard	1.167	.281
Self Acceptance	.135	.713
Nature of Man	.008	.890
Synergy	.165	.687
Acceptance of Aggression	.035	.831
Capacity for Intimate Contact	.118	.729

Discriminant Analysis Non-Seekers and Seekers - Millon
Illinois-Self Report Inventory Form M, California
Psychological Inventory and Personal Orientation Inventory

Discriminant analysis was performed utilizing the combined MI-SRI Form M, CPI and POI scales and Table 37, page 117, lists the standardized discriminant coefficients established with centroids. On Table 38, page 118, the discriminant function necessary to differentiate between those who have not sought counseling, Group 0 (Non-Seekers = N) and those who have sought counseling, Group 1 (Seekers = S) as reported on the SSQ, has been listed for an analysis of significance for the combined tests. The chi-square of Function 1 with 14 degrees of freedom was statistically significant with $p > .000$. The results presented in Table 39, page 119, indicated that the discriminants found did differentiate the three Groups and predict Group membership. The percent of "grouped" cases correctly classified by the functions was 79.05%.

TABLE 37
 DISCRIMINANT ANALYSIS
 MI-SRI FORM M CPI POI
 NON-SEEKERS/SEEKERS

Standardized Discriminant Function Coefficients

<u>Scales</u>	<u>Function 1</u>
<u>MI-SRI FORM M</u>	
Unpredictable	.822
Disciplined	.657
Alienation	-.255
<u>CPI</u>	
Intellectual Efficiency	.949
Capacity for Status	-.482
Communality	-.395
Socialization	-.26
Good Impression	.241
Psychological Mindedness	.202
<u>POI</u>	
Capacity for Intimate Contact	.771
Feeling Reactivity	-.667
Self Regard	.589
Synergy	-.402
Time Competent	-.306
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>	
Group 0	-.188
Group 1	1.278

TABLE 38

DISCRIMINANT ANALYSIS
MI-SRI FORM M CPI POI
NON-SEEKERS/SEEKERS

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi- Square	df	Significance
1	0.31927	100.00	0.492	0	0.7580	38.514	14	0.000

TABLE 39
 PREDICTION RESULTS
 MI-SRI FORM M CPI POI

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>	
		<u>Group 0</u>	<u>Group 1</u>
Group 0	129	101 78.3%	28 21.7%
Group 1	19	3 15.8%	16 84.2%

Percent of "grouped" cases correctly classified: 79.05%

The discriminants found for Group 0 (N) and Group 1 (S) are listed on Table 40, page 121, by Group based on weighted function. The positive score for Function 1 represents the discriminants for Group 0 (N). The negative score for Function 1 represents discriminants for Group 1 (S). The asterisk indicates the scale which was statistically significant on the ANOVA. To facilitate interpretation of the constellation of discriminants, the Group scale mean was listed as highest or lowest.

The discriminants differentiating Group 0 (N) indicated that non-seekers have the following characteristics: efficient, clear thinking, intelligent (Intellectual Efficiency L), emotional, moody, discontent and pessimistic (Unpredictable L); an ability to develop meaningful relationships with other human beings (Capacity for Intimate Contact L); ability to express feelings without concern of others' reactions (Disciplined L); an ability to like one's self because of one's strength as a person (Self Regard L); a concern with being cooperative, enterprising, outgoing, sociable and warm as well as diligent and persistent (Good Impression L); quick, resourceful, changeable, socially ascendant, rebellious toward rules (Psychological Mindedness L).

TABLE 40
DIFFERENTIATING NON-SEEKERS AND SEEKERS

MI-SRI FORM M CPI POI

Group 0 = Non-Seekers

<u>Tests</u>	<u>Scales</u>	<u>Function 1</u>	<u>\bar{X}</u>
C	Intellectual Efficiency	.949	L
M	Unpredictable	.822	L
P	Capacity for Intimate Contact	.771	L
M	*Disciplined	.657	L
P	Self Regard	.589	L
C	Good Impression	.241	L
C	Psychological Mindedness	.202	L

Group 1 = Seekers

<u>Tests</u>	<u>Scales</u>	<u>Function 1</u>	<u>\bar{X}</u>
P	Feeling Reactivity	-.667	L
C	Capacity for Status	-.482	L
P	Synergy	-.402	L
C	Communality	-.395	L
P	Time Competent	-.306	L
M	Alienation and Isolation	-.255	H
C	Socialization	-.26	L

M = MI-SRI FORM M

C = CPI

P = POI

* = ANOVA $p > .05$ Group 0/Group 1

H = Highest \bar{X} of the two Groups

L = Lowest \bar{X} of the two Groups

The discriminants differentiating Group 1 (S) indicated that seekers have these characteristics: an awareness and sensitivity to one's own needs and feelings (Feeling Reactivity L); ambitious, active, forceful, ascendant and self seeking, effective in communication (Capacity for Status L); an ability to see the opposites of life (Synergy L); dependable, moderate, realistic, having common sense and good judgment (Communality L); lives in the present (Time Competent L); prone to physical and psychological ailments, feel alone and abandoned (Alienation and Isolation H); conscientious and responsible, self denying and conforming (Socialization L).

Discriminant Analysis of Non-Seekers and Seekers - Millon Illinois-Self Report Inventory Form M

Discriminant analysis was performed utilizing the MI-SRI Form M and Table 41, page 123, lists the standardized discriminant coefficients established with centroids. On Table 42, page 124, the discriminant function has been listed for analysis of significance. The chi-square of Function 1 with 6 degrees of freedom was statistically significant with $p > .036$. These results presented in Table 43, page 125, indicated that the discriminants found did differentiate the two Groups and predict Group membership. The percent of "grouped" cases correctly classified by the function was 69.59%.

TABLE 41
 DISCRIMINANT ANALYSIS
 MI-SRI FORM M
 NON-SEEKERS/SEEKERS

Standardized Discriminant Function Coefficients

<u>Scales</u>	<u>Function 1</u>
Premorbid Pessimism	-1.514
Alienation and Isolation	.963
Apathetic	-.669
Recent Life Stress	.551
Chronic Tenseness	-.529
Disciplined	-.518
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>	
Group 0	.115
Group 1	-.779

TABLE 42
 DISCRIMINANT ANALYSIS
 MI-SRI FORM M
 NON-SEEKERS/SEEKERS

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi- Square	df	Significance
1	0.09880	100.0	0.300	0	0.9101	13.473	6	0.036

TABLE 43
 PREDICTION RESULTS
 MI-SRI FORM M

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>	
		<u>Group 0</u>	<u>Group 1</u>
Group 0	129	91 70.5%	38 29.5%
Group 1	19	7 36.8%	12 63.2%

Percent of "grouped" cases correctly classified: 69.59%

The discriminants found for non-seekers and seekers are listed on Table 44, page 127, by Group based on weighted function. As noted previously, a positive score for Function 1 represents the discriminants for Group 0 (N) and a negative score for Group 1 (S). The asterisk indicates the scale which was statistically significant on the ANOVA.

The discriminants differentiating Group 0 (N) indicated that the non-seekers have the following characteristics: not prone to physical and psychological ailments and do not often feel alone and abandoned by family and friends (Alienation and Isolation L); not as susceptible to serious illness either physical or psychological based on changes in life (Recent Life Stress L).

The discriminants differentiating Group 1 (S) indicated that the seekers have the following characteristics: prone to illness, interpret life as a series of troubles and misfortunes (Premorbid Pessimism H); colorless and emotionally flat, lacking in energy (Apathetic H); constantly on the go, live under considerable self-imposed pressure, have trouble relaxing (Chronic Tenseness H); hold feelings inside attempting to impress others as well controlled, serious minded and responsible (Disciplined H).

TABLE 44
 DISCRIMINANT ANALYSIS
 MI-SRI FORM M
 NON-SEEKERS/SEEKERS

Group 0 = Non-Seekers

<u>Scales</u>	<u>Function 1</u>	<u>\bar{X}</u>
Alienation and Isolation	.963	L
Recent Life Stress	.551	L

Group 1 = Seekers

Premorbid Pessimism	-1.514	H
Apathetic	-.669	H
Chronic Tenseness	-.529	H
*Disciplined	-.518	H

* = ANOVA $p > .05$ Group 0/Group 1

H = Highest \bar{X} of the two Groups

L = Lowest \bar{X} of the two Groups

Discriminant Analysis of Non-Seekers and Seekers - California Psychological Inventory

Discriminant analysis was performed utilizing the CPI and Table 45, page 129, lists the standardized discriminant coefficients established with centroids. On Table 46, page 130, the discriminant function has been listed for analysis of significance. The chi-square of Function 1 with 5 degrees of freedom was statistically significant with $p > .065$. These results presented in Table 47, page 131, indicated that the discriminants found did differentiate the two Groups and predict Group membership. The percent of "grouped" cases correctly classified by the function was 64.86%. The discriminants found for non-seekers and seekers are listed on Table 48, page 132, by Group based on weighted functions.

The discriminants differentiating Group 0 (N) indicated that the non-seekers have the following characteristics: ambitious, active, forceful, ascendant and self seeking, effective in communication (Capacity for Status H); conscientious, responsible, self denying and conforming, social maturity and integrity (Socialization H); insightful, confident, assertive, adaptable (Flexibility H).

TABLE 45
 DISCRIMINANT ANALYSIS
 CPI
 NON-SEEKERS/SEEKERS

Standardized Discriminant Function Coefficients

<u>Scales</u>	<u>Function 1</u>
Intellectual Efficiency	-.948
Capacity for Status	.761
Good Impression	-.67
Socialization	.654
Flexibility	.477
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>	
Group 0	.101
Group 1	-.687

TABLE 46
DISCRIMINANT ANALYSIS
CPI

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi- Square	df	Significance
1	0.07519	100.0	0.264	0	0.9301	10.403	5	0.065

TABLE 47
 PREDICTION RESULTS
 CPI

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>	
		<u>Group 0</u>	<u>Group 1</u>
Group 0	129	84 65.1%	45 34.9%
Group 1	19	7 36.8%	12 63.2%

Percent of "grouped" cases correctly classified: 64.86%

TABLE 48
 DISCRIMINANT ANALYSIS
 CPI
 NON-SEEKERS/SEEKERS

Group 0 = Non-Seekers

<u>Scales</u>	<u>Function 1</u>	\bar{X}
Capacity for Status	.761	H
Socialization	.653	H
Flexibility	.477	H

Group 1 = Seekers

Intellectual Efficiency	-.948	H
Good Impression	-.67	H

H = Highest \bar{X} of the two Groups

L = Lowest \bar{X} of the two Groups

The discriminants differentiating Group 1 (S) indicated that the non-seekers have the following characteristics: efficient, clear thinking, resourceful, placing a high value on cognitive and intellectual matters (Intellectual Efficiency H); cooperative, enterprising, concerned with how others react to them, diligent and persistent (Good Impression H).

Discriminant Analysis of Non-Seekers and Seekers - Personal Orientation Inventory

Discriminant analysis was performed utilizing the POI and Table 49, page 134, lists the standardized discriminant coefficients established with centroids. On Table 50, page 135, the discriminant function has been listed for analysis of significance. The chi-square function with 5 degrees of freedom was statistically significant with $p > .033$. These results presented in Table 51, page 136, indicated that the discriminants found did differentiate the two Groups and predict Group membership. The percent of "grouped" cases correctly classified by the function was 69.59%. The discriminants found for non-seekers and seekers are listed on Table 52, page 137, by Group based on weighted functions.

TABLE 49
DISCRIMINANT ANALYSIS
POI
NON-SEEKERS/SEEKERS

Standardized Discriminant Function Coefficients

<u>Scales</u>	<u>Function 1</u>
Capacity for Intimate Contact	1.244
Feeling Reactivity	-1.084
Self Regard	1.075
Time Competent	-.683
Synergy	-.617
<u>CENTROIDS OF GROUPS IN REDUCED SPACE</u>	
Group 0	-.109
Group 1	.738

TABLE 50
 DISCRIMINANT ANALYSIS
 POI

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation	Functions Derived	Wilks' Lambda	Chi- Square	df	Significance
1	0.08795	100.0	0.284	0	0.9192	12.097	5	0.033

TABLE 51
 PREDICTION RESULTS
 POI

<u>Actual Group</u>	<u>Number of Cases</u>	<u>Predicted Group Membership</u>	
		<u>Group 0</u>	<u>Group 1</u>
Group 0	129	89 69.0%	40 31.0%
Group 1	19	5 26.3%	14 73.7%

Percent of "grouped" cases correctly classified: 69.59%

TABLE 52
 DISCRIMINANT ANALYSIS
 POI
 NON-SEEKERS/SEEKERS

Group 0 = Non-Seekers

<u>Scales</u>	<u>Function 1</u>	\bar{X}
Capacity for Intimate Contact	1.244	L
Self Regard	1.075	L

Group 1 = Seekers

Feeling Reactivity	-1.084	L
Time Competent	-.683	L
Synergy	-.617	L

L = Lowest \bar{X} of the two Groups

The discriminants differentiating Group 0 (N) indicated that the non-seekers have the following characteristics: possibly some difficulty with warm interpersonal relationships or perhaps less of a need (Capacity for Intimate Contact L); slight difficulty in liking one's self because of one's strengths (Self Regard L).

The discriminants differentiating Group 1 (S) indicated that the seekers have the following characteristics: an insensitivity to one's own needs and feelings (Feeling Reactivity L); difficulty in living in the present (Time Competent L); difficulty in viewing opposites of life as meaningful (Synergy L).

Summary of Differentiating Non-Seekers From Seekers

Since canonical correlation is the basis for discriminant analysis, the constellation of weighted scales among the combined inventories and the individual inventory will of necessity be different. In spite of this, there appeared to be common threads which related to each particular Group.

The non-seekers (Group 0) appeared to be more easy-going, self satisfied, not necessarily in need of intimate contact, with an ability to express feelings. Although somewhat unsure of strengths, Group 0 (N) were not particularly concerned with how others reacted to them and were not rebellious toward rules.

The seekers (Group 1) lack self awareness and are not as effective in communication. In addition, Group 1 (N) had

trouble with dichotomies, internal conflicts and living in the present. Thus, lacking social maturity, they have a tendency to feel alone or abandoned.

Judges' Prediction

The three Judges reviewed the completed profiles on the MI-SRI Form M, the CPI and the POI assigning each subject into the following categories: Ready for counseling and would go; Ready for counseling and would not go; Healthy; Unsure.

An ANOVA was performed followed by a Duncan multiple range to determine the Judges' consistency in categorizing subjects across instruments. The results are shown on Table 53, page 140. The three Judges were not consistent in their utilization of the inventories. Judge 1 was more consistent with the MI-SRI Form M and the CPI and with the CPI and the POI than with the MI-SRI Form M and the POI. Judge 2 was more consistent with the MI-SRI Form M and the CPI, but not with the CPI. Judge 3 was more consistent with the MI-SRI Form M and the POI and the CPI and the POI than with the MI-SRI Form M and the CPI.

TABLE 53
ANOVA
JUDGE BY TEST

	<u>F Ratio</u>	<u>F Prob</u>	<u>Test</u>
Judge 1	10.873	.000	1 <u>2</u> <u>3</u>
Judge 2	32.320	.000	3 <u>1</u> <u>2</u>
Judge 3	6.162	.000	<u>1</u> <u>3</u> <u>2</u>

An ANOVA was performed followed by a Duncan multiple range to determine the Judges' consistency in categorizing subjects across the same instrument. The results are shown in Table 54, page 142. The three Judges were not consistent utilizing the MI-SRI Form M. A certain degree of consistency was found across Judges utilizing the CPI to categorize subjects. On the POI Judges 1 and 3 were somewhat consistent, but not Judge 2. The Judges' categories, Ready for Counseling and would go and Healthy, were compared to the discriminant analysis, as only two groups, non-seekers (N) and seekers (S), were in the analysis.

Table 55, page 143, lists the percentages of correct predicted Group membership by Judges and the discriminant function (DF) predicted percentage across tests for Group 0, non-seekers and Group 1, seekers. Judge 1 predicted Group 0 = (N) on both the MI-SRI Form M and the CPI better than DF and the other Judges. However, Judge 1 did not do as well on the POI as DF or Judge 2. Judge 2 predicted better than DF on the MI-SRI Form M and the CPI, not quite as well on the POI, but better than the other Judges. Judge 3 did not predict as well as the other Judges or DF across tests.

TABLE 54
TEST BY JUDGE

	<u>F Ratio</u>	<u>F Prob</u>	<u>Judge</u>
MI-SRI FORM M	15.124	.000	3 2 1
CPI	1.776	.168	<u>3 2 1</u>
POI	11.610	.000	2 <u>3 1</u>

TABLE 55
 PERCENTAGES CORRECT BY JUDGE AND TEST
 COMPARED TO COMPUTER PREDICTION

	<u>NON-SEEKERS - Group 0</u>		
	<u>MI-SRI FORM M</u>	<u>CPI</u>	<u>POI</u>
Judge 1	82.2	96.6	61.6
Judge 2	74.6	74.6	67.1
Judge 3	55.5	52.7	60.9
Discriminant Function	70.5	65.0	69.0
	<u>SEEKERS - Group 1</u>		
	<u>MI-SRI FORM M</u>	<u>CPI</u>	<u>POI</u>
Judge 1	11.0	11.0	26.0
Judge 2	5.0	5.0	16.0
Judge 3	5.0	21.0	16.0
Discriminant Function	63.2	63.2	73.7

None of the Judges predicted seekers as well as DF. The Judges were possibly at a disadvantage, having four choices of categories or groups where the discriminant analysis had two.

Attempting to extrapolate some knowledge as to prediction is difficult, if indeed possible. As was stated previously, there was little intercorrelation across instruments or Judges. The population of the sample is well within the normal range and reviewing the profiles of Group 0 and Group 1 there are only slight variations and those are within the normal range. A discriminant analysis is in part a biased analysis for prediction is based on a group from which it derives its predictions. Unfortunately cross validation of the weighted predictors was beyond the scope of this study.

Validating these scales in a predictive study would be the next logical step. Training Judges to categorize seekers and non-seekers based on the constellation of the function would be an attempt to establish a framework within which the Judges can review profiles based on predictors. Weighting of the scales to predict by statistical methods would cross validate the findings and a comparison of Judges and statistical procedures might perhaps then be more meaningful and efficient.

CHAPTER V

SUMMARY

There has been a natural evolution in guidance and counseling from its inception in the secondary school system to the present. This has grown to encompass the student's emotional, social and environmental well-being from pre-school all the way to professional training. Williamson's first formal counseling center at the University of Minnesota became the catalyst for guidance services to be developed within schools of nursing. Fostering individual growth and adjustment was a prime concern of the National League of Nursing in 1946. Schools of nursing develop intellectual and applied knowledge which must be utilized with interpersonal skills for optimal nursing care. The student in the field of nursing differs from the college student in dealing with a myriad of possible conflict situations, i.e., authority, decision making, pain, death.

The time, effort and cost in the professional education of nurses warranted investigations of attrition. Much of the research in nursing education involved attrition to eliminate the loss of talented, motivated students. No specific conclusions have been reached on attrition for a

number of factors are involved. Litwack, Sakata and Wykle¹ have aptly described not only a methodology of screening, but have also made recommendations for enhancing many aspects of the student's needs in the process of both self and professional growth.

With recognition of the developmental stages of growth and an awareness of potential problem areas, prediction and early intervention is the next logical step to enhance the milieu for optimal growth and learning. Accordingly, it seemed both timely and appropriate that a study be undertaken to investigate both the characteristics of individuals at various levels of education in a College of Nursing, and their use of counseling services within this professional school.

Subjects

Two hundred and forty-seven of the three hundred and fifty-six students registered as incoming students (Graduates, Continuation and Sophomores) entering the College of Nursing at the University of Illinois at the Medical Center completed the first battery of inventories. One hundred and seventy of the two hundred and forty-one completed the follow-up Student Service Questionnaire. The six males were dropped from the study.

¹L. Litwack, R. Sakata and Wykle, Counseling Evaluation and Student Development in Nursing Education (Philadelphia, PA.: W. B. Saunders Co., 1972).

Instruments

The initial battery of tests included: the Millon Illinois-Self Report Inventory Form M (MI-SRI Form M), the California Psychological Inventory (CPI), the Personal Orientation Inventory (POI) and the Biographical Questionnaire (BQ). These instruments were given to the students to complete at school or at home. The follow-up Student Service Questionnaire (SSQ) was given to the students to complete at school and a mailing sent to increase return.

Research Design

Upon entrance into the College of Nursing the students were afforded the opportunity to take the tests. At the beginning of the second quarter, a follow-up questionnaire was distributed.

Assumptions and Hypotheses

The investigator assumed that there would be differences in the student population at various stages of education and between those who were non-seekers and seekers of counseling. The following null hypotheses were tested:

1. Are there differences between students in the nursing profession at various stages of their education?
2. Are there differences between non-seekers and seekers of counseling services?

Data Analysis

The MI-SRI Form M scoring, profiles and data card punching was done at the University of Illinois Medical Center. The CPI scoring, profiles and data card punching was done at the National Computer Services in Minneapolis, Minnesota. The POI scoring, profiles and data card punching was done at the Educational and Industrial Testing Service in San Diego, California. The BQ and SSQ was coded and punched at both the University of Illinois Medical School and the Loyola Data Processing Center. The data was analyzed at the Loyola Data Processing Center utilizing the Statistical Package for the Social Sciences for means, standard deviations, frequencies, ANOVA and discriminant analysis.

Results

Although all three Groups were within the normal range on the three test instruments, significant differences were found among them.

A general pattern was found on the MI-SRI Form M such that the more advanced the student the higher the score on Sociable and Negative Medical Attitude and the lower the score on Psychological Index and Disciplined.

On the CPI, the more advanced graduates scored higher on scales that indicated a greater ability to assume a dominant position with responsibility, flexibility and efficiency in both intellectual and effective areas. The

intermediate continuation students overlap in most areas with the graduate group, although they are more conforming and less secure in their capacity for status. They also overlap with the sophomore students on those scales that signify a sense of well-being, psychological mindedness and flexibility. The sophomore group generally scored lowest on all scales.

Though none of the Groups was "self actualized" on the POI, there were significant differences on several scales with the graduate group generally highest on all scales except Self Regard. In contrast, the sophomore group scored lowest on all scales. Continuation students fell between the other two groups except for their high scores in Self Regard.

When a discriminant analysis was performed utilizing the three inventory scales as a single unit, weighted scale discriminants emerged on each instrument that effectively differentiated the three nurse education levels. A breakdown of the discriminant analysis, with each test evaluated separately, showed that the MI-SRI Form M did not discriminate between the three Groups, whereas weighted scale discriminants were found on the CPI and POI.

When the three Groups were reordered for purposes of differentiating non-seekers from seekers of counseling, the results again indicated that the overall population was well within the normal range. On investigating differences on

individual scales utilizing an ANOVA, only one scale on the MI-SRI Form M, that termed Disciplined, was significant; no scales were significant for either the CPI or the POI.

When a discriminant analysis was performed on the three inventory scales together and individually, a constellation of weighted scale discriminants was found which was able to predict group membership into non-seekers and seekers at an impressively high level.

Two of the three Judges were able to predict non-seekers to a more accurate extent than the discriminant analysis. Discriminant analysis was a better predictor, however, of seekers. The Judges were at an advantage, however, in that they were aware that approximately ten percent of the student population sought counseling; by contrast, computer discriminant procedures operate on a fifty-fifty probability for two Groups.

Conclusions

1. Results indicate that students at the College of Nursing at the University of Illinois at the Medical Center tested in September of 1975 are within the normal range on the MI-SRI Form M, the CPI and the POI. The data was analyzed according to levels of education and use of counseling services.

2. It might be concluded from the data of the MI-SRI Form M that the longer one is a nurse and continues in school, the less psychopathology is evident and the more

negative attitudes toward medicine develops. Since most of the questions on the Negative Medical Attitudes scale refer to patient-doctor interactions, more experienced nurses appear to replace the idealized status of the physician with a more realistic one. Graduate nurses also are more outgoing and less disciplined than those with lesser experience. Perhaps this indicates the development of greater social skills and independence that may result from experience and maturity. This thesis is supported by the data from the CPI. Thus, graduate school status appears related to being more secure, ready for status and less conforming. CPI data suggest also that sophomores may be in the process of developing these traits. Along similar lines, the POI findings indicate that as students progress in education they appear to become more self actualized, a trend noted on all scales.

3. Since the MI-SRI Form M is basically a personality-medical test, it should not be surprising that there would be no differences between education levels. By contrast, both the CPI and the POI contain scales related to academic orientation, growth and maturity which might account for their partial success in discriminating among education levels.

4. When the data is collapsed across education levels to discriminants between non-seekers from seekers, only the MI-SRI Form M succeeded in predicting differences. Thus, the more disciplined students, who are noted for their

rigidity and inability to adapt to change, appeared to have greater difficulty in handling the pressures of a new school and training experience, whereas non-seekers on the MI-SRI From M did not feel alienated and sense little radical change in the past year; seekers were more withdrawn and rigid, felt greater tension and had a negative future outlook. On the CPI, non-seekers were able to be flexible, deal with status and enjoy socialization, while the seekers were academically insecure and sought to put forth a good impression before others. The strain of wanting to succeed and maintain a good impression no doubt increased the student's desire for assistance. On the POI, non-seekers had less need to have intimate contact and seekers had difficulty with utilizing time efficiently and were not as sensitive to their own feelings.

5. Considering that both seekers and non-seekers fell within the normal range of the population, Judges should have been expected to have difficulty in differentiating seekers from non-seekers, unless they were alerted beforehand to the scales that proved to be predictive. The results tend to confirm the literature that contends that actuarial computer assessment is generally superior to clinical prediction.

6. Maturity, social awareness and ease of interpersonal relationships appears to be altered and possibly enhanced by age, education and actual work experiences in the field of nursing in this cross-sectional study. A

longitudinal study would enable the investigator to study change over time within the same population. Although within a normal range sample, problems arise and differences may be found between seekers and non-seekers. The study suggests the potential value of developing predictors of these differences.

Recommendations

This study may serve as a basis for longitudinal studies of change associated with professional training. Specifically, the following may be proposed to cross-validate and extend the findings.

1. Increase the size of the population to include an entire school population.
2. Examine the similarities and differences among other professions.
3. Correlate these data with student grades.
4. Correlate the findings with information obtained directly from counseling services, with proper guarantees of confidentiality.
5. Correlate the results with vocational test patterns.
6. Interpret individual results to optimize counseling use and increase self awareness.
7. Attempt to assess whether non-seekers have counseling needs.

8. Plan follow-up cross-validation and predictive studies with weighted discriminants.

9. Utilize other test instruments to develop additional predictors.

BIBLIOGRAPHY

- Achord, C. D. "Impact of Attrition on Self-Concept and Anxiety Level of Freshmen Nursing Students at the University of Northern Colorado." Dissertation Abstracts International 33 (11-A) (1973): 6166-6167.
- Allen, T. W. "An Overview of Counseling Research," in J. Whitely (Ed.), Research in Counseling Examination and Refocus, pp. 219-238. Columbus: Merrill, 1968.
- Astin, A. W. and R. J. Panos. Educational and Vocational Development. Washington: American Council of Education, 1969.
- Baker, E. J. "Associate Degree Nursing Students: Nonintellective Differences Between Dropouts and Graduates." Nursing Research 24 (1) (1975): 42-44.
- Baker, R. W. "Incidence of Psychological Disturbance in College Students." Journal of the American College Health Association 13 (1965): 532-540.
- Benjamin, N. and D. Cicatiello. "Needed: Career Counseling for Nursing Students." Nursing Outlook 12 (1964): 56-57.
- Bennett, G. K. and H. P. Gordon. "Personality Test Scores and Success in the Field of Nursing." Journal of Applied Psychology 28 (1944): 267-278.
- Bernfeld, Benjamin. "MMPI Variables in the Prediction of Attrition of Students of Nursing in a Hospital School Program." Unpublished doctoral dissertation, New York University, 1967.
- Bernstein, L., E. S. Turrell, and R. H. Dana. "Motivation for Nursing." Nursing Research 14 (1965): 222-226.
- Bloom, B. L. "A University Freshman Preventive Intervention Program: Report of a Pilot Project." Journal of Consulting and Clinical Psychology 37 (2) (1971): 235-242.
- Bloom, B. L. "Current Issues in the Provision of Campus Community Mental Health Services." Journal of the American College Health Association 18 (1970): 257-264.
- Caplan, G. Principles of Preventive Psychiatry. New York: Basic Books, 1964.

- Cassell, W. A., F. N. Marty, and J. L. Richman. "The Prevalence of Psychiatric Symptomatology in First Year University Students." Journal of the American Health Association 15 (1967): 335-340.
- Christiansen, Kent. "The Relationship of Educational-Occupational Background, Stereotypy, Traditional-Emergent Values, Sex and Academic Aptitude of College Students to Counseling Pursuit." Unpublished doctoral dissertation, Michigan State University, 1965.
- Cohen, H. A. and F. P. Gesner. "Dropouts and Failures: A Preventive Program." Nursing Outlook 20 (11) (1972): 723-725.
- Cooke, M. K. and D. J. Kiesler. "Prediction of College Students Who Later Require Personal Counseling." Journal of Counseling Psychology 14 (4) (1967): 346-349.
- Crites, J. O., H. P. Bechtoldt, L. D. Goodstein, and A. B. Heilbrun, Jr. "A Factor Analysis of the California Psychological Inventory." Journal of Applied Psychology 45 (6) (1961): 408-414.
- DeBlasse, R. R. "Personality Variables as a Function of College Students Seeking Counseling." Unpublished doctoral dissertation, University of Arizona, 1967.
- Diller, J. C. and E. W. Fuller. "Adjusted and Maladjusted Student Nurses." Journal of Social Psychology 36 (1952): 45-52.
- Doleys, R. J. "Difference Between Clients and Nonclients on Mooney Problem Checklist." Source Journal of College Student Personnel 6 (1964): 21-24.
- Dorfield, M. E., T. S. Ray, and T. S. Baumkerger. "A Study of Selection Criteria for Nursing School Applicants." Nursing Research 7 (1958): 67-70.
- Fager, L. E. "University Student Likelihood of Seeking Counseling, Problem Category and Ethnicity." Unpublished doctoral dissertation, New Mexico State University, 1973.
- Faison, B. L., Jr. "A Comparative Study of Some Personality Factors of Users of a University Counseling Center and of Non-Users With Problems." Unpublished doctoral dissertation, St. Louis University, 1972.

- Fox, D. J., L. K. Diamond, R. C. Walsh, L. Knopf, and J. Hodgin. Factors Related to Student Nursing School Experience. New York: Institute of Research and Service in Nursing Education, Teachers College, Columbia University, 1963.
- Fox, D. J., L. K. Diamond, R. C. Walsh, L. Knopf, and J. Hodgin. "Correlates of Satisfaction and Stress With Selected Clinical Aspects of Nursing School Experience." Nursing Research 12 (1963a): 83-88.
- Fox, D. J., L. K. Diamond, R. C. Walsh, L. Knopf, and J. Hodgin. "Correlates of Satisfaction and Stress With Nursing School Experience." Nursing Research 12 (1963b): 157-161.
- Galassi, J. P. "Alienation in College Students: A Comparison of Counseling Seekers and Non-Seekers." Unpublished doctoral dissertation, University of California, Berkeley, 1971.
- Galassi, J. P. and M. D. Galassi. "Alienation in College Students: A Comparison of Counseling Seekers and Non-Seekers." Journal of Counseling Psychology 20 (1) (1973): 44-49.
- Gardner, E. A. and R. Glaser. "The Future is Here." Journal of the American College Health Association 16 (1968): 350-353.
- Goodstein, L. D., J. O. Crites, A. B. Heilbrun, Jr., and P. J. Rempel. "The Use of the California Psychological Inventory in a University Counseling Center." Journal of Counseling Psychology 8 (2) (1961): 147-153.
- Green, E. J. "The Relationship of Self-Actualization to Achievement in Nursing." Unpublished doctoral dissertation, Indiana University, 1967.
- Greenfield, N. S. and W. F. Fey. "Factors Influencing Utilization of Psychological Therapeutic Services in Male College Students." Journal of Clinical Psychology 12 (1956): 276-279.
- Gunter, L. M. "The Developing Nursing Student." Nursing Research 18 (1) (1969): 60-64.
- Hartman, B. J. "Survey of College Students' Problems Identified by the Mooney Problem Checklist." Psychological Reports 22 (1968): 715-716.

- Heath, D. H. Growing Up in College. San Francisco: Jossey Bass, 1968.
- Heilbrun, A. B., Jr. "Personality Differences Between Adjusted and Maladjusted College Students." Journal of Applied Psychology 44 (1960): 341-346.
- Heilbrun, A. B., Jr. and D. J. Sullivan. "The Prediction of Counseling Readiness." Personnel and Guidance Journal 41 (2) (1962): 112-117.
- Heins, M. and M. Davis. "How Do We Help 'High Risk' Students?" Nursing Outlook 20 (2) (1972).
- Hoover, B. "College Students Who Did Not Seek Counseling During a Period of Academic Difficulty." Unpublished doctoral dissertation, University of Florida, 1966.
- Jourard, S. M. The Transparent Self: Self Disclosure and Well-Being. New Jersey: D. Van Nostrand, 1964.
- Kaback, G. R. "Guidance and Counseling for Hospital Schools of Nursing." National League for Nursing (VI), 1958.
- Katz, K. et al. No Time For Youth. San Francisco: Jossey Bass, 1968.
- Katz, J. (Ed.) Growth and Constraint in College Students. Stanford: Institute for the Study of Human Problems, Stanford University, 1967.
- Kelly, W. L. "Psychological Prediction of Leadership in Nursing." Nursing Research 23 (1) (1974): 38-42.
- Kerlinger, F. N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1973.
- Kibrick, A. "Dropouts in Schools of Nursing: The Effect of Self and Role Perception." Nursing Research 12 (1963): 140-149.
- Klahn, J. E. "Self Concept and Change." Journal of Nursing Education 8 (2) (1969): 11-16.
- Komorita, N. "Self Concept Measures as Related to Achievement in Nursing Education." Dissertation Abstracts International 32 (12-A) (1972): 6809.
- Kramer, Marlene. Reality Shock. St. Louis: C. U. Mosby Co., 1974.

- Layton, W. L., G. A. Sandeen, and R. D. Baker. "Student Development and Counseling." Annual Review of Psychology 22 (1971): 533-564.
- Levitt, E. E., B. Lubin, and K. N. Dewitt. "An Attempt to Develop an Objective Test Battery for the Selection of Nursing Students." Nursing Research 20 (3) (1971): 255-258.
- Litwack, L., R. Sakata, and Wykle. Counseling Evaluation and Student Development in Nursing Education. Philadelphia: W. B. Saunders Co., 1972.
- Lowenthal, A. M. "An Anxiety Scale for the CPI." Journal of Clinical Psychology 22 (1966): 459-461.
- Maslow, A. Motivation and Personality. New York: Harper and Row, 1954.
- Mauksch, H. D. "Becoming a Nurse: A Selective View." Annals of the American Academy of Political and Social Science (1963): 88-98.
- May, R., T. Anger, and H. Ellenberger. Existence. New York: Basic Books, 1958.
- Meadows, M. E. and M. C. Oelke. "Characteristics of Clients and Nonclients." Journal of College and Student Personnel (9) (1968): 153-157.
- Mealey, A. R. and T. L. Peterson. "Self-Actualization of Nursing Students Resulting from a Course in Psychiatric Nursing." Nursing Research 23 (2) (1974): 138-143.
- Mendelsohn, G. A. and B. A. Kirk. "Personality Differences Between Students Who Do and Do Not Use a Counseling Facility." Journal of Counseling Psychology 9 (1962): 341-346.
- Miller, C. H. Foundations of Guidance. New York: Harper and Row, 1961.
- Newcomb, I. M. and Feldman. The Impact of College on Students. San Francisco: Jossey Bass, 2 vols., 1969.
- Pittman, Rosemary and Lila Kerchner. "A Study of the Relationship Between Staff Attitudes and Dimensions of Supervisory Self Actualization in Public Health Nursing." Nursing Research 19 (3) (1970): 231-238.

- Raderman, Rhoda and Doris Allen. "Registered Nurse Students in a Baccalaureate Program: Factors Associated With Completion." Nursing Research 23 (1) (1974): 71-73.
- Reinhold, J. E. "Users and Nonusers of College Counseling and Psychiatric Services." Journal of the American College Health Association 21 (1973): 201-208.
- Reisman, D., N. Glazer, and R. Denney. The Lonely Crowd. New York: Doubleday, 1950.
- Rose, H. A. and C. F. Elton. "Identification of Potential Personal Problem Clients." Journal of Counseling Psychology 19 (1) (1972): 8-10.
- Rossman, J. E. and B. A. Kirk. "Comparison of Counseling Seekers and Nonseekers." Journal of Counseling Psychology 19 (2) (1970): 184-188.
- Rubin, H. S. "The Prevention of Student Attrition in Nursing Education: A Community Psychology Approach." Dissertation Abstracts International 33 (3-B) (1971): 1296.
- Sartain, A. Q. "Predicting Success in a School of Nursing." Journal of Applied Psychology 30 (1946): 234-240.
- Segal, B. E., T. M. Walsh, and R. J. Wesiss. "Emotional Maladjustment in an Undergraduate Population: An Analytical Assessment of Six-Year Trends." Journal of the American College and Health Association 14 (1966).
- Sharf, R. S. and J. B. Bishop. "Adjustment Differences Between Counseled and Noncounseled Students at a University Counseling Center." Journal of Counseling Psychology 20 (6) (1973): 509-512.
- Sharp, W. H. and B. A. Kirk. "A Longitudinal Study of Who Seeks Counseling When." Journal of Counseling Psychology 21 (1) (1974): 43-50.
- Shertzer, Bruce and Shelley Stone. Fundamentals of Counseling. Boston: Houghton Mifflin Co., 1968.
- Shostrom, E. L. Personal Orientation Inventory Manual. San Diego: Educational and Industrial Testing Service, 1968.
- Sink, W. R. "A Study of the Use of Pre-Entrance Psychological Examinations in Counseling of Students in Selected Schools of Nursing in Indiana." Unpublished Ed.D. dissertation, Indiana University, 1959.

- Snyder, J. F., C. A. Hill, and T. P. Derksen. "Why Some Students Do Not Use University Counseling Facilities." Journal of Counseling Psychology 4 (2) (1972): 63-68.
- Stein, L. I. "The Doctor-Nurse Game," in T. Millon (Ed.), Medical Behavior Science. Philadelphia, W. B. Saunders Co., 1975.
- Tate, B. L. "Attrition Rates in Schools of Nursing." Nursing Research 10 (2) (1961): 91-96.
- Taylor, C. W. et al. Report on Measurement and Prediction of Nursing Performance, Part I. Salt Lake City: University of Utah Press, 1965.
- Taylor, C. W. et al. Selection and Recruitment of Nurses and Nursing Students: A Review of Research Studies and Practices. Salt Lake City: University of Utah Press, 1963.
- Thelen, Mark. "Repression-Sensitization: Its Relation to Adjustment and Seeking Psychotherapy Among College Students." Journal of Consulting and Clinical Psychology 33 (2) (1969): 161-165.
- Thelen, Mark and Duane Varble. "Comparison of College Students Seeking Psychotherapy With Nontherapy Students on Coping and Defense Scales." Journal of Clinical Psychology 26 (1) (1970): 123-124.
- Thurston, J. R. and H. L. Brunclik. "Search or Research? The Prediction of Success in Schools of Nursing." Nursing Outlook (1965).
- Thurston, J. R. and H. L. Brunclik. "The Relationship of Personality to Achievement in Nursing Education." Nursing Research 14 (3) (1965): 203-209.
- Thurston, J. R. and H. L. Brunclik. "The Relationship of Personality to Achievement in Nursing Education, Phase II." Nursing Research 17 (3) (1968): 265-268.
- Torrop, H. M. "Guidance Programs in Schools of Nursing." The American Journal of Nursing 39 (2) (1939): 176-186.
- Whitmore, F. D. "Student Personnel and Guidance Services in Schools of Nursing." University of Colorado, Microfilm, 1958.
- Whittington, H. G. Psychiatry on the College Campus. New York: International University Press, 1963.

Williamson, E. G. and E. S. Bordin. "Evaluating Counseling By Means of a Control Group Experience." School and Social 52 (1940): 434-440.

Zenberg, Norman, David Shapiro, and Walter Green. "Some Vicissitudes of Nursing Education." Nursing Outlook 10 (1962): 795-798.

APPENDIX A
BIOGRAPHICAL QUESTIONNAIRE (BQ)

BIOGRAPHICAL DATA

SOCIAL SECURITY NUMBER: _____ - _____ - _____ CODE NUMBER _____

SEX: _____ Female _____ Male AGE: _____

MARITAL STATUS: _____ Married _____ Divorced _____ Widowed
 _____ Single _____ Separated _____ Other

HUSBAND/WIFE'S OCCUPATION _____

HUSBAND/WIFE'S SCHOOLING: Circle the highest grade completed.

- under 8 years 1
- 8 years 2
- 1 to 3 years high school 3
- completed high school 4
- 1 to 3 years college (or vocational/technical) 5
- completed college 6
- some post graduate work 7
- advanced degree (specify: _____) 8

IMMEDIATE FAMILY: List all your children (oldest to youngest). None _____

	Age	Sex	Adopted		Breastfed	
			Yes	No	Yes	No
1. _____	_____	_____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____	_____	_____

FATHER

MOTHER

_____ Living _____ Deceased

_____ Living _____ Deceased

If deceased - cause _____

If deceased - cause _____

Was he ever divorced? _____ Yes _____ No

Was she ever divorced? _____ Yes _____ No

How many times? _____

How many times? _____

Did he ever remarry? _____ Yes _____ No

Did she ever remarry? _____ Yes _____ No

Occupation: _____

Occupation: _____

FATHER (cont.)

MOTHER (cont.)

Year of his death _____

Year of her death _____

Year of his divorce _____

Year of her divorce _____

Year of his remarriage _____

Year of her remarriage _____

PARENT'S SCHOOLING: Circle the highest grade completed. (Use categories which apply.)

	<u>Father</u>	<u>Foster/ Stepfather</u>	<u>Mother</u>	<u>Foster/ Stepmother</u>
under 8 years	1	1	1	1
8 years	2	2	2	2
1 to 3 years high school	3	3	3	3
completed high school	4	4	4	4
1 to 3 years college (or vocational/technical)	5	5	5	5
completed college	6	6	6	6
some post graduate work	7	7	7	7
advanced degree (specify: _____)	8	8	8	8

With whom did you grow up?
(Check as many as apply.)

- parents living together
- foster parents (not relatives)
- no parents (orphan)
- Other (specify: _____)
- father only
- mother only
- stepfather & real mother
- stepmother & real father

PLEASE NOTE: For the purposes of this questionnaire, any references to Family, Mother and Father in the following sections will refer to those persons with whom you grew up. (For example, if you spent most of your life with a stepfather, you would fill out any sections referring to "Father" with information about your stepfather.)

FAMILY: List all children in your family including yourself (oldest to youngest).

	<u>Age</u>	<u>Sex</u>	<u>Adopted</u>	
			<u>Yes</u>	<u>No</u>
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____

Who was most like mother and father?

	<u>me</u>	<u>all of us</u>	<u>none of us</u>	<u>other sibling</u>
Most like mother	_____	_____	_____	_____
Most like father	_____	_____	_____	_____

INTERPARENTAL RELATIONSHIPS: Check any and all of the following that apply.

<input type="checkbox"/> Congenial	<input type="checkbox"/> Disagreeing	<input type="checkbox"/> Church-centered
<input type="checkbox"/> Relaxed	<input type="checkbox"/> High tension	<input type="checkbox"/> Social-centered
<input type="checkbox"/> Close	<input type="checkbox"/> Mother dominant	<input type="checkbox"/> Learning-centered
<input type="checkbox"/> Formal	<input type="checkbox"/> Father dominant	<input type="checkbox"/> Child-centered
<input type="checkbox"/> Disagreeing	<input type="checkbox"/> Grandparent dominant	<input type="checkbox"/> Home-centered
<input type="checkbox"/> Reserved	<input type="checkbox"/> Mother passive	<input type="checkbox"/> Occupation-centered
<input type="checkbox"/> Demonstrative	<input type="checkbox"/> Father passive	<input type="checkbox"/> Money-centered
<input type="checkbox"/> Argumentative		

PARENTAL ATTITUDES: Check any and all of the following attitudes toward you that apply.

Father's Attitude Toward You:

<input type="checkbox"/> Companionable	<input type="checkbox"/> Warm	<input type="checkbox"/> Demonstrative
<input type="checkbox"/> Reserved	<input type="checkbox"/> Ambitious	<input type="checkbox"/> Strict
<input type="checkbox"/> Anxious	<input type="checkbox"/> Detached	<input type="checkbox"/> Teasing
<input type="checkbox"/> Steady	<input type="checkbox"/> Unpredictable	<input type="checkbox"/> "Father Knows Best"
<input type="checkbox"/> Babying	<input type="checkbox"/> Demanding	<input type="checkbox"/> Irritable
<input type="checkbox"/> Belittling	<input type="checkbox"/> Understanding	

Mother's Attitude Toward You:

<input type="checkbox"/> Companionable	<input type="checkbox"/> Warm	<input type="checkbox"/> Demonstrative
<input type="checkbox"/> Reserved	<input type="checkbox"/> Ambitious	<input type="checkbox"/> Strict
<input type="checkbox"/> Anxious	<input type="checkbox"/> Detached	<input type="checkbox"/> Teasing
<input type="checkbox"/> Steady	<input type="checkbox"/> Unpredictable	<input type="checkbox"/> "Mother Knows Best"
<input type="checkbox"/> Babying	<input type="checkbox"/> Demanding	<input type="checkbox"/> Irritable
<input type="checkbox"/> Belittling	<input type="checkbox"/> Understanding	

Checklist for Father's Attitudes describes my:

Father Stepfather Foster Father Other

Checklist for Mother's Attitudes describes my:

Mother Stepmother Foster Mother Other

REMARKS:

ATTITUDES TOWARD PARENTS: Check any and all of the following which describe your attitudes toward the parents you grew up with. (Be consistent with the previous page, e.g., if checked off step father's attitude toward you, then check off your attitudes toward stepfather.)

Your Attitude Toward Father:

<input type="checkbox"/> Confiding	<input type="checkbox"/> Admiring	<input type="checkbox"/> Conforming
<input type="checkbox"/> Independent	<input type="checkbox"/> Approval-seeking	<input type="checkbox"/> Dislike
<input type="checkbox"/> Man-to-man	<input type="checkbox"/> Detached	<input type="checkbox"/> Rebellious
<input type="checkbox"/> Hurt	<input type="checkbox"/> Comfortable	<input type="checkbox"/> Warm
<input type="checkbox"/> Dependent	<input type="checkbox"/> Demonstrative	<input type="checkbox"/> Reserved
<input type="checkbox"/> Anxious	<input type="checkbox"/> Insecure	<input type="checkbox"/> Protective
<input type="checkbox"/> Guilty		

Your Attitude Toward Mother:

<input type="checkbox"/> Confiding	<input type="checkbox"/> Admiring	<input type="checkbox"/> Conforming
<input type="checkbox"/> Independent	<input type="checkbox"/> Approval-seeking	<input type="checkbox"/> Dislike
<input type="checkbox"/> Man-to-man	<input type="checkbox"/> Detached	<input type="checkbox"/> Rebellious
<input type="checkbox"/> Hurt	<input type="checkbox"/> Comfortable	<input type="checkbox"/> Warm
<input type="checkbox"/> Dependent	<input type="checkbox"/> Demonstrative	<input type="checkbox"/> Reserved
<input type="checkbox"/> Anxious	<input type="checkbox"/> Insecure	<input type="checkbox"/> Protective
<input type="checkbox"/> Guilty		

REMARKS:

SIGNIFICANT RELATIONSHIPS: Check the answer that applies.

Closest dependent relationship in childhood:

Father Mother Grandparent Uncle Aunt

Other (Specify: _____)

REMARKS:

Most significant uneasy relationship in childhood:

Father Mother Grandparent Uncle Aunt

Other (Specify: _____)

REMARKS:

EDUCATION: Under the designated columns, check which degree(s) you already have, then check the degree you are now seeking.

	<u>Degree(s) Held</u>	<u>Degree Sought</u>
Diploma School (nursing)	_____	_____
Associate degree (nursing)	_____	_____
Baccalaureate degree (nursing)	_____	_____
Master's degree (nursing)	_____	_____
Doctoral Student (nursing)	_____	_____
Associate degree (field other than nursing)	_____	_____
B.A./B.S. (field other than nursing)	_____	_____
M.S./M.A. (field other than nursing)	_____	_____
Ph.D. (field other than nursing)	_____	_____
Other (specify: _____)	_____	_____

What clinical speciality do you plan to be in or are you in?

At present: _____

Interested in later: _____

Haven't decided: _____

PHYSICAL APPEARANCE: Rate your satisfaction with your physical appearance on a scale of 1 through 5 with "1" representing "very satisfied" and a "5" representing "not at all satisfied".

	<u>Very Satisfied</u>			<u>Not At All Satisfied</u>		
Weight	1	2	3	4	5	
Height	1	2	3	4	5	
Features	1	2	3	4	5	
Posture	1	2	3	4	5	
Complexion	1	2	3	4	5	
Proportions	1	2	3	4	5	
Overall appearance	1	2	3	4	5	

STUDENT STATUS:

_____ Part-time

_____ Full-time

When did you decide to enter the Nursing Profession? _____

Did your parents approve of your entering the Nursing Profession?

	<u>Yes</u>	<u>No</u>	<u>Uncertain</u>
Mother	_____	_____	_____
Father	_____	_____	_____
Other (Specify: _____)	_____	_____	_____

APPENDIX B
STUDENT SERVICE QUESTIONNAIRE (SSQ)

Name: _____

Social Security Number: _____

Code Number: _____

STUDENT SERVICES QUESTIONNAIRE

This questionnaire is intended to assess your experiences with student counseling and health services provided at the University of Illinois Medical Center.

According to the published brochures of the Office of Student Affairs, a variety of services are offered to University of Illinois Medical Center students. While you may not be familiar with specific programs, we are asking that you make every effort to respond to all areas of which you are either aware or have utilized.

This information will help us improve these services. The information you provide will be kept entirely confidential and be used only for group analysis. Thank you very much for your cooperation.

SECTION A: These types of services are available on other campuses and in the community at large, please indicate your use of these services in the past five years prior to this school year, September, 1975.

I. COUNSELING SERVICE: YES ___ NO ___ (PLEASE CHECK. IF YES, COMPLETE TYPE(S), DURATION, LOCATION AND VALUE.)

	<u>Number of Visits</u>				<u>Location</u>		<u>Rate How Valuable</u>				
	0	1-4	5-9	10+	Campus	Community	Extremely Valuable	Quite Valuable	Of Little Value	Useless	Do Not Know
<u>Personal/Social Problems</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Marital/Family Problems</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Educational/Vocational</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Guidance</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Psychological Testing</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Tutorial Assistance</u>	___	___	___	___	___	___	1	2	3	4	5

II. HEALTH SERVICE: YES ___ NO ___ (PLEASE CHECK. IF YES, COMPLETE TYPE(S), DURATION, LOCATION AND VALUE.)

	<u>Number of Visits</u>				<u>Location</u>		<u>Rate How Valuable</u>				
	0	1-4	5-9	10+	Campus	Community	Extremely Valuable	Quite Valuable	Of Little Value	Useless	Do Not Know
<u>Regular Check-Up</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Medical Service</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Psychiatric Service</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Child Birth</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Emergency Service</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Other : _____</u>	___	___	___	___	___	___	1	2	3	4	5

PAGE TWO

SECTION B: These types of services are available at the University of Illinois and in the community at large; please indicate your use of these services since September, 1975.

I. COUNSELING SERVICE: YES ___ NO ___ (PLEASE CHECK. IF YES, COMPLETE TYPE(S), DURATION, LOCATION AND VALUE.)

	<u>Number of Visits</u>				<u>Location</u>		<u>Rate How Valuable</u>			<u>Do Not Know</u>	
	0	1-4	5-9	10+	Campus	Community	Extremely Valuable	Quite Of Little Value	Useless		
<u>Personal/Social Problems</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Marital/Family Problems</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Educational/Vocational Guidance</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Psychological Testing</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Tutorial Assistance</u>	___	___	___	___	___	___	1	2	3	4	5

II. HEALTH SERVICE: YES ___ NO ___ (PLEASE CHECK. IF YES, COMPLETE TYPE(S), DURATION, LOCATION AND VALUE.)

	<u>Number of Visits</u>				<u>Location</u>		<u>Rate How Valuable</u>			<u>Do Not Know</u>	
	0	1-4	5-9	10+	Campus	Community	Extremely Valuable	Quite Of Little Value	Useless		
<u>Initial Physical</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Medical Service</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Psychiatric Service</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Emergency Service</u>	___	___	___	___	___	___	1	2	3	4	5
<u>Other:</u>	___	___	___	___	___	___	1	2	3	4	5

SECTION C: In the future, to what extent would you consider using these services at the University of Illinois if an appropriate need arose. PLEASE CIRCLE THE APPROPRIATE CATEGORY.

	<u>Definitely Would</u>	<u>Probably Would</u>	<u>Probably Would Not</u>	<u>Definitely Would Not</u>
I. COUNSELING SERVICE:				
<u>Personal/Social Problems</u>	1	2	3	4
<u>Marital/Family Problems</u>	1	2	3	4
<u>Educational/Vocational Guidance</u>	1	2	3	4
<u>Psychological Testing</u>	1	2	3	4
<u>Tutorial Assistance</u>	1	2	3	4
II. HEALTH SERVICE:				
<u>Physical Check-Up</u>	1	2	3	4
<u>Medical Service</u>	1	2	3	4
<u>Psychiatric Service</u>	1	2	3	4
<u>Emergency Service</u>	1	2	3	4
<u>Other:</u>	1	2	3	4

PAGE THREE

SECTION D: In the future, to what extent would you consider using these services in the community at large if an appropriate need arose. PLEASE CIRCLE THE APPROPRIATE CATEGORY.

	<u>Definitely Would</u>	<u>Probably Would</u>	<u>Probably Would Not</u>	<u>Definitely Would Not</u>
I. <u>COUNSELING SERVICES:</u>				
<u>Personal/Social Problems</u>	1	2	3	4
<u>Marital/Family Problems</u>	1	2	3	4
<u>Educational/Vocational Guidance</u>	1	2	3	4
<u>Psychological Testing</u>	1	2	3	4
<u>Tutorial Assistance</u>	1	2	3	4
II. <u>HEALTH SERVICE:</u>				
<u>Physical Check-Up</u>	1	2	3	4
<u>Medical Service</u>	1	2	3	4
<u>Psychiatric Service</u>	1	2	3	4
<u>Emergency Service</u>	1	2	3	4
<u>Other: _____</u>	1	2	3	4

SECTION E: If money were not a consideration, what would your preference be as to where you chose the following services. PLEASE CHECK NEXT TO EACH CATEGORY IN REFERENCE TO PAST, PRESENT AND IN THE FUTURE.

	<u>PAST</u>		<u>PRESENT</u>		<u>IN THE FUTURE</u>	
	<u>Campus</u>	<u>Community</u>	<u>U of I</u>	<u>Community</u>	<u>U of I</u>	<u>Community</u>
I. <u>COUNSELING SERVICE:</u>						
<u>Personal/Social Problems</u>	---	---	---	---	---	---
<u>Marital/Family Problems</u>	---	---	---	---	---	---
<u>Educational/Vocational Guidance</u>	---	---	---	---	---	---
<u>Psychological Testing</u>	---	---	---	---	---	---
<u>Tutorial Assistance</u>	---	---	---	---	---	---
II. <u>HEALTH SERVICE:</u>						
<u>Physical Check-Up</u>	---	---	---	---	---	---
<u>Medical Service</u>	---	---	---	---	---	---
<u>Psychiatric Service</u>	---	---	---	---	---	---
<u>Emergency Service</u>	---	---	---	---	---	---
<u>Other: _____</u>	---	---	---	---	---	---

If you are utilizing either the counseling or health services at the University of Illinois, please note how you were informed as to their availability: _____

SECTION F: Each person handles problems in a different way. To whom are you most likely to turn to for help?

For each problem area indicate in order of preference (first choice - 1, second choice - 2, etc.) those persons you would turn to for assistance. It is important that you respond with at least one resource person for each problem area.

PROBLEM AREA	RESOURCE PERSON	PARENTS	OTHER FAMILY	ALONE	CLINICAL INSTRUCTOR	PHYSICIAN	CLERGY	PSYCHOLOGIST COUNSELOR	FRIEND	HUSBAND/WIFE	BOY/GIRL FRIEND	OTHER
Personal												
Social												
Marital												
Family												
School Adjustment Difficulties With Studying, Test Taking												
Choices in Clinical Specialty												
Tenseness and Worry												
Minor Physical Ailments												
Financial												

SECTION G:

As regards yourself at the present time PLEASE CHECK:

My physical health is: excellent _____ good _____ fair _____ poor _____
 My psychological health is: excellent _____ good _____ fair _____ poor _____
 My academic progress is: excellent _____ good _____ fair _____ poor _____

In the next section if the answer is yes, please note the number of admissions and reasons for each:

Have you been hospitalized in the past 5 years? YES _____ NO _____

Number of Admissions: _____ Reasons: _____

Hospitalization since September, 1975? YES _____ NO _____

Number of Admissions: _____ Reasons: _____

SECTION H: Please rate the extent to which you did not participate in your normal daily activities (work, school, etc.) for each of the reasons listed in column I.

COLUMN I	PRIOR SEPT 1975					AFTER SEPT 1975				
	Always	Often	Sometimes	Seldom	Never	Always	Often	Sometimes	Seldom	Never
Colds	1	2	3	4	5	1	2	3	4	5
Flu	1	2	3	4	5	1	2	3	4	5
Headache	1	2	3	4	5	1	2	3	4	5
Diarrhea	1	2	3	4	5	1	2	3	4	5
Constipation	1	2	3	4	5	1	2	3	4	5
Menstrual Pain	1	2	3	4	5	1	2	3	4	5
Tiredness	1	2	3	4	5	1	2	3	4	5
Accidents	1	2	3	4	5	1	2	3	4	5
Allergy	1	2	3	4	5	1	2	3	4	5
Other _____	1	2	3	4	5	1	2	3	4	5
_____	1	2	3	4	5	1	2	3	4	5

APPENDIX C
PERSONAL ORIENTATION INVENTORY

SCORING CATEGORIES FOR THE
PERSONAL ORIENTATION INVENTORY

<u>Number of Items</u>	<u>Scale Number</u>	<u>Symbol</u>	<u>Description</u>
I. Ratio Scores			
23	1/2	TI/TC	<u>TIME RATIO</u> : Time Incompetence/Time Competence - Measures degree to which one is "present" oriented.
127	3/4	O/I	<u>SUPPORT RATIO</u> : Other/Inner - Measures whether reactivity orientation is basically toward others or self.
II. Sub-Scales			
26	5	SAV	<u>SELF-ACTUALIZING VALUE</u> : Measures affirmation of a primary value of self-actualizing people.
32	6	Ex	<u>EXISTENTIALITY</u> : Measures ability to situationally or existentially react without rigid adherence to principles.
23	7	Fr	<u>FEELING REACTIVITY</u> : Measures sensitivity of responsiveness to one's own needs and feelings.
18	8	S	<u>SPONTANEITY</u> : Measures freedom to react spontaneously or to be one-self.
16	9	Sr	<u>SELF REGARD</u> : Measures affirmation of worth or strength.
26	10	Sa	<u>SELF ACCEPTANCE</u> : Measures affirmation or acceptance of self in spite of weaknesses or deficiencies.
16	11	Nc	<u>NATURE OF MAN</u> : Measures degree of the constructive view of the nature of man, masculinity, femininity.

<u>Number of Items</u>	<u>Scale Number</u>	<u>Symbol</u>	<u>Description</u>
9	12	Sy	<u>SYNERGY</u> : Measures ability to be synergistic, to transcend dichotomies.
25	13	A	<u>ACCEPTANCE OF AGGRESSION</u> : Measures the ability to accept one's natural aggressiveness, denial and repression of aggression.
28	14	C	<u>CAPACITY FOR INTIMATE CONTACT</u> : Measures ability to develop contactful intimate relationships with other human beings unencumbered by expectations and obligations.

APPENDIX D
CALIFORNIA PSYCHOLOGICAL INVENTORY

CALIFORNIA PSYCHOLOGICAL INVENTORY

Scales and Purposes

CLASS I: Measures of Poise, Ascendancy, Self-Assurance and Interpersonal Adequacy.

1. Do (dominance) - To assess factors of leadership ability, dominance, persistence and social initiative.
2. Cs (capacity for status) - To serve as an index of an individual's capacity for status (not his actual or achieved status). The scale attempts to measure the personal qualities and attributes which underlie and lead to status.
3. Sy (sociability) - To identify persons of outgoing, sociable, participative temperament.
4. Sp (social presence) - To assess factors such as poise, spontaneity and self-confidence in personal and social interaction.
5. Sa (self-acceptance) - To assess factors such as sense of personal worth, self-acceptance and capacity for independent thinking and action.
6. Wb (sense of well-being) - To identify persons who minimize their worries and complaints and who are relatively free from self-doubt and disillusionment.

CLASS II: Measures of Socialization, Responsibility, Intrapersonal Values and Character.

7. Re (responsibility) - To identify persons of conscientious, responsible and dependable disposition and temperament.
8. So (socialization) - To indicate the degree of social maturity, integrity and rectitude which the individual has attained.
9. Sc (self-control) - To assess the degree and adequacy of self-regulation and self-control and freedom from impulsivity and self-centeredness.
10. To (tolerance) - To identify persons with permissive, accepting and non-judgmental social beliefs and attitudes.

11. Gi (good impression) - To identify persons capable of creating a favorable impression and who are concerned about how others react to them.
12. Cm (communality) - To indicate the degree to which an individual's reactions and responses correspond to the modal ("common") pattern established for the inventory.

CLASS III: Measures of Achievement Potential and Intellectual Efficiency.

13. Ac (achievement via conformance) - To identify those factors of interest and motivation which facilitates achievement in any setting where conformance is a positive behavior.
14. Ai (achievement via independence) - To identify those factors of interest and motivation which facilitate achievement in any setting where autonomy and independence are positive behaviors.
15. Ie (Intellectual efficiency) - To indicate the degree of personal and intellectual efficiency which the individual has attained.

CLASS IV: Measures of Intellectual and Interest Modes.

16. Py (psychological-mindedness) - To measure the degree to which the individual is interested in, and responsive to, the inner needs, motives and experiences of others.
17. Fx (flexibility) - To indicate the degree of flexibility and adaptability of a person's thinking and social behavior.
18. Fe (femininity) - To assess the masculinity or femininity of interests. (High scorers indicate more feminine interests, low scorers more masculine.)

APPENDIX E
MI-SRI FORM M

MILLON ILLINOIS-SELF REPORT INVENTORY

<u>Scales</u>	<u>Description</u>
PERSONALITY	
A	<u>APATHETIC:</u> High scorers are rather colorless and emotionally flat, tending to be quiet and untalkative, unconcerned about their problems. Typically they are lacking in energy.
B	<u>SENSITIVE:</u> High scorers tend to be fearful of others and are often shy and ill-at-ease. They are easily hurt, distrustful and have low opinions of themselves.
C	<u>COOPERATIVE:</u> High scorers tend to be good-natured, gentle and generous with others. Rarely do they take the initiative and expect to be told exactly what to do. They tend to belittle themselves and are inclined to deny any real problems.
D	<u>SOCIABLE:</u> High scorers are superficially very sociable, talkative and charming. They are changeable in their likes and dislikes. They are concerned with "appearing nice and attractive" rather than with solving their problems. Dependability is low.
E	<u>SELF-ASSURED:</u> High scorers act in a somewhat self-centered and confident manner. They expect to be given special treatment, take advantage of others and tend not to cooperate.
F	<u>ASSERTIVE:</u> High scorers tend to be domineering, toughminded and are often hostile and angry. They do not trust others and are often suspicious of their motives.
G	<u>DISCIPLINED:</u> High scorers are efficient and disciplined. They hold their feelings inside and will try to impress others as being well-controlled, serious-minded and responsible.
H	<u>UNPREDICTABLE:</u> High scorers tend to be emotional, moody and dissatisfied with themselves and others. They are discontent and pessimistic much of the time.

<u>Scales</u>	<u>Description</u>
	PSYCHIATRIC INDEX
FL	<u>FLAG SCORE:</u> High scorers have indicated the presence of several symptoms of potential psychiatric disturbance.
	MEDICAL
M1	<u>PREMORBID PESSIMISM:</u> High scorers are prone to illness. They are disposed to interpret life as a series of troubles and misfortunes and are likely to intensify discomforts they experience with real physical and psychological difficulties.
M2	<u>RECENT LIFE STRESS:</u> High scorers have an increased susceptibility to serious illness for the year following test administration. Recent marked changes in their life predicts a significantly higher incidence of poor physical and psychological health in the population at large.
M3	<u>CHRONIC TENSENESS:</u> High scorers are disposed to suffer various psychosomatic and physical ailments, notably in the cardiovascular and digestive systems. They seem constantly on the go, live under considerable self-imposed pressure and have trouble relaxing.
M4	<u>PHYSICAL ANXIETIES:</u> High scorers tend to be hypochondriacal and susceptible to various minor illnesses. They experience an abnormal amount of fear concerning bodily functions.
M5	<u>ALIENATION AND ISOLATION:</u> High scorers are prone to physical and psychological ailments. They often feel alone and abandoned by family and friends.
M6	<u>INADAPTIVE FUTURE ORIENTATION:</u> High scorers have a poor prognostic picture. They tend not to think about the future and, if they do, they anticipate difficulties and problems.
M7	<u>NEGATIVE MEDICAL ATTITUDES:</u> High scorers tend to distrust doctors, hospitals and medications. They hesitate employing such health services and do so with considerable resentment.

APPENDIX F
RELEASE FORM

Date: _____

To Whom it May Concern:

I give permission for the information and test results
to be used for research purposes.

Signed

APPENDIX G

DR. HELEN K. GRACE

UNIVERSITY OF ILLINOIS
Graduate College
Department of Nursing

September 23, 1975

Dear Student:

Our records indicate that you were not present for student testing and evaluation on Friday, September 19, 1975. It will be necessary for you to take this test.

Please come to Room 1156 on Wednesday, Thursday or Friday, September 24, 25 or 26, 1975 for testing.

Helen K. Grace, R.N., Ph.D.
Professor and Associate Dean
Graduate Study

HKG:em

UNIVERSITY OF ILLINOIS
Graduate College
Department of Nursing

TO: _____

FROM: Helen K. Grace
Professor and Associate Dean, Graduate Study

DATE: September 26, 1975

Our records indicate that you have not completed the research study in the nursing population at the University of Illinois.

You may complete the test at home and return to this office before next Tuesday, September 30.

Please come to Room 1156 to obtain your folder.

UNIVERSITY OF ILLINOIS
Graduate College
Department of Nursing

THIRD NOTICE

TO: _____

FROM: Helen K. Grace
Professor and Associate Dean, Graduate Study

DATE: October 2, 1975

Our records indicate that you still have not completed the research study in the nursing population at the University of Illinois.

You may complete the test at home and return to this office by next Thursday, October 9.

Please come to Room 1156 to obtain your folder.

UNIVERSITY OF ILLINOIS
Graduate College
Department of Nursing

FOURTH NOTICE

TO: _____

FROM: Helen K. Grace
Professor and Associate Dean, Graduate Study

DATE: October 14, 1975

It has been brought to my attention that you have disregarded the three prior notices advising you to complete the research study in the nursing population at the University of Illinois. Our records indicate that you have not taken this test or have not completed it.

The tests are necessary insofar as one has respect for the need for support of research and the advancement of knowledge. My guess is that you will appreciate the necessity when you find yourself in the position of doing a piece of research where you need the cooperation and participation of others. We cannot force you to take the test, but it seems a rather small contribution we have asked you to make to someone else's research.

Please make a special effort to come to Room 1156 to obtain the test and it may be taken home for completion. The deadline for returning the test is October 24, as we have made arrangements for them to be picked up on this date.

APPENDIX H
LETTER DATED DECEMBER 23, 1975
AND SIGNED BY AUDREY MELAMED



THE ABRAHAM LINCOLN SCHOOL OF MEDICINE

Department of Psychiatry

912 South Wood Street · Chicago, Illinois · Area Code 312, Telephone 663-

Mailing Address: P.O. Box 6998 · Chicago, Illinois 60680

December 23, 1975

Dear Student:

Thank you in advance for your cooperation in this research project. The questionnaire which follows concludes the data gathering phase of the study.

After all the data has been obtained from students and analyzed, various sessions will be set up for the interpretations of results.

The time you have taken in your busy schedule to complete these forms has been most appreciated and will be of considerable assistance to the nursing professions in guiding the welfare and training of future students.

Sincerely,

Audrey Melamed

Audrey Melamed, R.N., M.A.
Research Associate

AM: sr

APPENDIX I

DR. HELEN K. GRACE FOLLOW-UP

UNIVERSITY OF ILLINOIS
Graduate College
Department of Nursing

January 14, 1976

TO: _____

FROM: Helen K. Grace
Head, Department of Nursing Sciences

On January 2, 1976 we sent to you the second part of the Student Services Questionnaire. We asked that you complete and return this questionnaire to Room 1156 on or before January 12, 1976.

Since we have not heard from you, we are asking that you please take 15 minutes and complete it. Thank you for your cooperation.

APPENDIX J

LETTER DATED JANUARY 21, 1976

AND SIGNED BY AUDREY MELAMED



THE ABRAHAM LINCOLN SCHOOL OF MEDICINE

Department of Psychiatry

912 South Wood Street · Chicago, Illinois · Area Code 312, Telephone 663-

Mailing Address: P.O. Box 6998 · Chicago, Illinois 60680

January 21, 1976

Hello!

Please take a moment to read this and assist in completion of an important project, being carried out at the school of nursing. Enclosed is a Student Service Questionnaire with a return addressed campus envelope. You were kind enough to be part of this research in the fall and the follow-up questionnaire is an essential aspect of the study.

None of the information contained will be part of your personal file, but will be used only for group analysis. If you wish, you will be provided with an opportunity to look over the final interpretation of results.

Thank you kindly for your consideration.

Sincerely,

Audrey Melamed, R.N., M.A.
Research Associate

AM:sr

APPENDIX K
GUIDELINES

MI-SRI FORM M

The main criterion for identifying those who are likely to need psychological-academic counseling are high scores, e.g., above 75, on three of the Personality Scales, Sensitive (Scale 2), Unpredictable (Scale 8) and Flag Score (F1). Also useful in identifying these are high scores on Premorbid Pessimism (Scale M1), Physical Anxieties (Scale M4) and Inadaptive Future Orientation (Scale M6).

Those who have need but are likely not to come for counseling, are likely to have high scores on the Personality Scales, Apathetic (Scale 1), Cooperative (Scale 3), Disciplined (Scale 7) and the Negative Medical Attitude (Scale M7).

APPROVAL SHEET

The dissertation submitted by Audrey Ruth Melamed
has been read and approved by the following committee:

Dr. Manuel S. Silverman, Director
Associate Professor
Guidance and Counseling, Loyola

Dr. John A. Wellington
Professor
Guidance and Counseling, Loyola

Dr. Jack A. Kavanagh
Assistant Professor
Foundations of Education, Loyola

Dr. Theodore Millon
Professor, Psychology
University of Illinois Circle Campus
Psychiatry, University of Illinois College of Medicine

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirement for the degree of Doctor of Philosophy.

5-17-76
Date

Manuel S. Silverman
Director's Signature