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A NATIONAL SURVEY OF WOMEN PHARMACISTS: THEIR ATTITUDES, CAREER PRACTICE PATTERNS, AND VOCATIONAL INTERESTS

by

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CHAPTER ONE

INTRODUCTION

> A conservative projection of the trend of enrollment of women pharmacists from 1959 on shows that by the year 2000, if there are no changes in the present rate of enrollment, we will begin to approach 100 percent women pharmacy students.[1]

This startling statement made by a leading pharmacy educator dramatically demonstrates the impact women have had on pharmacy during the 1960's, and what the potential consequences might be if the present trend continues through the twentieth century. As Dr. Charles Bliven recently reported, there is reason to believe that the percentage of women enrolling in pharmacy will be even higher this year than in the past.[2] An article appearing last year in the American Druggist contained the suggestion that a pharmacy school be created to specialize in the "recruitment, training, and placement of women."[3]

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1. Salisbury, Rupert, "Will There Be A Woman Pharmacist in the Health Care Center of Tomorrow?" Paper presented at Women and Pharmacy Symposium, Philadelphia, Pennsylvania, February 21, 1970.

2. Bliven, Charles W., "Pharmacy Manpower Requirements," Speech presented to District 4 of the NABP, November 2, 1971.

3. "A Pharmacy School Geared for Women?" American Druggist (163:9) May 3, 1971, p. 20.

While some people appear to see a "takeover" of pharmacy by women, others have voiced the opinion that while pharmacy is an excellent profession for women, pharmacy should not become a woman's profession.[4] In any case, it would appear the time has come to consider seriously how this large number of potential women pharmacists will affect future pharmacy manpower needs. It has been stated that manpower predictions for the near future may be understated if the proportion of female pharmacists increases.[5]

Women pharmacists were given token recognition in the Pharmaceutical Survey conducted in the late 1940's. This survey recognized women had an important place in pharmacy and would have an even more important place in the future.[6] However, the manpower predictions for the future did not include an increase in the percentage of women pharmacists, which at the time of the survey was thought to be about

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4. Horton, Juanita P., "Women and Pharmacy in the 1970's," Paper presented at Women and Pharmacy Symposium, Philadelphia, Pennsylvania, February 21, 1970.

5. Schimpfhauser, Frank T. and D'Costa, Ayres G., A Report: The Career Development of Pharmacists, American Association of Colleges of Pharmacy, 1971, p. 35.

6. Elliott, Edward C., The General Report of the Pharmaceutical Survey, 1946-49, American Council on Education, Washington, D.C., 1950, p. 154.

four percent.[7] A weakness of the Survey was it was based on incomplete U.S. Bureau of Census statistics, as pharmacy leaders did not maintain their own census data.

The number of women pharmacists never has been large enough for them to be considered a significant part of pharmacy manpower, as evidenced by the lack of attention given to women in the pharmacy literature over the years. This subordinated status of women pharmacists likely will change during the 1970's, as the effect of increasing numbers of women pharmacy students today becomes evident later when these students become pharmacists.

Women in the National Labor Force

A portion of the increase in the number of women studying pharmacy probably reflects the trend of more women in most types of work becoming part of the labor force. Currently 48.6 percent of women in the United States in the age range of 25 to 65 years are included in the nation's labor force.[8] This percentage compares to a figure of 43.9 percent five years ago,[9] 40.3 percent ten years

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7. Ibid., p. 145.

8. U.S. Bureau of the Census, Statistical Abstract of the United States 1971 (92d edition) U.S. Department of Commerce, Washington, D.C., 1971, p. 213.

9. U.S. Bureau of the Census, Statistical Abstract of the United States 1966 (87th edition) U.S. Department of Commerce, Washington, D.C., 1966, p. 228.

age,[10] and 37.8 percent fifteen years ago.[11]

There are many explanations for the consistent trend in more women joining the labor force. One reason given is that technology in the kitchen, a longer life span, and smaller families have provided women with the opportunity both to raise a family well and still enjoy a satisfying career.[12] Others believe that the acceptance of women into the work force in World War II apparently set in motion changes in the social role for women. These changes, when paired with the changes in social expectations for men, ultimately may wipe out distinction between the two sexes.[13] Still others have stated that the issues of similarity or differences between men's and women's capabilities increasingly are being seen as part of the more general issue of individual differences. This has resulted in the entire range of jobs in the world of work becoming more open

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10. U.S. Bureau of the Census, Statistical Abstract of the United States 1961 (82d edition) U.S. Department of Commerce, Washington, D.C., 1961, p. 214.

11. U.S. Bureau of the Census, Statistical Abstract of the United States 1956 (77th edition) U.S. Department of Commerce, Washington, D.C., 1956, p. 196.

12. Farmer, Helen S., "Helping Women to Resolve the Home-Career Conflict," The Personnel and Guidance Journal (49:10) June 1971, p. 796.

13. Zytowski, Donald G., "Toward a Theory of Career Development for Women," The Personnel and Guidance Journal (47:7) March 1969, p. 661.

to women on an equal basis with men.[14] One less complicated explanation of why more women are entering pharmacy is there now is less need for all pharmacists to have responsibilities in business management.[15]

More meaningful comparisons for women pharmacists might be made if the female labor force used as a base was limited to women in the "professions." Although the number of women entering professional positions has increased in time, the percent increase is considerably less than that of men.[16,17] Zytowski reported, "It has been pointed out that the number of women students in professional schools today is much the same as it was in 1910, shortly after women originally gained access to them."[18] The dominant attitudes and norms concerning the role of the woman in our society still are perceived to be incompatible with the concept of a successful

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14. Rapoport, Rhona and Rapoport, Robert N., "The Dual Career Family: A Variant Pattern and Social Change," Human Relations (22:1) February 1969, pp. 26-27.

15. "Rise In Number of Women Students Tops Men 3 to 1," American Druggist (157:4) February 12, 1968, p. 20.

16. Underutilization of Women Workers, U.S. Department of Labor, Washington, D.C., 1971, p. iv.

17. Knudsen, Dean D., "The Declining Status of Women: Popular Myths and the Failure of Functionalist Thought," Social Forces (8:2) December 1969, p. 189.

18. Zytowski, op. cit., p. 662.

professional woman.[19] Knudsen concluded from his study of all professional occupations involving 5,000 or more women that over the past 25 years, women's status, as defined by occupational, income, and educational levels, has declined relative to men's.[20] The mystique persists that it is unfeminine for a woman to succeed, to be capable, or to achieve.[21] Thus, while more women are entering the professions, it would appear their status has not improved at the same rate.

One area within the professional and technical field which women hold the majority of jobs is the health field, where about 70 percent of all workers are women.[22] However, although women are represented heavily in the health fields, only about seven percent of all physicians are women,[23] only about two percent of all dentists are

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19. Lewin, Arie Y., and Duchan, Linda, "Women in Academia," Science (173:4000) September 3, 1971, p. 892.

20. Knudsen, op. cit., p. 190.

21. Stevens, Barbara, "The Psychotherapist and Women's Liberation," Social Work (16:3) July 1971, p. 13.

22. Greenfield, Harry I. and Brown, Carol A., Allied Health Manpower: Trends and Prospects, Columbia University Press, New York, 1969, p. 24.

23. Underutilization of Women Workers, U.S. Department of Labor, Washington, D.C., 1971, p. 11.

women,[24] and only about nine percent of all pharmacists are women.[25]

Women In Pharmacy

Although much attention has been given lately to the increased number of women enrolling in pharmacy schools, the United States probably has one of the lowest ratios of women pharmacists in the world. Examples of this can be found in Latin American countries where 75 to 80 percent of the pharmacists are women; in France, Italy, and Spain, the percentage is well over 50 percent, while about 50 percent of the pharmacists in Germany and the Scandinavian countries are women.[26] A 1969 study of members of the Pharmaceutical Society of Great Britain showed that nearly 25 percent were women.[27] A 1965 study in Great Britain of future manpower needs in pharmacy showed that although the total number of pharmacists in the foreseeable future was expected to increase slightly, the most significant change

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24. Abelson, Philip H., "Women In Academia," Science (175:4018) January 14, 1972, p. 127.

25. Licensure Statistics, Census, National Association of Boards of Pharmacy, Chicago, 1971.

26. "Rise in Number of Women Students Tops Men 3 to 1," op. cit., p. 20.

27. "Survey Shows Striking Increase in Female Members," The Pharmaceutical Journal (203:5534) November 22, 1969, p. 614.

was that the proportion of women probably would double from 20 percent in 1962 to 40 percent in 1982.[28]

The fact that many other countries have a higher percentage of women pharmacists than the United States does not mean we should not be concerned about our increasing percentage. Comparing total percentages of women pharmacists between countries serves only as a point of information, due to differences in social attitudes and norms regarding the role of women in the labor force.

Women Pharmacy Students

The percentage of women in pharmacy remained close to 10 percent over the years until the late 1950's. A 1938 report on the status of women in pharmacy stated that women made up 10 percent of students entering and graduating from pharmacy school.[29] A report of enrollment in the AACP member colleges in 1951-52 showed 9.4 percent of the pharmacy students to be women.[30] Ten years ago, the

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28. "The Next 10 to 15 Years," The Pharmaceutical Journal (196:5331) January 1, 1966, p. 11.

29. "Report of the Committee on the Status of Women in Pharmacy," American Journal of Pharmaceutical Education (2:1) January 1938, p. 70.

30. "Report of Executive Committee for the Association Year, 1950-51," American Journal of Pharmaceutical Education (15:4) October 1951, p. 544.

percentage of women in pharmacy schools had risen to 12.4 percent,[31] while five years ago, the figure was 14.7 percent.[32] The most current enrollment statistics show that for the academic year 1971-72, women are 24.0 percent of all pharmacy students.[33] A recent study of future pharmacy manpower showed that if present trends continue, by 1975-76, 24.6 to 26.5 percent of all undergraduate pharmacy degrees will be received by women.[34] Thus, a definite trend has developed over the last ten years.

The future of women pharmacists would appear to be promising as evidenced by optimistic statements recently made by some pharmacy leaders. Horton has described several social changes which she thinks will create a favorable social climate for the development of more women

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31. "Report on Enrollment In Schools and Colleges of Pharmacy, First Semester, Term, or Quarter, 1961-62," American Journal of Pharmaceutical Education (26:1) Winter 1962, p. 76.

32. "Report on Enrollment In Schools and Colleges of Pharmacy, First Semester, Term, or Quarter, 1966-67," American Journal of Pharmaceutical Education (31:1) February 1967, p. 47.

33. "Report on Enrollment In Schools and Colleges of Pharmacy, First Semester, Term, or Quarter, 1971-72," American Journal of Pharmaceutical Education (36:1) February 1972, p. 125.

34. Newton, David Simpson, "An Inquiry into the Supply and Demand for Pharmacy Manpower, 1960-1975," Unpublished Ph.D. Dissertation, University of Mississippi, 1971, p. 64.

pharmacists.[35] Andersen believes women have a greater capacity for change than men, and that this ability will be their greatest professional attribute in the emerging decades of health care.[36] Salisbury has stated that not only will there be a woman pharmacist in whatever the health care center of the future is, but if present trends remain unchanged, in all likelihood, most of the pharmacists in that institution, if not all of them, will be women.[37]

Although the above statements make pharmacy sound like an ideal profession for women, the outlook has not always been so bright. Wakefield wrote in 1937 that it was more difficult for women pharmacy graduates to get jobs than men graduates, although she went on to say that this problem was not peculiar to pharmacy.[38] The author of a textbook of medical occupations for girls, published in 1939, included the following points about pharmacy: (a) women were discriminated against for jobs in favor of men pharmacists; (b) salaries for women pharmacists were not high; and (c) two pharmacy schools would not accept women

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35. Horton, op. cit.

36. Andersen, Mary Louise, "Where Do We Go From Here," Paper presented at Women and Pharmacy Symposium, Philadelphia, Pennsylvania, February 21, 1970.

37. Salisbury, op. cit.

38. Wakeman, Nellie A., "Women In Pharmacy," American Journal of Pharmaceutical Education (1:2) April 1937, pp. 147-148.

students at all.[39] It is doubtful, if a young lady reading that book would have spent much time considering a career in pharmacy. Of 21 professions studied by Knudsen, pharmacy was the only one that had fewer women in 1960 than in 1950.[40] A Public Health Service report helps confirm this finding. This report showed that in 1950, 8.3 percent of employed pharmacists were women, compared to only 7.7 percent in 1960.[41] Indeed, the outlook for women in pharmacy has improved over a relatively short period of time, but pharmacy leaders now must develop ways of accommodating more women into the profession.

Need for Counseling of Women in High School and College

With more and more women choosing pharmacy for a career, it becomes important that these women receive accurate information regarding the role of women in pharmacy prior to enrolling in pharmacy school. This responsibility falls heavily onto high school guidance

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39. Klinefelter, Lee M., Medical Occupations for Girls, E. P. Dutton & Company, Inc., U.S.A., 1939, pp. 243-265.

40. Knudsen, op. cit., p. 186.

41. Peterson, P. Q. and Pennell, M. Y., Health Manpower Source Book, Section 15, "Pharmacists," Public Health Service Publication No. 263, Sec. 15, Division of Public Health Methods, Public Health Service, U.S. Department of Health, Education, and Welfare, 1963, p. 30.

counselors. There long has been criticism of the type of vocational counseling young women receive, which should concern pharmacy educators. A 1963 report of the President's Commission on the Status of Women warned that far too few counselors had received supervised practice in counseling women, and that counseling based on obsolete assumptions was routine at best, and dangerous at worst.[42] The report stated that in quantity as well as quality, counseling for high school girls was wholly inadequate.[43] Apparently, these remarks went unheeded as in 1971, the Citizens' Advisory Council on the Status of Women published data about working women which included a criticism of vocational counseling. The report stated that much of the vocational counseling girls received was inadequate and obsolete because it failed to recognize the importance of three major factors: (a) the multiple roles of women in modern society; (b) the emergence of broader employment horizons for women; and (c) the strategic value to a young girl of long-range planning and preparation for job futures consistent with individual abilities and interests.[44]

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42. American Women, Report of the President's Commission on the Status of Women, Washington, D.C., 1963, p. 15.

43. Ibid., p. 15.

44. Women In 1970, Citizens' Advisory Council on the Status of Women, Washington, D.C., 1971, p. 5.

Eyde recently discussed what changes are needed in vocational counseling of girls. She concluded that subtle bias in counseling might be preventing some women from entering careers in non-traditional fields such as engineering. She also said counselors needed to be aware of subtle changes occurring in occupations so as to prepare women for the future instead of for the past.[45] Lewis has stated that much of what passes for vocational and educational guidance of girls has been at best of little long-term value, and has more often shunted them into a narrow existence.[46]

Of course, a student is not dependent completely upon a guidance counselor to find a suitable career plan. It has been stated that the importance of counseling during the high school and college years varies inversely to the stimulation, encouragement, and direction which the students receive at home and in their classes.[47] However, it is thought counselors can help "explode old myths" with regard to a woman's place in society and facilitate choices more in line with a girl's academic potential.[48] There generally

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45. Eyde, Lorraine D., "Eliminating Barriers to Career Development of Women," The Personnel and Guidance Journal (49:1) September 1970, p. 27.

46. Lewis, Edwin C., Developing Woman's Potential, Iowa State University Press, Ames, 1968, p. 215.

47. Lopate, Carol, Women In Medicine, Johns Hopkins Press, Baltimore, 1968, p. 47.

48. Farmer, op. cit., p. 800.

has been a social attitude of anti-intellectualism, distrust, and misunderstanding of those women who have "brains and ambition."[49] The role of guidance counselors in helping girls decide on careers certainly cannot be minimized.

Although there are numerous theories regarding techniques to use in counseling students, most counselors use one or more types of psychological tests in assessing various characteristics of the individual.[50] Farmer recently stated, "It seems clear that recognition of differences in the vocational choice pattern for women as compared with men implies the need for counseling and the use of psychometric instruments which take these differences into account."[51] Unfortunately, as Lewis has pointed out, the quality of psychological tests and information used with girls is not nearly as good as that used with boys.[52]

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49. Barbier, Marietta N., "Counseling the Mature Woman," Adult Leadership (20:5) November 1971, p. 188.

50. See Peters, Herman J. and Hansen, James C., Vocational Guidance and Career Development, The Macmillan Company, New York, 1966, for a text of selected readings which describe the history and recent developments and theories in the field of vocational guidance.

51. Farmer, op. cit., p. 797.

52. Lewis, op. cit., p. 218.

The Strong Vocational Interest Blank

One of the differences in types of psychological tests is whether the instrument measures ability or interests. As early as 1912, Thorndike found a person's relative interests to be an extraordinarily accurate symptom of his relative capacities.[53] He stated, "It would indeed be hard to find any feature of a human being which was a much more permanent fact of his nature than his relative degree of interest in different lines of thought and action."[54] A study by Ferguson showed while success over a relatively short period of time depended more on ability than on interest, success over a relatively long period of time depended much more on interest than ability.[55]

Thorndike concluded from his 1912 study that there was a need for more detailed investigations into interests and abilities.[56] One such person to do this was Edward K. Strong, Jr., who developed the Strong Vocational Interest

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53. Thorndike, Edward L., "The Permanence of Interests and Their Relation to Abilities," The Popular Science Monthly (81) November 1912, p. 455.

54. Ibid., p. 456.

55. Ferguson, Leonard, "Ability, Interest, and Aptitude," Journal of Applied Psychology (44:2) April 1960, p. 131.

56. Thorndike, op. cit., p. 456.

Blank (SVIB) as a means to determine a person's vocational interests. Strong first published his interest inventory in 1927, and it has become a widely respected psychological measuring instrument.[57] The SVIB is available in two forms, one for men and another for women. The women's form first was published in 1933.[58]

The primary function of the SVIB is to help a student understand how his or her preferences compare with those of people employed in various jobs.[59] Strong explained in his original publication of the SVIB that a score on an occupational scale was a measure of how nearly a person's interests coincided with those of the average person successfully engaged in that occupation.[60]

Need for a Pharmacist Scale on the SVIB for Women

At the present time, there are 58 occupations represented on the SVIB for Women. Health care occupations which are represented are: physician, dentist, medical

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57. Strong, Edward K., Jr. and Campbell, David P., SVIB Manual, Stanford University Press, California, 1966, p. iii.

58. Campbell, David P., Handbook for the Strong Vocational Interest Blank, Stanford University Press, Stanford, 1971, p. 5.

59. Campbell, David P., SVIB Manual - 1969 Supplement, Stanford University Press, Stanford, 1969, p. 1.

60. Strong, Edward K., Jr., Vocational Interests of Men and Women, Stanford University Press, Stanford, 1943, p. 67.

technologist, physical therapist, public health nurse, registered nurse, licensed practical nurse, radiologic technologist, and dental assistant.[61] Notably absent from this list of health field occupations is the pharmacist. Although a Pharmacist scale was developed for the SVIB for Men by Schwebel in 1947,[62] no work has been devoted to developing a Pharmacist scale for the SVIB-W. A recent study of SVIB scores of male and female pharmacy students concluded there was a need for a Pharmacist scale on the SVIB-W.[63] Two reasons given for why such a scale was necessary were to: (a) make counselors more aware that women are practicing pharmacy; and (b) help counselors advise women students interested in a health-related career.[64] Certainly with the increasing number of women entering pharmacy schools, a Pharmacist scale on the SVIB-W would serve to give girls an idea of how their interests compare to those of women pharmacists. Such a scale, when combined with other measuring instruments at the disposal of guidance counselors, would help women

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61. Campbell, 1971, op. cit., pp. 390-393.

62. Schwebel, Milton, The Interests of Pharmacists, King's Crown Press, New York, 1951.

63. Kirk, Kenneth W., Ohvall, Richard A., and Johnson, Richard W., "Vocational Interests of Pharmacy Students," American Journal of Pharmaceutical Education (35:4) November 1971, p. 569.

64. Ibid., p. 569.

students to make more rational decisions regarding their potential as a pharmacist.

Need for a Study of Women in Pharmacy

The lack of a Pharmacist scale on the SVIB-W is a good example of how little research has been done on women in pharmacy. In 1940, Moote compiled a bibliography of articles on women pharmacists which had been written over the preceding 60 years.[65] However, most of these references were about individual women pharmacists, and they did not include much about practice patterns and opportunities for women.

In 1967, Ohvall and Sehgal did a detailed study of women pharmacists who graduated from the University of Wisconsin and women who were practicing in Wisconsin. Their study centered around the practice patterns of women pharmacists.[66] Austin and Smith recently completed a descriptive study of female hospital pharmacists in an eight state area in which the women were asked questions concerning their professional and personal lives, and their

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65. Moote, Ruth, "Bibliography of Women In American Pharmacy," Unpublished B.S. thesis, The University of Wisconsin, Madison, 1940.

66. Ohvall, Richard A. and Sehgal, Surinder K., "Practice Continuity and Longevity of Women Pharmacists," Journal of the American Pharmaceutical Association (NS9:10) October 1969, pp. 518-520.

relation to the practice of hospital pharmacy.[67]

There never has been an extensive study done of women pharmacists on a national level. Ohvall believes a nationwide study of women pharmacists would help explain why women are turning suddenly to careers in pharmacy.[68] A recent statement by Bliven demonstrates the indecisiveness of data available on women pharmacists. He reported that "if" women have shorter working careers and "perhaps" practice fewer hours per day, these are factors affecting our manpower needs.[69] As a 1971 report stated, pharmacy has lagged in studying manpower needs and services, as compared to other health professions.[70]

In 1970, a group of pharmacy leaders from across the country met at the Philadelphia College of Pharmacy and Science to discuss the future of pharmacy in light of the increased number of women enrolling in Schools of Pharmacy. This "Women and Pharmacy" symposium was the only topic covered in the 1970 Summer issue of Pharmacy News.[71] The

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67. Austin, Jo Ellen and Smith, Mickey C., "Women In Hospital Pharmacy-A Study in Eight States," American Journal of Hospital Pharmacy (28:1) January 1971, pp. 26-36.

68. "What's the Big Attraction?" Pharmacy News (11:2) Smith Kline & French Laboratories, Summer 1970, p. 8.

69. Bliven, op. cit.

70. Schimpfhauser, op. cit., p. 36.

71. Pharmacy News (11:2), Smith Kline & French Laboratories, Summer 1970.

symposium served notice that people in nearly all branches of pharmacy are aware of and concerned about the potential impact an increasing percentage of women pharmacists will have on pharmacy practice.

In November 1971, officials of the American Association of Colleges of Pharmacy announced they had initiated a feasibility study to develop a pharmacy manpower information system. Among the various manpower factors to be investigated is the increasing number of women pharmacists.[72]

In the Spring of 1971, a group of pharmacists met in Philadelphia to discuss the possibility of a national study of women pharmacists.[73] It was decided to conduct such a study to determine women's participation in and opinions about the practice of pharmacy. Emphasis was to be placed on the career opportunities for women pharmacists. In addition, it was thought the completion of the Strong Vocational Interest Blank for Women by a large sample of women pharmacists would create a better understanding of the interest patterns of women pharmacists. Hopefully, knowledge of these interest patterns then could be used to improve the counseling of female students who may be interested in a science or health professions career.

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72. "Pharmacy Manpower Study Begun by AACP," American Journal of Pharmaceutical Education (35:4) November 1971, p. 665.

73. See Appendix A for additional information about this meeting.

Objectives

The specific objectives of this study of women pharmacists are to:

a. Describe the demographic characteristics of a sample of at least 500 women pharmacists. Such information could result in a better understanding of the type of women who are practicing pharmacy today.

b. Determine the practice patterns of women pharmacists using: (1) hours working per week; (2) percentage of time spent practicing pharmacy since becoming a pharmacist; and (3) plans in pharmacy for the next five years.

c. Determine the attitude of women pharmacists toward continuing education using: (1) opinion of the need for continuing education to be made mandatory for the relicensure of pharmacists; (2) opinion of the need for special continuing education programs for inactive women pharmacists; and (3) number of continuing education programs attended during the last two years.

d. Compare opinions about selected current issues in pharmacy between: (1) active and inactive

women pharmacists; (2) types of pharmacy practice; and (3) membership in various pharmacy organizations.

e. Determine the attitudes of women pharmacists concerning the opportunities for women in the profession using: (1) reported advantages and disadvantages of women pharmacists over male pharmacists; (2) reasons given for recommending or not recommending pharmacy to an interested high school girl; and (3) the primary reason thought to explain why women now are choosing pharmacy for a career.

f. Compare the salaries of women pharmacists between: (1) types of practice; (2) full-time and part-time pharmacists; (3) AACP Districts; (4) years of practice; and (5) population in area where practicing.

g. Administer the Strong Vocational Interest Blank for Women to at least 300 practicing women pharmacists, and to at least 100 women pharmacists not currently practicing pharmacy, and compare vocational interests between: (1) geographic location; (2) types of pharmacy practice; (3) years of practice; (4) time

spent practicing pharmacy per week; and (5) active and inactive pharmacists.

h. Develop a profile of vocational interests of a sample of women pharmacists which meets the criteria established for the development of an occupational scale on the Strong Vocational Interest Blank.

CHAPTER TWO

METHODOLOGY

Data for this study were obtained from a national sample of women pharmacists who were known to be registered in the United States between 1965 and 1968. The data collecting instruments were: (1) a four-page mail questionnaire; and (2) the Strong Vocational Interest Blank for Women. Statistical analyses were made using various computer programs.

Development of the Questionnaire

A four-page questionnaire to be mailed to each of the women pharmacists was developed.[1] The following types of information were requested in the questionnaire: (1) demographic data; (2) pharmacy career practice patterns;[2] (3) involvement in pharmacy; (4) satisfaction with pharmacy; and (5) opinions about selected current issues in pharmacy, with emphasis placed on continuing education. If the respondent was willing to complete the SVIB-W, she

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1. A copy of the questionnaire can be found in Appendix B.

2. Throughout this study, the term "career practice patterns" will be used. "Career Practice Patterns" is defined as the percentage of time a woman has spent in pharmacy practice, either full-time or part-time, since becoming a pharmacist.

indicated this at the bottom of the last page of the questionnaire.

The questionnaire was pretested by ten women pharmacists practicing in Madison, Wisconsin. These women were contacted by telephone and asked to participate. All ten questionnaires were completed and returned along with comments and suggestions regarding the strong and weak parts of the questions. Specifically, the ten women were asked to write the following after they completed the questionnaire: (1) length of time it took to complete the questionnaire; (2) any questions which were found to be difficult to understand or to answer; and (3) any other comments which might be of value to the study. After analyzing the returned questionnaires, it was decided that only minor revisions were necessary.

Sample Selection

A computer tape was obtained from the National Association of Boards of Pharmacy (NABP) offices in Chicago, Illinois, which contained a listing of all registered pharmacists in the United States. Data for this listing were collected by the NABP in cooperation with the National Center for Health Statistics through the State licensing boards of pharmacy in the 50 states and the District of Columbia during the period from October 1965

through March 1968.[3]

The computer tape was duplicated so it could be used by the computer facilities contracted for this study. The tape listed the pharmacists in alphabetical order by city. Cities were in alphabetical order by state, and the states were in alphabetical order, except for Alaska and Hawaii which were listed last on the tape. The tape supplied the following information used in this study: (1) pharmacist's name; (2) pharmacist's mailing address; (3) zip code of the city in which the pharmacist reported either to be residing or practicing[4]; and (4) sex of the pharmacist.

A private computer company was contracted to prepare the mailing list. They used a computer conversion unit which read the zip codes from the tape and printed out the corresponding city and state plus the zip code onto a mailing label. A computer program was prepared so the name and mailing address of every third pharmacist who was coded as being female was printed on a mailing label. The mailing list was duplicated so it could be used for two mailings. A total of 3,390 pharmacists coded as being

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3. Summary tables of these data were published in 1969 by the U.S. Department of Health, Education, and Welfare. See Pharmacy Manpower United States - 1966, National Center for Health Statistics, Series 14, Number 2, Washington, D.C., August 1969.

4. Some pharmacists reported their home address while others reported the address of the pharmacy in which they were practicing.

women were obtained from the computer tape.

Initial Mailing

Because the list of pharmacists used to obtain the study sample was between four and six years old, it was thought as many as one-half the pharmacists would have different mailing addresses. A postcard was mailed to each pharmacist in the sample to: (1) explain the purpose of the study and inform the pharmacist she would be receiving a questionnaire in the mail soon; (2) request her cooperation by participating in the study; and (3) find out how many pharmacists could not be reached by mail due to not having a current mailing address available.[5] Since a postcard is first-class mail and a return address was placed in the upper left-hand corner of the postcard, it was thought they would be returned if they could not be delivered. This would reduce the postage expense of mailing the questionnaires. Also, it has been shown that sending a notice in advance of a questionnaire is important in improving the response to the questionnaire.[6]

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5. A copy of the postcard can be found in Appendix C.

6. Levine, Sol and Gordon, Gerald, "Maximizing Returns on Mail Questionnaires," Public Opinion Quarterly (22:4) Winter 1958-59, p. 570.

Completion of Sample Selection

After the initial mailing of postcards was completed, it was noted that the last pharmacist on the mailing list was from Virginia. This meant pharmacists from Washington, West Virginia, Wisconsin, Wyoming, Alaska, and Hawaii were not on the duplicated tape. Further investigation showed when the computer tape was duplicated, the blank tape was not long enough to record all the names from the original tape from the NABP. This omission was not detected when the tape was duplicated. Due to the time and expense of getting the tape back from the NABP and duplicating it again, another method was used to get a sample of women pharmacists from the omitted states.

The APhA Directory of Pharmacists was used to obtain a listing of pharmacists from the six states which had been omitted on the duplicated tape.[7] Every third name which appeared to be that of a woman was selected for the study. A total of 224 names were selected. This made the complete sample total 3,614 pharmacists.

A total of ten women pharmacists from Madison, Wisconsin were selected from the listing of Wisconsin

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7. APhA Directory of Pharmacists, American Pharmaceutical Association, 1964, pp. 18,19, 247,248, 1225-1290.

pharmacists in the APhA Directory of Pharmacists. However, the questionnaire had been pretested by some of these women. For this reason it was decided to eliminate the ten women pharmacists in Madison from the sample. The names of ten women pharmacists were selected from the list of Wisconsin pharmacists, excluding all those in Madison, after the initial sample for Wisconsin had been selected. The selection was made using a systematic cluster sampling technique.

Mailing the Questionnaire

It was decided to include the following in the first-class mailing besides the questionnaire: (1) cover letter; (2) letters of endorsement; (3) explanation of the SVIB-W; and (4) a self-addressed, stamped envelope to return the completed questionnaire. The purpose of the cover letter was to explain the study, while it was thought the letters of endorsement would improve the response rate. Previous studies have shown that including a stamped return envelope improves the response rate.[8,9] It also has been

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8. Price, D. O., "On the Use of Stamped Return Envelopes with Mail Questionnaires," American Sociological Review (15:5) October 1950, pp. 672-673.

9. Ferriss, Abbott L., "A Note on Stimulating Response to Questionnaires," American Sociological Review (16:2) April 1951, p. 248.

demonstrated that first-class mailings underlie the importance of a questionnaire and is worth the added expense.[10]

In addition to explaining the purpose of the study, the cover letter stressed the importance of such a study with emphasis placed on the need to identify the vocational interests of women pharmacists.[11] On the back of the letter was an explanation of the SVIB-W.[12] The women were told if they completed the SVIB-W, their scores would be returned to them with an explanation of how to interpret them. This has been done in previous SVIB-W studies as a way of increasing the response rate.[13,14] In fact, during 1965-67, some 20,000 adults completed the SVIB for research purposes and they all received the profiles, by mail, as a courtesy in exchange for their help.[15]

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10. Gullahorn, Jeanne E. and Gullahorn, John T., "An Investigation of the Effects of Three Factors on Response to Mail Questionnaires," Public Opinion Quarterly (27:2) Summer 1963, p. 296.

11. A copy of the cover letter can be found in Appendix D.

12. A copy of the SVIB-W explanation can be found in Appendix E.

13. Johnson, R. W., Counseling Center Reports (3:5) November 1969, p. 2.

14. Harmon, Lenore W. and Campbell, David P., "Use of Interest Inventories with Nonprofessional Women: Stewardesses versus Dental Assistants," Journal of Counseling Psychology (15:1) January 1968, pp. 17-22.

15. Campbell, 1971, op. cit., p. 13.

The national secretary of each of the two female pharmacy fraternities, Kappa Epsilon and Lambda Kappa Sigma, was contacted and asked to write a letter of endorsement for the study. The officers of both organizations cooperated and returned a letter urging the women to participate in the study.[16]

A copy of the cover letter, letters of endorsement, and questionnaire were mailed to each of 2,952 women pharmacists on June 30, 1971. Mailings to the 224 women whose names were obtained from the APhA Directory of Pharmacists were made on July 13, 1971. Returned questionnaires were accepted until September 3, 1971.[17]

Questionnaire Response

Table 1 shows how a final sample of 1,341 women pharmacists was obtained. The results of the initial mailing of postcards shows only about one-half of the postcards which could not be delivered were returned by the postal department. Thus, postcards are not always regarded as first-class mail. A total of 471 questionnaires came back because they were not deliverable, 64 of which came from the six states omitted on the computer

16. A copy of each letter of endorsement can be found in Appendix F.

17. See Appendix G for a chart showing the number of responses that were received each week until the deadline was reached.

TABLE 1

SAMPLE OF WOMEN PHARMACISTS

Women Pharmacists Selected		3,614
Did Not Receive Questionnaire		438
Postcard Not Deliverable	402	
Label Showed Person Was Male	29	
Labels Were Duplicates	4	
Labels Could Not Be Read	3	
Total	438	
Questionnaires Mailed		3,176
Questionnaires Returned Not Deliverable		471
Questionnaires Delivered		2,705
Questionnaires Returned		1,459
Questionnaires Returned, But Not Useable		118
Responses Not Complete	28	
Respondent No Longer a Pharmacist .	17	
Respondent Retired Due To Age	73	
Total	118	
TOTAL USEABLE QUESTIONNAIRES RETURNED		1,341

tape mailing of postcards. Thus, of the 3,390 women who were selected from the computer tape, 809, or 23.8 percent, could not be reached through the mailing address which was available. A total of 64, or 28.6 percent of the 224 women selected from the APhA Directory of Pharmacists, could not be reached by the available mailing address.

There were 36 pharmacists who received postcards, but who did not receive a questionnaire. Twenty-nine of these pharmacists had been miscoded and the names were those of men. Some of these 29 male pharmacists returned the postcard with notes indicating with varied degrees of humor that they were not women. Four labels were duplicates for an unknown reason, and three labels were incomplete for mailing purposes.

A total of 1,459 questionnaires were returned, 118 of which were not used in the analysis. There were 17 women who reported they no longer were registered pharmacists and 28 questionnaires which were too incomplete to be used in the study. Also, 73 women reported they were retired from active practice because of their age. They were eliminated because most of their questionnaires were too incomplete to be of value. A total of 1,341 useable questionnaires were returned, 45 of which were from women reporting to be members of a religious order. Separate analyses were made of practice patterns for this group of pharmacists. This

procedure follows that used by both Sehgal[18] and Austin[19] in their studies of women pharmacists. Of the remaining 1,296 pharmacists, 1,032, or 79.6 percent, reported they were currently practicing pharmacy, while 264, or 20.4 percent, were not currently practicing.

Table 2 compares the geographic representativeness of the sample to that of the national distribution of women pharmacists. The two sets of numbers are dissimilar because the NABP data are female resident pharmacists in practice.[20] The data from this study represent all the women pharmacists, whether practicing or not. However, no other list of all women pharmacists in the United States was available, so the comparison was made to get a general idea of the representativeness of the sample.[21] This comparison indicates the sample of women pharmacists for this study was geographically

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18. Sehgal, Surinder K.,"Female Pharmacy Graduates: A Descriptive Study in Wisconsin," Unpublished Master's Thesis, University of Wisconsin, Madison, 1968.

19. Austin, Jo Ellen, "Women In Hospital Pharmacy - A Descriptive Survey in an Eight State Area of Female Pharmacists in the Hospital Setting," Unpublished Master's Thesis, University of Mississippi, University, Miss., August 1969.

20. Licensure Statistics, Census, National Association of Boards of Pharmacy, Chicago, 1971.

21. See Appendix H for a listing of the sample for each State in each AACP District.

TABLE 2

NUMBER AND PERCENT OF RESPONDENTS AND WOMEN RESIDENT PHARMACISTS BY AACP DISTRICTS

AACP District	Sample N	Sample %	National N	National %
1	111	8.3	714	6.4
2	294	22.0	2,685	24.0
3	146	10.9	1,085	9.7
4	296	22.2	2,612	23.3
5	76	5.7	574	5.1
6	151	11.3	1,411	12.6
7	85	6.4	853	7.6
8	176	13.2	1,256	11.2
Total	1,335	100.0*	11,190**	99.9

*6 women did not report their geographic location.

**Source of National Data: Licensure Statistics, Census, National Association of Boards of Pharmacy, Chicago, 1971.

representative based on the eight districts established and used by the American Association of Colleges of Pharmacy (AACP).

An additional comparison was made between women in the eight AACP Districts regarding the mean number of years they had been pharmacists and the mean number of years they had practiced pharmacy. Table 3 shows once again that there was much similarity in the groups, although the women in District 7 had been pharmacists about four years more than the mean for all the women. Thus, years as a pharmacist and amount of experience in pharmacy practice for the sample were similar for women throughout the country.

Mailing the Strong Vocational Interest Blank for Women

The last page of the questionnaire contained a space for the respondent to indicate if they were willing to complete the SVIB-W if it was mailed to them. Table 4 shows the response to this request.

A total of 1,057 of the respondents (74.7 percent) reported on their returned questionnaire that they were willing to complete the SVIB-W. Eighteen of the respondents were retired from pharmacy practice, however, so were eliminated leaving 1,039 women pharmacists willing to complete the SVIB-W.

TABLE 3

RESPONDENTS MEAN YEARS OF PRACTICE AND MEAN YEARS AS A PHARMACIST BY AACP DISTRICTS

AACP District	Mean Years of Practice	Mean Years As A Pharmacist
1	15.4 (98)	21.6 (108)
2	14.8 (267)	20.1 (283)
3	14.1 (145)	18.7 (146)
4	14.4 (275)	19.2 (285)
5	17.1 (69)	22.2 (72)
6	16.7 (125)	20.6 (134)
7	17.9 (78)	24.7 (81)
8	16.1 (160)	21.5 (169)
Total	15.4 (1217)*	20.5 (1278)*

*6 women did not report the AACP District in which they were residing, 57 did not report their years as a pharmacist, and 118 did not report their years of practice.

TABLE 4

RESPONDENTS WILLING TO COMPLETE THE STRONG VOCATIONAL INTEREST BLANK FOR WOMEN

Women Pharmacists	Total Sample	Sent SVIB-W	Percentage
Active	1,032	824	79.8
Inactive	264	188	71.2
Nuns	45	27	60.0
Total	1,341	1,039	77.5

A cover letter was mailed with each SVIB-W booklet and answer sheet.[22] The name of each pharmacist was printed on the answer sheet before the material was mailed. Also included in the mailing was a self-addressed, stamped envelope in which the respondent could return the completed SVIB-W answer sheet plus the booklet. Past research with the SVIB has shown that a mail-out, mail-back procedure can be used with little fear of biasing results.[23]

The first SVIB-W's were mailed on July 29, 1971. Only the 851 women who reported to be currently practicing

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22. A copy of the SVIB-W test booklet can be found in Appendix I. A copy of the SVIB-W answer sheet can be found in Appendix J. A copy of the cover letter can be found in Appendix K.

23. Campbell, 1971, op. cit., p. 20.

pharmacy were mailed the SVIB-W at this time. Only 353 SVIB-W booklets were available from the Student Counseling Center at the University of Wisconsin. Therefore, as the SVIB-W materials were returned, test booklets were sent out to other pharmacists until all 851 had received the mailing.

On September 10, 1971, reminder postcards were sent to 83 of the first 400 respondents who received the SVIB-W material.[24] These women had not yet returned the material. Reminder postcards were sent on September 27 to 108 of the last 451 respondents. On October 13, final postcard reminders were mailed to 93 of the 851 women.[25] These women were requested to return the SVIB-W booklet and answer sheet before November 1, if they wanted to be included in the SVIB-W analyses.

SVIB-W materials were mailed on October 4, to 188 women who had reported not to be currently practicing pharmacy. On October 30, the first reminder postcard was mailed to 43 women followed on November 15, by the final postcard reminder which was mailed to 17 women. This reminder set the deadline for receipt of the SVIB-W materials at December 1.

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24. A copy of the first reminder postcard can be found in Appendix L.

25. A copy of the final reminder postcard can be found in Appendix M.

Reminder postcards were used because of the financial investment in the SVIB-W materials. The use of these reminders did not increase the response to any extent. Ferriss made a similar finding when he used postcards to prod nonrespondents.[26]

No SVIB-W answer sheets received after December 4, 1971 were included in the study. The total number of completed SVIB-W's was 966. Table 5 shows the response rate between women practicing pharmacy, those not practicing,

TABLE 5

RESPONSE RATE FOR SVIB-W BY TYPE OF RESPONDENT

Women Pharmacists	Sent SVIB-W	Completed SVIB-W	Percent Response
Active	824	766	93.0
Inactive	188	176	94.1
Nuns	27	24	88.9
Total	1,039	966	93.0

and nuns. All three groups of women were very cooperative in completing the SVIB-W.

26. Ferriss, op. cit., p. 248.

Methods of Data Analysis

Responses from the questionnaires were coded and transferred to computer cards for analyses. Data for each respondent were coded on one card. The computer facilities of the Madison Academic Computing Center at the University of Wisconsin were used to compile the responses into meaningful information. The Univac 1108 was the computer used, while the STATJOB series of computer programs were used to make the desired tabulations.[27] Cross-tabulation tables were prepared through the CROSTABI program[28] while tabulations of mean averages were made using the NWAYI program.[29] Some of the cross-tabulations were tested statistically using a chi-square analysis at a five percent level of significance.[30,31] Mean salary data were tested

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27. For an explanation of the different types of STATJOB programs, see STATJOB Summary, First Revision, Academic Computing Center, The University of Wisconsin, Madison, July 1971.

28. Cross-Tabulation - CROSTABI, University of Wisconsin Computing Center, Madison, June 1967.

29. Preliminary NWAYI: General Analysis of Variance, The University of Wisconsin Computing Center, Madison, March 1970.

30. See Appendix N for an explanation of the chi-square analysis.

31. The 0.05 probability level (5 percent) generally is used as the boundary line between significance and nonsignificance. If the probability of obtaining a value of χ^2 larger than the computed value is greater than 0.05, the observed differences are ascribed to sampling variations. If the probability is less than 0.05, the observed relationships are assumed to exist in the population. More information about significance levels can be found in: Ferber, Robert, Statistical (cont.)

statistically using an F-test analysis at a five percent level of significance.[32]

The completed SVIB-W scoring sheets were mailed to the SVIB Scoring Center in Minneapolis, Minnesota. The scores for each woman were punched onto computer cards for purposes of analysis. Also, two profile sheets for each pharmacist were returned, one of which was to be mailed to the woman, with an explanation of how to interpret her scores.[33]

SVIB-W scores were analyzed using the ONEWAY1 and NWAY1 computer programs, and measured statistically using an F-test analysis at a five percent level of significance.[34] SVIB-W item analyses were made possible through the assistance of the Wisconsin State Testing Center at the University of Wisconsin.

Limitations

Limitations became apparent as the study progressed, although none of them were thought to lessen the validity or

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31. (Cont.) Techniques In Market Research, McGraw-Hill, New York, 1949, p. 261.

32. See Appendix O for an explanation of the F-test.

33. See Appendix P for a copy of the SVIB-W profile received by the participating women pharmacists.

34. One-Way Analysis of Variance - ONEWAY1, University of Wisconsin, Computing Center, Madison, November 1966.

reliability of the findings. Some of these limitations are mentioned now, while others will be described in the findings.

Because the source of the listing of pharmacists used to obtain the sample was at least three years old, the sample did not contain those women who had become registered since 1968. Listings for some states could have been as old as six years. This limitation was unavoidable as the NABP tape was the most recent pharmacist listing available at the time the study was initiated. However, there are two reasons why this may not have been as great a limitation as might first be thought. First, an important part of the study was to determine practice patterns of women pharmacists. Younger pharmacists would not have established a meaningful pattern yet, so would not have contributed much to that portion of the study. Secondly, the development of a profile of vocational interests for women pharmacists was an integral part of the study. It was hoped this profile eventually could be used to establish a Pharmacist scale on the SVIB-W. One of the criterion necessary from a group being used to establish an occupational scale for the SVIB is that each person must have at least three years experience in the particular occupation.

Having to select the women pharmacists from six states by looking at names in the APhA Directory of Pharmacists was not as accurate as using the computer tape. This was

because any woman who was listed by her initials in the directory could not be detected as being a female. Thus, the sample size for these six states probably was smaller than if the selection would have been made from the computer tape.

Although it was known that the duplicated computer tape ended somewhere in the listing of pharmacists in Virginia, it was not known how far the tape had proceeded through the listing. Therefore, the sample size for Virginia was smaller than it would have been had the tape been complete.

Presentation of Findings

The findings from this study of women pharmacists have been divided into seven areas: (1) description of the sample; (2) career practice patterns; (3) attitudes toward continuing education; (4) opinions about current issues in pharmacy; (5) attitudes toward opportunities for women in pharmacy; (6) salary comparisons; and (7) vocational interest patterns.

CHAPTER THREE

DESCRIPTION OF THE SAMPLE

The sample of women pharmacists was analyzed from numerous aspects to understand better some of their more important characteristics. Among the analyses made on the sample were: (1) average hours working per week; (2) type of pharmacy practice in which working; (3) marital status; (4) occupation of husband, if married; (5) number of children and their age ranges; and (6) membership in pharmacy organizations.

Range of Hours Worked Per Week

A total of 1,341 women pharmacists were included in the sample, 1,072 of whom reported to be currently practicing pharmacy.[1] Table 6 shows the range of hours worked per week for these practicing pharmacists.

Just over two out of every five active women pharmacists (41.0%) were practicing full-time, using a minimum 40 hours per week as the standard for full-time practice. Apparently, women pharmacists are finding numerous part-time opportunities as evidenced by the distribution through the four categories of part-time

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1. Throughout this study, the women who were currently practicing pharmacy are classified as "active pharmacists." Women who were not practicing at the time of the study are classified as "inactive pharmacists."

practice.

TABLE 6

HOURS WORKED PER WEEK BY ACTIVE RESPONDENTS

Range of Hours Worked/Week	Active Respondents N	%
40 hours or more	437	41.0
Between 30 and 39 hours	130	12.2
Between 20 and 29 hours	159	14.9
Between 10 and 19 hours	194	18.2
Less than 10 hours	145	13.6
Totals	1,065*	99.9

*7 women did not report the number of hours they were working per week.

The percentage of women practicing 40 hours per week or more was weighted to a small degree with pharmacists who were nuns. Of these 40 nuns, 32, or 80.0 percent, were practicing at least 40 hours per week. When the nuns were eliminated from the sample, 405 out of 1,025 women, or 39.5 percent, were practicing full-time. An additional five nuns were included in the total sample, but they were not currently practicing pharmacy.

In 1969, the Pharmaceutical Society of Great Britain completed a study of 4,241 of its members, nearly

one-quarter of whom were women. The survey showed that 41.2 percent of the women were working full-time, 37.9 percent part-time, and 20.9 percent were not practicing.[2] Comparative percentages for our sample were 32.8 percent full-time, 47.1 percent part-time, and 20.1 percent not practicing. Thus, while a higher percentage of women pharmacists in Britain were working full-time, the percentage of women pharmacists in practice, either full-time or part-time, was quite similar between the two countries.

Type of Pharmacy Practice

Women tend to be associated with hospital pharmacy practice. Past studies have demonstrated that hospital pharmacy appeals to women. Back in 1940, Sprowls showed from a survey of women graduates from the University of Colorado College of Pharmacy that over time, there was a definite trend toward hospital pharmacy.[3] Francke presented data in 1964 showing that women were strongly attracted toward hospital pharmacy. He reported the ratio of men to women pharmacists in all hospitals to be 2 to 1, while the comparable ratio in community pharmacy was

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2. "Survey Shows Striking Increase in Female Members," The Pharmaceutical Journal (203:5534) November 22, 1969, p. 614.

3. Sprowls, Joseph B., "Women in Pharmacy," American Journal of Pharmaceutical Education (4:4) October 1940, p. 561.

9 to 1.[4] A study published through the Public Health Service in 1963 also showed that a considerably higher percentage of women pharmacists were practicing in the hospital environment than were men.[5]

Table 7 shows how the women pharmacists in this study were distributed through various types of pharmacy practice. About two-thirds of the active respondents were community pharmacists, while about one-quarter were in hospital practice.

TABLE 7

TYPE OF PRACTICE FOR ACTIVE RESPONDENTS

Type of Practice	Active Respondents N	%
Community Pharmacy	713	67.0
Hospital Pharmacy	276	25.9
Combination of Both Community and Hospital	59	5.5
Pharmacy Industry	7	0.7
Other Types of Practice	10	0.9
Total	1,065*	100.0

*7 women did not report their type of practice.

4. Francke, Don E., Latiolais, Clifton J., Francke, Gloria N., and Ho, Norman F. H., Mirror to Hospital Pharmacy, American Society of Hospital Pharmacists, Mack Printing Company, Easton, Pa., 1964, p. 74.

5. Peterson and Pennell, op. cit., p. 9.

Included among the 276 hospital pharmacists were 40 nuns. If a respondent reported she was practicing "clinical" pharmacy, she was placed in the community pharmacy section. This decision was based on the fact that most clinical pharmacies also sell over-the-counter drug products and usually are not involved directly with the hospitalized patient. There were not enough women who reported to be practicing clinical pharmacy to alter significantly the results regardless of the category in which they would have been placed.

Once again, these data were similar to the findings in the 1969 survey by the Pharmaceutical Society of Great Britain. In that survey, 21.1 percent of the female membership in the society were employed in hospital pharmacy,[6] while this sample was somewhat higher at 25.9 percent.

An analysis was made to determine if there were differences in the number of hours worked per week between those practicing community and hospital pharmacy. Nuns were eliminated from this analysis since their motivation for working is different than other women's. Table 8 shows there was a significant difference in the hours

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6. "Survey Shows Striking Increase in Female Members," The Pharmaceutical Journal (203:5534) November 22, 1969, p. 614.

TABLE 8

HOURS WORKED PER WEEK BY TYPE OF PRACTICE

Range of Hours Worked/Week	Type of Practice: Community N	Community %	Hospital N	Hospital %	Comm/Hosp N	Comm/Hosp %	Total N	Total %
40 hours or more	250	35.2	131	55.5	18	30.5	399	39.7
Between 20 and 39 hours	203	28.6	53	22.5	21	35.6	277	27.6
Less than 20 hours	257	36.2	52	22.0	20	33.9	329	32.7
Total	710*	100.0	236	100.0	59	100.0	1005	100.0

$\chi^2 = 34.48$ (4 d.f.)

*3 community pharmacists did not report the number of hours they were working per week.

worked per week between pharmacists in community pharmacy, hospital pharmacy, and those in both areas of practice.

Women in hospital pharmacy were more likely to be working full-time than were women in community practice. This might indicate that women regard hospital pharmacy as a true career, where the opportunities in community pharmacy center around the availability of part-time work. A more detailed analysis of this finding is made in the chapter on career practice patterns of women pharmacists.

A final comparison was made between women in community and hospital practice to see if they differed in age. The age of the women was inferred from the number of years the women had been registered as a pharmacist. Table 9 shows there was some fluctuation between the ranges of years having been a pharmacist, but no conclusions are obvious as to the effect of one of the two groups of pharmacists being older or younger than the other.[7]

Marital Status

The respondents were requested to report their marital status, number of children, ages of children, and occupation of husband, if she was living with him. Naturally, the 45 nuns were not included in the analyses of these findings.

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7. In tables listing only percentage data, the sample size in each column is given in parentheses under the total percentage figure.

TABLE 9

YEARS AS A PHARMACIST - COMMUNITY VS. HOSPITAL WOMEN PHARMACISTS

Range of Years As A Pharmacist	Type of Practice		
	Community	Hospital	Total
	%	%	%
Less Than 10 Years	16.2	18.0	16.7
10 - 14 Years	18.7	16.5	18.1
15 - 19 Years	18.3	15.4	17.5
20 - 24 Years	19.1	15.1	18.0
25 - 39 Years	20.3	27.2	22.2
40 Years or More	7.5	7.7	7.6
Total	100.1	99.9	100.1
	(706)	(272)	(978)*

*7 community and 4 hospital pharmacists did not report the number of years they had been a pharmacist.

Table 10 shows the classification of the sample by marital status. Comparable percentages for all women in the United States in the age range of 25 to 65 years are: 6.6 percent are single, 76.8 percent are married, 4.6 percent are divorced, and 12.0 percent are widowed.[8] Thus, the sample of women pharmacists was representative of all women in the country, particularly the percentage who are

8. U.S. Bureau of the Census, 1971, op. cit., p. 32.

married and living with their husband, and those separated or divorced.

TABLE 10

MARITAL STATUS OF RESPONDENTS

Marital Status	Respondents N	%
Single	151	11.7
Married, and living with Husband	999	77.1
Separated or divorced from Husband	54	4.2
Husband deceased	92	7.1
Total	1,296	100.1

A comparison was made between the marital status of the active women pharmacists and all women in the United States' civilian labor force, as defined by the U.S. Bureau of the Census.[9] Table 11 shows this comparison.

The sample of active women pharmacists had a higher percentage of married and lower percentage of single women than did the national female labor force. Part of this difference can be explained by the fact that national statistics of the labor force include women as young as

9. Ibid., p. 208.

TABLE 11

MARITAL STATUS OF ACTIVE RESPONDENTS AND ALL WOMEN IN THE U.S. LABOR FORCE

Marital Status	Active Respondents N	Active Respondents %	All Women In Labor Force %
Single	134	13.0	22.3
Married	774	75.0	63.4
Widowed or Divorced	124	12.0	14.3
Total	1,032	100.0	100.0

14 years old. Also, many married women pharmacists are able to find part-time jobs.

The sample did compare closely with Sehgal's sample of women pharmacists in his study. His sample size was 232 and was broken down by marital status as follows: 17.2 percent were single, 74.6 percent were married, and 8.2 percent were widowed, divorced, or separated.[10]

The sample did not compare well with Austin's sample of women hospital pharmacists in her study. Austin's sample size was only 90 and was broken down by marital status as follows: 38.9 percent were single, 53.3 percent

10. Sehgal, op. cit., p. 52.

were married, and 7.8 percent were widowed or divorced.[11]

Occupation of Husband

The reported occupations of the women pharmacists' husbands were categorized using a modification of the occupational classification used by the U.S. Bureau of the Census.[12,13] Table 12 shows the occupations of the husbands of the married women who were living with their husbands.

Where this study shows 27.9 percent of the responding women pharmacists were married to pharmacists, Austin found a comparable percentage 23.2 percent of her sample,[14] while Sehgal found 26.0 percent of his sample to be married to pharmacists.[15] Thus, an estimate that one-quarter of all married women pharmacists are married to pharmacists

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11. Austin, op. cit., p. 27.

12. U.S. Bureau of the Census, 1971, op. cit., p. 229.

13. For a listing of specific occupations by each category used by the U.S. Bureau of the Census, see Green, Lawrence W., "Manual for Scoring Socioeconomic Status for Research on Health Behavior," Public Health Reports (85:9) September 1970, pp. 819-824.

14. Austin, op. cit., p. 28.

15. Sehgal, op. cit., p. 58.

TABLE 12

OCCUPATIONS OF RESPONDENTS' HUSBANDS

Category of Occupation	Respondents N	%
Pharmacist	268	27.9
Health-Related Profession, Other than Pharmacist	59	6.2
Other Professional and Technical Worker	259	27.0
Managerial Worker, Officials, and Proprietors	136	14.2
Clerical Sales or Kindred Worker	97	10.1
Craftsmen, Foremen, or Skilled Worker	63	6.6
Operation, Semiskilled, Service Workers, or Laborer	69	7.2
Member of Armed Services	9	0.9
Total	960*	100.1

*22 women give their husband's occupation as "retired" while 17 women did not give their husband's occupation.

seems to be a reliable figure. These percentages are nearly one-half the percentage of women physicians who are

married to physicians.[16,17]

The majority of women pharmacists married men in upper levels of socioeconomic strata, as more than 60 percent of the husbands were in professional or technical occupations.

It was thought that possibly those women whose husbands held occupations in the lower socioeconomic levels of the occupational categories would more likely be currently practicing pharmacy. This assumption was based on the probability that her income would be more necessary than the income of those women whose husbands had higher paying jobs. Table 13 shows the comparison of husbands' occupations between active and inactive women pharmacists.

The relatively high percentage of practicing women pharmacists whose husbands were pharmacists probably was due partially to joint ownerships of community pharmacies. The percentage dropped considerably for women married to other health-related professionals. The percentage of active women pharmacists increased as one moves down the categories of occupations, giving evidence that a higher percentage of women pharmacists, who were married to men

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16. Powers, Lee, Parmelle, Rexford D., and Wiesenfelder, Harry, "Practice Patterns of Women and Men Physicians," The Journal of Medical Education (44:6) June 1969, p. 487.

17. Dykman, Roscoe A. and Stalnaker, John M., "Survey of Women Physicians Graduating from Medical School, 1925-1940," The Journal of Medical Education (32:3) March 1967 (Part 2), p. 16.

TABLE 13

OCCUPATIONS OF HUSBANDS OF ACTIVE AND INACTIVE RESPONDENTS

Category of Occupation	Active N	Active %	Inactive N	Inactive %	Total N	Total %
Pharmacist	227	84.7	41	15.3	268	100.0
Health-Related Profession, Other than Pharmacist	34	57.6	25	42.4	59	100.0
Other Professional and Technical Worker	195	75.3	64	24.7	259	100.0
Managerial Worker, Officials, and Proprietors	99	72.8	37	27.2	136	100.0
Clerical Sales or Kindred Worker	71	73.2	26	26.8	97	100.0
Craftsmen, Foreman, or Skilled Worker	51	81.0	12	19.0	63	100.0
Operation, Semiskilled, Service Worker, or Laborer	59	85.5	10	14.5	69	100.0
Member of Armed Service	8	88.9	1	11.2	9	100.0
Total	774	77.5	216	22.5	960*	100.0

*13 active and 4 inactive pharmacists did not report their husband's occupation. 17 active and 5 inactive pharmacists reported their husband's occupation as "retired."

working in occupations of lower socioeconomic status, were currently practicing pharmacy. However, the differences in the percentages were not great enough to draw a definite conclusion to this effect.

Number of Children

The women were asked to report the number of children they had along with the age of each child. Table 14 shows this listing. Of the five women who were listed as having eight or more children, two of them each had eight children while the other three each had nine. The mean number of children was calculated to be 2.2 children per woman pharmacist. The single women pharmacists were, of course, not included in this analysis.

Austin's sample of married female hospital pharmacists had a mean number of only 1.2 children, as nearly half of the women had no children.[18] Her analysis was limited by a sample size of only 54 women. Sehgal's sample of 187 married women pharmacists showed the following: 18.7 percent had no children, 17.1 percent had one child, 25.6 percent had two, 19.3 percent had three, and 19.3 percent had four or more children.[19]

In a study of college-trained women, Rossman and Campbell found that the number of children in a family

18. Austin, op. cit., p. 30.

19. Sehgal, op. cit., p. 61

TABLE 14

NUMBER OF CHILDREN OF RESPONDENTS

Number of Children	Respondents N	%
None	141	12.4
One	182	16.0
Two	385	33.8
Three	250	21.9
Four	111	9.7
Five	47	4.1
Six	10	0.9
Seven	9	0.8
Eight or More	5	0.4
Total	1,140*	100.0

*5 women did not report their number of children.

bear no significant relationship to the mother's decision to work, either part-time or full-time.[20] Zapoleon put it more simply by saying that predictions about the employment of women with children defy statisticians.[21]

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20. Rossman, Jack E. and Campbell, David P., "Why College-Trained Mothers Work," Personnel and Guidance Journal (43:10) June 1965, p. 988.

21. Zapoleon, Marguerite Wykoff, Occupational Planning for Women, Harper and Brothers, New York, 1961, p. 10.

A comparison was made between active and inactive women pharmacists to see if the number of children appeared to play a role in determining if a woman chose to work. Table 15 shows this comparison.

There was a significant difference between the number of children of active and inactive women pharmacists. However, the percentage comparisons did not show any particular pattern in the relationship between the number of children and the decision of the woman pharmacist to practice. The mean number of children for the women in each of the two groups was similar, as active pharmacists had a mean of 2.2 children compared to 2.4 for the inactive pharmacists.

Separate analyses were made on women pharmacists who were married and living with their husbands. Since these women did not have to support themselves or their family, their decision to work might have been influenced more by their children.

An analysis was made to see if the number of hours working per week appeared to be influenced by the number of respondents' children. Table 16 shows a definite relationship between working and the number of children for those women working full-time. Nearly half of the women who had no children were working full-time, and the percentages dropped to where less than 20 percent of the

TABLE 15

NUMBER OF CHILDREN OF ACTIVE AND INACTIVE RESPONDENTS

Number of Children	Active N	Active %	Inactive N	Inactive %	Total N	Total %
None	109	12.2	32	13.0	141	12.4
One	156	17.6	26	10.5	182	16.0
Two	301	33.7	84	34.0	385	33.8
Three	184	20.6	66	26.7	250	21.9
Four	94	10.5	17	6.8	111	9.7
Five or More	49	5.5	22	8.9	71	6.2
Total	893	100.1	247	99.9	1,140*	100.0

$\chi^2 = 15.51$ (5 d.f.)

*5 active and 4 inactive women did not report their number of children.

TABLE 16

NUMBER OF CHILDREN OF RESPONDENTS MARRIED AND LIVING WITH HUSBAND - FULL-TIME VS. PART-TIME VS. INACTIVE

Range of Hours Worked Per Week	Number of Children						
	None	One	Two	Three	Four	Five or More	Total
	%	%	%	%	%	%	%
40 hours or more	48.6	29.6	20.1	18.1	20.4	18.6	23.9
Between 20 and 39 hours	19.1	19.7	25.6	18.5	26.5	24.3	22.4
Less than 20 hours	12.4	34.5	31.9	35.2	36.7	25.7	31.0
Inactive R.Ph.	20.0	16.2	22.4	28.2	16.3	31.4	22.6
Total	100.1	100.0	100.0	100.0	99.9	100.0	99.9
	(105)	(142)	(348)	(227)	(98)	(70)	(990)*

*5 women did not report their number of children and 4 did not report the number of hours they were working per week.

women with five or more children were working full-time.

A definite pattern was noted also for the women who were not currently practicing pharmacy. The percentages increased as the number of children increased, except for women with four children. Thus, the decision to practice pharmacy and whether to practice full-time appeared to be influenced by the number of children had by the respondents.

An additional comparison was made to see if the ages of the children had any influence on the mother's decision to practice. Table 17 shows that a smaller percentage of women with younger children practiced full-time than did women with older children. However, the decision of whether to practice or not to practice did not appear to be influenced to any extent by the ages of the children. Thus, having younger children appeared to result in the mother working part-time, rather than full-time, but did not prevent the mother from practicing pharmacy.

Membership in Pharmacy Organizations

The women were asked to check any memberships they had in pharmacy organizations listed in the questionnaire. Table 18 shows the membership in each organization listed, ranked in decreasing order of frequency.

A total of 23.2 percent (311) of the women did not belong to any of the listed organizations. Only 19.8 percent

TABLE 17

AGE RANGES OF CHILDREN OF RESPONDENTS MARRIED AND LIVING WITH HUSBAND - FULL-TIME VS. PART-TIME VS. INACTIVE

Range of Hours Worked Per Week	Age Ranges of Children: All Younger Than 5 Years	All Between 5-11 Years	All Older Than 17 Years	All 5 Years or Older	Total
	%	%	%	%	%
40 hours or more	12.9	17.9	27.4	24.9	21.0
Between 20 and 39 hours	14.5	23.6	23.8	27.8	22.7
Less Than 20 hours	46.4	36.6	24.4	27.0	33.3
Inactive R.Ph.	26.2	22.0	24.4	20.3	23.0
Total	100.0	100.1	100.0	100.0	100.0
	(248)	(123)	(168)	(345)	(884)*

*105 women had no children, 6 did not report the age ranges of their children, and 4 did not report the number of hours they were working per week.

TABLE 18

MEMBERSHIP OF RESPONDENTS IN PHARMACY ORGANIZATIONS

Pharmacy Organization	Respondents N	%
State Pharmacy Associations	475	35.4
American Pharmaceutical Association	419	31.3
Local or Regional Pharmacy Associations	409	30.5
Lambda Kappa Sigma	298	22.2
Kappa Epsilon	248	18.5
Rho Chi	222	16.6
American Society of Hospital Pharmacists	173	12.9
State Societies of Hospital Pharmacists	138	10.3
National Association of Retail Druggists	125	9.3
American College of Apothecaries	9	0.7
Total	1,341	--

(212) of the active pharmacists did not belong to any of the organizations, compared to 36.8 percent (99) of the inactive women pharmacists.

Sehgal reported that out of 217 women pharmacists in his study: 38.2 percent belonged to APhA; 9.7 percent

belonged to ASHP; and 6.0 percent belonged to NARD.[22]

Separate comparisons were made on memberships in five organizations: APhA; State Pharmacy Associations, Local or Regional Pharmacy Associations; ASHP; and State Societies of Hospital Pharmacists. A total of 42.8 percent (574) of the women did not belong to any of these organizations. Only 39.5 percent (423) of the active women pharmacists did not belong to any of the five organizations, compared to 56.1 percent (151) of the inactive women.

Epstein reported that women are less active than men in professional organizations, particularly at the decision-making levels.[23] It would appear from these findings, however, that at least half of the women who were currently practicing pharmacy did hold membership in one or more important pharmacy organization. No attempt was made to determine the leadership roles the women played in these organizations.

Comparisons were made between active and inactive women pharmacists and their membership in the five pharmacy

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22. Sehgal, op. cit., p. 135.

23. Epstein, Cynthia F., "Encountering the Male Establishment: Sex-Status Limits on Women's Careers in the Professions," American Journal of Sociology (75:6) May 1970, p. 974.

organizations discussed above. Table 19 shows that as would be expected, and as was shown earlier, more women currently practicing pharmacy belonged to pharmacy organizations than did those women not currently practicing.

TABLE 19

MEMBERSHIP IN PHARMACY ORGANIZATIONS - ACTIVE VS. INACTIVE RESPONDENTS

Pharmacy Organization	Active N	Active %	Inactive N	Inactive %	Total N	Total %
State Pharmacy Associations	433	40.4	42	15.6	475	35.4
American Pharmaceutical Assn.	378	35.3	41	15.2	419	31.3
Local or Regional Pharmacy Assn.	369	34.4	40	14.9	409	30.5
American Society of Hospital R.Ph.	159	14.8	14	5.2	173	12.9
State Society of Hospital R.Ph.	127	11.9	11	4.1	138	10.3
Total	1,072	--	269	--	1,341	--

Comparisons were made to see how many pharmacists practicing community and hospital pharmacy belonged to selected pharmacy organizations. Table 20 shows memberships in five pharmacy organizations for community and hospital women pharmacists.

TABLE 20

MEMBERSHIP IN PHARMACY ORGANIZATIONS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Pharmacy Organization	Community R.Ph. N	%	Hospital R.Ph. N	%
State Pharmacy Associations	296	41.5	104	37.7
American Pharmaceutical Assn.	188	26.4	153	55.4
Local or Regional Pharmacy Assn.	240	33.7	97	35.1
American Society of Hospital R.Ph.	17	2.4	128	46.4
State Society of Hospital R.Ph.	14	2.0	102	37.0
Total	713	--	276	--

A total 31.2 percent (86) of the hospital pharmacists did not belong to APhA, State, Local, or Regional pharmacy associations. The comparable percentage of community pharmacists not belonging to any of these three types of organizations was 42.8 percent (305). These data show that hospital pharmacists were more apt to belong to appropriate professional organizations than were community pharmacists. Some overlap between APhA and ASHP occurs with hospital pharmacists since they have to join APhA if they join ASHP. A total of 18 women reported membership in ASHP but not in

APhA. This is possible in States that are affiliated with APhA. If a pharmacist pays her ASHP and APhA dues, she is a member of ASHP. However, if she lives in a State that is affiliated with APhA and does not pay the additional State Association dues, she does not become a member of APhA.

Only 25.0 percent (69) of the hospital pharmacists did not belong to any of the organizations listed in Table 20. One might speculate that the hospital environment is more conducive to membership and participation in professional pharmacy organizations, but there were no data collected to verify this in this study.

It also is possible that women practicing full-time were more apt to hold membership in pharmacy organizations. Since a higher percentage of hospital pharmacists were working full-time, this fact could explain why more hospital pharmacists belonged to these organizations. Analyses were made of membership in APhA and ASHP. Table 21 shows that a higher percentage of hospital pharmacists, both full-time and part-time, belonged to APhA than did the community pharmacists.

An additional analysis was made only of hospital pharmacists to see how their membership in ASHP varied between full-time and part-time pharmacists. Table 22 shows that just over 60 percent of full-time hospital

TABLE 21

APHA MEMBERSHIP - FULL-TIME AND PART-TIME COMMUNITY AND HOSPITAL PHARMACIST RESPONDENTS

Range of Hours Worked Per Week	Community R.Ph. N	APhA Member	%	Hospital R.Ph. N	APhA Member	%
40 hours or more	250	94	37.6	163	111	68.1
Between 20 and 39 hours	203	46	22.7	58	26	44.8
Less than 20 hours	257	48	18.7	55	16	29.1
Total	710*	188	26.5	276	153	55.4

*3 community pharmacists did not report the number of hours they were working per week.

pharmacists belonged to ASHP. The findings in Tables 21 and 22 show that more women practicing hospital pharmacy full-time were members of two major pharmacy organizations, APhA and ASHP, than were the other women pharmacists.

TABLE 22

ASHP MEMBERSHIP - FULL-TIME AND PART-TIME HOSPITAL PHARMACIST RESPONDENTS

Range of Hours Worked Per Week	N	Hospital R.Ph. ASHP Member	%
40 hours or more	163	99	60.7
Between 20 and 39 hours	58	18	31.0
Less than 20 hours	55	11	20.0
Total	276	128	46.4

CHAPTER FOUR

PRACTICE PATTERNS OF WOMEN PHARMACISTS

One question raised about the increasing number of women pharmacists is the extent to which they will practice during their working life. In other words, how many women actually will make pharmacy a career? Lewis has defined a "career woman" as follows:

> ....a woman who is engaged in an activity outside her family responsibilities for which she receives a salary. This activity should require a sizeable amount of education or training in preparation, so that it cannot be undertaken casually. It should provide an opportunity for advancement as skills and experience increase. Finally, a career implies that the woman's family responsibilities do not overshadow her job. They must be combined more or less equally, but the career woman must be prepared to subordinate responsibilities of a family, if she has one, so that her job will not suffer.[1]

At another time, Lewis has stated it is a fallacy to say that women can have career patterns similar to those of men. Most women move into and out of the labor force depending on the needs and responsibilities within their families.[2] The Executive Director of the National

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1. Lewis, op. cit., pp. 155-156.

2. Lewis, Edwin C., "Emerging Social Patterns and the Potential of Women," Adult Leadership (18:1) May 1969, p. 20.

Association of Boards of Pharmacy recently made the following statements about women pharmacists which support Lewis' beliefs.

> I'm not concerned about the ability of the female to make her contributions - I know she can and does, but you are dealing with biology here - and psychology. Regardless of what you do, when you put your chips on women as professional manpower source, you're going to lose them - biology being what it is. Motherhood is motherhood. They drop out, they have a family and then maybe they come back and are productive again.[3]

Rodowskas recently stated that pharmacy leaders must recognize that many women will not spend 100 percent productive professional careers, as many will leave the profession for marriage and family.[4] One of the few attempts to quantify the professional career of women pharmacists was made by Ohvall and Sehgal in 1968. From their sample of 207 women pharmacists, they found that the average respondent practiced full-time about one-half of her professional life, part-time about one-fourth, and did not practice about one-fourth of her professional life.[5]

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3. "Pharmacy's Planners Are Girl-Watching," Pharmacy News (11:2) Smith Kline and French Laboratories, Summer 1970.

4. Rodowskas, Christopher A., Jr., "The Pending Crisis in Professional Productivity," Journal of the American Pharmaceutical Association (NS10:4) April 1970, p. 197.

5. Ohvall and Seghal, op. cit., p. 519.

Converting these data to full-time practice equivalents, the average respondent practiced full-time about 60 percent and was out of practice about 40 percent of her professional life.[6]

The problem of women entering the health professions has been demonstrated best in the medical profession. Medical educators have long been concerned about the effects of women on physician manpower predictions. In fact, it was not until 1960 that all medical schools in the United States accepted women students.[7] Between 1961 and 1970, the percentage of accepted medical students who were women fluctuated between 8.0 and 10.1 percent.[8] The 1970-71 medical school enrollment was 10.6 percent women, while 10 percent of the graduates were women.[9]

Lopate summarized the thinking behind not wanting too many women to enter medical school with the following statement.

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6. Ibid., p. 519.

7. Lopate, op. cit., p. 21.

8. Stritter, Frank T., Hutton, Jack G., Jr., and Dube, W. F., "Study of U.S. Medical School Applicants, 1969-70," Journal of Medical Education (46:1) January 1971, p. 35.

9. "Women MD's See Gains, But Warn of Prejudice," American Medical News, January 10, 1972, p. 17.

> Statements against the recruiting of women into medicine are centered around the wisdom of giving a place in medical school to a person who will be less likely to devote every year of her life to the practice of medicine and who may devote herself only part-time to medical practice for a substantial period.[10]

A report on women in business contained the statement that officially, graduate and professional schools invite women to apply, while in private, their administrators deplore wasting facilities on women who marry and do not use their educations, but "throw it away to get married and have babies."[11] A recent report of the President's Commission on the Status of Women contained the warning that reluctance to consider women applicants on their merits results in underutilization of capacities that the economy needs and stunts the development of higher skills.[12]

Thus, conflict is possible between the likely partial utilization of women in pharmacy practice and the desirability of making pharmaceutical education most available for those who will practice full-time during their life. Hopefully, this study will present data which will allow a better understanding of the role women are playing in pharmacy and to determine if something should be

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10. Lopate, op. cit., p. 22.

11. Bird, Caroline, "Women in Business: The Invisible Bar," Personnel (45:3) May-June 1968, p. 29.

12. American Women, Report of the President's Commission on the Status of Women, Washington, D.C., p. 30.

done to decelerate the increasing numbers of women entering pharmacy schools.

Current Practice Patterns of Women Pharmacists

An analysis was made to see if there was a difference in the percentage of active and inactive women pharmacists in various age categories.[13] Table 23 shows there was little difference in the percentage of women in each age category who were practicing pharmacy. Thus, the belief that more younger women do not practice, presumably because of raising children, was not supported by this finding.

An additional analysis was made to see if the younger, practicing women pharmacists worked fewer hours per week than the older women. Table 24 shows that nearly half of the women, who had been pharmacists less than ten years, were practicing full-time. The proportion of women working full-time dropped to about one-third for women who had been pharmacists between ten and 20 years, but increased for women registered between 20 and 40 years. The percentage of women working less than 20 hours per week was quite similar for the three groups of women who had been registered less than 20 years. However, a lower percentage

13. All calculations made on practice patterns, both current and career, were made without using the data collected from nuns.

TABLE 23

ACTIVE AND INACTIVE WOMEN PHARMACISTS BY YEARS AS A PHARMACIST

Women Pharmacists	Range of Years As a Pharmacist: Less Than 10	10-14	15-19	20-24	25-39	40 or More	Total
	%	%	%	%	%	%	%
Active	83.1	81.9	80.5	76.3	75.9	84.0	79.6
Inactive	16.9	18.1	19.5	23.7	24.1	16.0	20.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(207)	(232)	(215)	(240)	(286)	(94)	(1274)*

*15 women did not report the years they had been a pharmacist, 6 women did not report the number of hours they were working per week, and 1 woman reported neither.

TABLE 24

NUMBER OF HOURS PRACTICING PER WEEK - YEARS AS A PHARMACIST

Range of Hours Per Week	Years As a Pharmacist: Less Than 10	10-14	15-19	20-24	25-39	40 or More	Total
	%	%	%	%	%	%	%
40 hours or more	45.9	34.2	33.5	40.4	46.5	25.3	39.2
20 - 39 hours	18.6	26.8	26.6	33.3	31.8	27.8	27.7
Less than 20 hours	35.5	39.0	39.9	26.2	21.7	46.8	33.1
Total	100.0	100.0	100.0	99.9	100.0	99.9	100.0
	(172)	(190)	(173)	(183)	(217)	(79)	(1014)*

*15 women did not report the year they became a pharmacist, 6 women did not report the number of hours they were working per week, and 1 woman reported neither.

of women who had been pharmacists for between 20 and 40 years were working less than 20 hours per week. Thus, it did not appear that women in the child-bearing age "dropped out" of practice, but rather they reduced the number of hours they worked per week. Barbier has suggested that women should work part-time while raising children so that when they are ready to re-enter the occupational world, they will not find their knowledge obsolete.[14]

A tabulation was made to determine the percentage of time, in full-time equivalences, the women were working. The five categories of ranges of hours working per week (Table 6) were divided into fifths, and each fraction was multiplied by the number of women in the corresponding category. Table 25 shows that the women in the sample were working 55.7 percent of the time, based on full-time equivalents.

Career Practice Patterns of Women Pharmacists

The women were asked to report the percentage of the time since becoming pharmacists that they had practiced full-time and part-time. Full-time was defined as 40 hours per week or more. Because of the size of the sample, it was thought the mean percentages obtained would be

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14. Barbier, op. cit., p. 189.

TABLE 25

CURRENT FULL-TIME PRACTICE EQUIVALENTS FOR WOMEN PHARMACISTS

Women Pharmacists				Full-Time Equivalents
437	X	5/5	=	437.0
130	X	4/5	=	104.0
159	X	3/5	=	95.4
194	X	2/5	=	77.6
145	X	1/5	=	29.0
269	X	0/5	=	0.0
1,334*				743.0

$$\frac{743.0}{1,334} = 55.7 \text{ percent}$$

*7 women did not report the number of hours they were working per week.

representative of women pharmacists in general. This information should help pharmacy manpower statisticians understand better the contribution women pharmacists make in the "world of work."

Table 26 shows the results from 1,232 responding women pharmacists. Just over half of the average women pharmacist's career was in full-time pharmacy practice, just over one-quarter of her career was in part-time practice, and just over one-fifth of her career was spent

not practicing pharmacy.

TABLE 26

CAREER PRACTICE PATTERNS OF RESPONDENTS

Full-Time Practice	Part-Time Practice	Not In Practice	Total
%	%	%	%
51.3	26.8	21.9	100.0

N = 1,232

These findings are similar to those of Ohvall and Sehgal who studied a smaller sample of women pharmacists in 1968. They reported that the average respondent practiced full-time 48.5 percent of her professional life, part-time 24.5 percent, and did not practice 27.0 percent of her professional life.[15] The similarity in the findings of these two studies lends reliability to both.

The sample of women was categorized by the percent of their career they had spent in full-time practice of pharmacy. Table 27 shows that just over 50 percent of the women had practiced full-time 50 percent or more of their career. The figure of only 18.3 percent having practiced full-time all of their career substantiates the fact that

15. Ohvall and Sehgal, op. cit., p. 519.

TABLE 27

PERCENTAGES OF RESPONDENTS IN FULL-TIME PRACTICE DURING THEIR PHARMACY CAREER

Percent of Career In Full-Time Practice	Respondents N	%
100%	226	18.3
80% or More	394	32.0
60% or More	521	42.3
50% or More	626	50.8
Less than 50%	606	49.2
Less than 40%	528	42.9
Less than 20%	280	22.7
Total	1,232*	

*64 women did not report the percent of their career spent in full-time practice of pharmacy.

a high percentage of women do leave full-time practice sometime during their career.

Similar type studies have been made for women physicians. One study has reported the following data from a sample of 1,336 women physicians: 44.9 percent had practiced full-time since getting their M.D. degree; 3.7 percent had practiced part-time; and 13.4 percent had practiced either full-time or part-time all of the

time since they had received their degree.[16] In comparison then, where 62.0 percent of the women physicians practiced, either full-time or part-time, all of their career, 33.2 percent of 1,261 responding women pharmacists in this study reported having practiced either full-time or part-time all of their career.[17]

The women were asked if there ever had been a time when at least two years passed during which they did not practice pharmacy. Of 1,291 responding women, 765, or 59.3 percent, replied "No." Thus, about one-third of the women had practiced all of their career, and about three-fifths of the women had never been out of practice for two consecutive years. Of course, it would have been possible for some of those women to have been out of practice more than two years in total. The question asked to the women should have been clearer by stating "two consecutive years" instead of just "two years."

A comparison was made between the career practice patterns of women pharmacists in community and hospital practice. Table 28 shows that the total percentage of the career spent practicing pharmacy is about the same between

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16. Powers, Parmelle, and Wiesenfelder, op. cit., p. 488.
17. Some of the women who were not currently practicing pharmacy did not report the percent of their career which had been spent in practice. However, rather than count these women as nonrespondents for this calculation, they were included in the total number of respondents because they could not have practiced 100 percent of their career.

TABLE 28

CAREER PRACTICE PATTERNS OF RESPONDENTS IN COMMUNITY AND HOSPITAL PHARMACY

Career Practice Patterns	Type of Practice			Total
	Community	Hospital	Comm/Hosp	
	%	%	%	%
Full-Time (40 hrs/week or more)	53.5	61.7	50.0	55.2
Part-Time (Less than 40 hours/week)	31.9	22.4	32.2	29.6
Not In Practice	14.6	15.9	17.8	15.2
Total	100.0	100.0	100.0	100.0
	(698)	(233)	(57)	(988)*

*15 community, 3 hospital, and 2 community/hospital pharmacists did not report their career practice patterns.

community and hospital pharmacists. However, the hospital pharmacists have spent a higher percentage of their career practicing full-time. This tendency for hospital women pharmacists to practice full-time more than community women pharmacists has been demonstrated earlier with data on current practice patterns of the sample.

Francke has recognized the need for part-time pharmacists in hospital pharmacy. He specifically has suggested that women pharmacists be employed on a part-time basis in those hospitals where the demand for pharmacy service is too low to justify employing a full-time

pharmacist.[18] Francke recommended that the American Society of Hospital Pharmacists establish and maintain a registry of experienced women pharmacists who preferred to practice in hospitals on a part-time basis only, and that this information be made available to small hospitals and related institutions.[19]

An additional analysis was made of career practice patterns of only women pharmacists who were currently practicing pharmacy. Table 29 shows that women who were working full-time at the time they completed the questionnaire had spent an average of 82.1 percent of their pharmacy career in full-time practice and 9.5 percent in part-time practice. Those women working part-time at the time they completed the questionnaire had spent more of their career practicing part-time than current full-time pharmacists. Thus, it appears the current practice patterns of the sample at the time of the survey were representative of the woman's career practice patterns. Perhaps the practice patterns of women pharmacists are not as "haphazard" as they have been described in Britain.[20]

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18. Francke, Latiolais, Francke, and Ho, op. cit., p. 175.

19. Ibid., p. 21.

20. "The Next 10 to 15 Years," The Pharmaceutical Journal (196:5331) January 1, 1966, pp. 11-12.

TABLE 29

CAREER PRACTICE PATTERNS OF RESPONDENTS CURRENTLY PRACTICING PHARMACY

Career Practice Patterns	Range of Hours Worked Per Week					
	40 hrs or More	30-39 Hours	20-29 Hours	10-19 Hours	Less Than 10 Hours	Total
	%	%	%	%	%	%
Full-Time (40 hrs per week or more)	82.1	44.7	36.1	34.6	36.8	55.3
Part-Time (Less than 40 hours/week)	9.5	38.6	43.4	47.7	38.7	29.5
Not In Practice	8.4	16.7	20.5	17.7	24.5	15.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
	(399)	(128)	(153)	(187)	(137)	(1004)*

*28 women did not report either the number of hours they were working per week or their career practice patterns.

The sample of women pharmacists was divided into groups according to the AACP District in which they were residing. An analysis was made to see if career practice patterns varied between geographic locations in the country. Table 30 shows that except for pharmacists in AACP District 6, the total percentage of the pharmacists' careers spent practicing pharmacy was similar between Districts. There was more variation in the percentages spent practicing full-time and part-time, with women in AACP District 6 having spent about two-thirds of their careers, on an average, practicing full-time. Overall, however, the practice patterns of women pharmacists appeared to be similar between various geographic areas in the country.

The women pharmacists currently practicing pharmacy were divided into groups based upon the population of the town in which they were practicing. An analysis was made to see if career practice patterns were influenced to any extent by the size of the community in which the women were practicing. Table 31 shows that women working in the smaller communities had spent a slightly higher percentage of their time practicing than those in larger communities. However, the difference was so small that for practical purposes, it was concluded there was much similarity in the practice patterns of the women regardless of the size community in which they were practicing.

TABLE 30

CAREER PRACTICE PATTERNS OF WOMEN PHARMACISTS BASED ON AACP DISTRICT IN WHICH RESIDING

Career Practice Patterns	AACP District In Which Residing								
	1 %	2 %	3 %	4 %	5 %	6 %	7 %	8 %	Total %
Full-Time (40 hrs/week or more)	50.1	47.8	57.1	46.4	41.8	67.5	45.2	55.1	51.3
Part-Time (Less than 40 hrs/week)	24.4	28.3	22.9	31.4	36.6	16.9	30.9	23.2	26.6
Not In Practice	25.5	23.9	20.0	22.2	21.6	15.6	23.9	21.7	21.9
Total	100.0 (98)	100.0 (270)	100.0 (145)	100.0 (277)	100.0 (70)	100.0 (128)	100.0 (80)	100.0 (163)	100.0 (1231)*

*65 women did not report either the AACP District in which they were residing or their career practice pattern.

TABLE 31

CAREER PRACTICE PATTERNS OF RESPONDENTS BASED ON POPULATION OF COMMUNITY IN WHICH PRACTICING

Career Practice Patterns	Ranges of Population							
	Less than 5,000	5,000-9,999	10,000-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000 or More	Total
	%	%	%	%	%	%	%	%
Full-Time (40 hrs/week or more)	54.8	50.3	54.7	50.6	59.1	57.1	57.4	55.3
Part-Time (Less than 40 hrs/week)	32.3	38.9	29.0	33.8	27.8	28.3	23.7	29.5
Not In Practice	12.9	10.8	16.3	15.6	13.1	14.6	18.9	15.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(86)	(65)	(154)	(138)	(118)	(153)	(173)	(887)*

*145 women did not report either the population of the community in which they were practicing or their career practice patterns.

The women practicing in larger communities had spent a slightly higher percent of their careers practicing full-time than had those in smaller areas. Although the difference was not large, it could indicate there were more full-time job opportunities for women in larger communities. Of course, there is no way of knowing from the data collected if the women had always been practicing in communities which were the size of the one in which they currently were practicing.

A further analysis of career practice patterns was made on the women pharmacists' marital status. Table 32 shows, as would be expected, that the single women had spent a much higher percentage of their career practicing full-time, and in total, than had married women. The women whose husband's were deceased were older women. Their high percentage of total time spent practicing pharmacy might indicate that as the group of married women get older, they will spend more of their time practicing.

The women were asked to approximate the percentage of their full-time practice and the percentage of their part-time practice they had spent in the following types of pharmacy since first becoming a pharmacist: community; hospital; industrial; and other type of practice.

Meaningful results for total percentages were obtained from 1,177 women pharmacists, 587 of whom had no

TABLE 32

CAREER PRACTICE PATTERNS OF RESPONDENTS BASED ON MARITAL STATUS

Career Practice Patterns	Marital Status: Single %	Married %	Separated or Divorced %	Husband Deceased %	Total %
Full-Time (40 hrs/wk or more)	85.5	44.2	69.9	61.5	51.3
Part-Time (Less than 40 hrs/week)	6.7	31.1	14.2	20.1	26.8
Not In Practice	7.8	24.7	15.9	18.4	21.9
Total	100.0	100.0	100.0	100.0	100.0
	(144)	(956)	(51)	(81)	(1232)*

*64 women did not report their career practice patterns.

experience in hospital pharmacy and 112 of whom had no experience in community pharmacy. The total time spent in practice, either full-time or part-time, was divided as follows: (1) 57.5 percent in community pharmacy; (2) 19.4 percent in hospital pharmacy; and (3) 1.4 percent in industry or some other type of pharmacy practice. These figures total 78.3 percent of the women pharmacists' time spent in practice, which compares favorably with the findings in Table 26 that showed 78.1 percent of a woman pharmacist's career was spent practicing pharmacy.

Meaningful results for just full-time percentages were obtained from 1,181 women pharmacists, 74 of whom had never practiced full-time. Meaningful results for just part-time percentages were obtained from 1,180 women pharmacists, 378 of whom had never practiced part-time. Percentage figures obtained for time spent in industry or other types of practice were too small to be analyzed. Thus, findings on full-time and part-time percentages were made only for women who had experience in community and/or hospital practice.

The percentages calculated were combined with earlier findings on career practice patterns (Table 26) to produce the data found in Table 33.[21] Because the percentages were rounded off for coding purposes, the data in Table 33

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21. See Appendix Q for a detailed explanation of how the figures in Table 33 were calculated.

TABLE 33

CAREER PRACTICE PATTERNS FOR RESPONDENTS

Career Practice Patterns	Type of Practice				
	Community	Hospital	Total Comm/Hosp	Other	Total
	%	%	%	%	%
Full-Time (40 hrs/week or more)	36	15	51		
Part-Time (Less than 40 hrs/week)	21	5	26		
Total Time In Practice	57	20	77	1	78
Not In Practice					22
Total					100 (1180)*

*116 women pharmacists did not complete the section asking for percentage breakdowns of time spent in full-time and part-time practice.

were rounded off to the nearest whole percent. Thus, if this sample was representative of all women pharmacists, it can be estimated that about 78 percent of total women pharmacist manpower time is spent practicing pharmacy, 57 percent in community, 20 percent in hospital pharmacy, and one percent in other areas of pharmacy. The time spent in community pharmacy is divided into 36 percent in full-time and 21 percent in part-time practice. The time spent in hospital practice is divided into 15 percent full-time and 5 percent part-time.

Practice Patterns of Nuns

A limited analysis was made on the 45 women pharmacists who were nuns. Of 43 responding nuns, 31, or 72.1 percent, had spent all of their career practicing pharmacy, either full-time or part-time. A total of 25, or 58.1 percent, had practiced full-time all of their career. None of them had been in full-time practice less than 40 percent of their career, except for three who had never practiced pharmacy. They had been assigned different responsibilities after becoming pharmacists. These findings show the practice patterns of nuns to be different from other women pharmacists, which justifies their being excluded from previous analyses of current and career practice patterns.

Future Plans In Pharmacy

The women were asked what their plans were for the next five years regarding their pharmacy practice.[22] There were four choices from which the women had to check one. Table 34 shows that nearly 90 percent of the responding women planned to practice, either full-time or

TABLE 34

FUTURE PLANS IN PHARMACY FOR RESPONDENTS

Future Plans	Respondents N	%
Full-Time Practice	362	28.2
Part-Time Practice	569	44.3
Full-Time/Part-Time Combination Practice	184	14.3
Not In Practice	156	12.1
Undecided	15	1.2
Total	1,286*	100.1

*55 women did not report their future plans.

22. The analyses for the rest of this chapter include data collected from nuns.

part-time, for the next five years. If these figures are reliable, the data show that some of the women who were inactive at the time of the study planned to re-enter practice.

A separate analysis of future plans was made for active and inactive women pharmacists. Table 35 shows that more than half of the women not currently practicing did not plan to practice in the next five years either. Less than three percent of the women who were currently practicing did not plan to practice in the next five years. These findings support earlier findings (Table 29) which showed that career practice patterns were not as "haphazard" as might be thought. Women pharmacists did not appear to leave and re-enter pharmacy practice at will, but rather had some long-term practice plans.

Another analysis of future plans was made to compare community and hospital pharmacists. Table 36 shows that the majority of hospital pharmacists planned to work full-time, while the majority of community pharmacists planned to work part-time. Once again, women in hospital practice were shown to be more "career-oriented," while women in community pharmacy were more part-time inclined.

The women who reported they were not planning to practice in the next five years were asked to describe in their own words why they made that decision. Table 37

TABLE 35

FUTURE PLANS IN PHARMACY - ACTIVE VS. INACTIVE RESPONDENTS

Future Plans	Respondents: Active N	Active %	Inactive N	Inactive %	Total
Full-Time Practice	356	34.4	6	2.4	362
Part-Time Practice	477	46.2	92	36.4	569
Full-Time/Part-Time Practice Combination	165	16.0	19	7.5	184
Not In Practice	28	2.7	128	50.5	156
Undecided	7	0.7	8	3.2	15
Total	1,033	100.0	253	100.0	1,286*

*39 active and 16 inactive women pharmacists did not report their future plans.

TABLE 36

FUTURE PLANS IN PHARMACY BY TYPE OF PRACTICE

Future Plans	Type of Practice		
	Community	Hospital	Comm/Hosp
	%	%	%
Full-Time Practice	29.7	50.9	15.5
Part-Time Practice	51.6	32.7	48.3
Full-Time/Part-Time Practice Combination	15.7	12.9	32.8
Not In Practice	2.5	3.4	0.0
Undecided	0.6	0.0	3.4
Total	100.1	99.9	100.0
	(690)*	(263)*	(58)*

*23 community, 13 hospital, and 1 comm/hosp women pharmacists did not report their future plans.

TABLE 37

REASONS WHY NOT PLANNING TO PRACTICE IN THE NEXT FIVE YEARS

Reason	Respondents N	Respondents %
Household Responsibilities	40	26.8
Poor Health, or Retiring	40	26.8
Have Other Job	33	22.2
Not Registered in State in Which Residing	11	7.4
Been Out of Practice Too Long	10	6.7
Not Interested in Pharmacy	7	4.7
Family Disapproval	5	3.4
Cannot Find a Job as a Pharmacist	1	0.7
Total	149*	--

*7 women did not state a reason. Percentages add to more than 100 percent due to multiple responses.

shows an analysis of the reasons given. Only three reasons received much attention: household responsibilities, poor health or plans to retire, and have other job. More than half of the reasons were either household responsibilities, or poor health or plans to retire.

Frequency of Inactivity

The women were asked how many times they had left practice for more than one month since becoming a pharmacist. The purpose of this question was to see how often women left and re-entered pharmacy practice. Table 38 shows that about 20 percent of the women had never left practice for more than one month and more than 50 percent had left practice only once or twice. These

TABLE 38

NUMBER OF TIMES LEFT PRACTICE FOR MORE THAN ONE MONTH

Number of Times Left Practice	Respondents N	%
Never	248	19.4
Once	346	27.0
Twice	314	24.5
Three Times	175	13.7
Between Four and Seven Times	148	11.4
Eight Times or More	50	3.9
Total	1,281*	99.9

*60 women did not give the number of times they had left practice.

findings support earlier data (Table 35) which showed women pharmacists do not leave and re-enter pharmacy regularly during their career.

The number of women who said they never had left practice for more than one month was less than the number who reported they had been in practice all of their career. (Page 84) Theoretically, these numbers should have been the same. However, a number of women mentioned in their questionnaire that they had taken off one or two months to have a baby, but returned to practice after that time. These women undoubtedly reported they had spent all their career practicing pharmacy, provided they never left practice for other reasons. Probably, these women were being legitimate in reporting they practiced all of their career. If such brief leaves of absence for child-birth were not excluded, the only women who possibly could practice all of their career would be single women and married women who never had their own children.

If a woman had ever left practice for more than one month, she was asked the reasons why. Due to a coding error, only responses related to raising a family could be reported. However, the general purpose of the question was to see if household or family responsibilities accounted for women leaving practice, even if for a short while. Of 1,033 women who reported having left practice at least once for more than one month, 770, or 74.5

percent, said they had left either because of pregnancy or taking care of their children. This finding merely supported what has usually been thought to be true: when women pharmacists leave practice, they do so primarily because of family responsibilities.

Reasons for Working Part-Time Rather Than Full-Time

The women were asked if they had ever practiced part-time, why they chose to do so rather than practice full-time. The question was open-ended, and each response was placed into one of eight categories. Table 39 shows that the most predominant reason was that of wanting time to raise family and keep up a household. This supports the finding in the preceding section which showed that when women leave practice, they do so primarily because of their family.

Mobility of Women Pharmacists

The women were asked to report the State in which they currently were residing, and the State in which they were first registered as a pharmacist. Of 1,335 responding women pharmacists, 410, or 30.7 percent, were residing in a different State than the one in which they were first registered.[23] Although this analysis does not

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23. See Appendix R for an analysis of these data for each State.

TABLE 39

REASONS FOR PRACTICING PART-TIME RATHER THAN FULL-TIME

Reason	Respondents N	Respondents %
Want Time to Raise Family and Keep Up Household	667	75.6
Prefer Not to Work Full-Time	119	13.5
Had Other Job	28	3.2
Recovering from Illness or Injury	23	2.6
Could Not Find a Full-Time Job	21	2.4
Did Not Need the Money	19	2.2
Family Disapproval	13	1.5
Other Reason(s)	54	---
Total Respondents	883*	

*403 women reported they never had practiced part-time and 55 women did not give a reason why they had practiced part-time instead of full-time.

constitute a valid study of mobility, it does give an indication of the problems a State might have in determining its long-term manpower of women pharmacists based upon those women who get registered in that State after graduation from pharmacy school.

CHAPTER FIVE

ATTITUDES OF WOMEN PHARMACISTS TOWARD CONTINUING EDUCATION

A portion of the questionnaire contained inquiries into the women's attitudes about and participation in continuing education programs for pharmacists. Blockstein has defined continuing education in pharmacy as follows.

> ...that process that serves as the continuing of formal preparation for practice through a series of experiences for practitioners that will draw forth from them their potential for increasing their professional worth to the betterment of their practice and the society they serve.[1]

The great need for women to participate in continuing education programs is based on the assumption that most women have irregular working patterns during their life. In the past, a pharmacist could leave practice for several years and return to practice with little difficulty. In fact, a pharmacy educator recently stated that at the present time, it is a "very simple thing" for a woman pharmacist to drop out of practice for twelve or fifteen years and then to return, but this is probably going to

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1. Blockstein, William L., Proceedings of the Annual Meeting of District No. 4 of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy, October 27-29, 1968, p. 48.

change and to change very drastically.[2] Horton has explained that this change will be "drastic" because the curricula in schools of pharmacy will change rapidly during the 1970's. Women graduates of 1969 will be obsolete in their profession by 1980 unless they have kept abreast of these changing times with continuing education courses.[3]

Thus, developers of continuing education programs for pharmacists have a challenge before them. They must find ways to involve the temporarily inactive woman pharmacist in continuing education activities, so when she returns to practice she will have retained or regained her competency. If the enrollment of women into our schools of pharmacy continues to increase, and if the need for pharmacists continues to increase, it will become more important than ever to prepare inactive women pharmacists for whenever they choose to return to practice.

Weinswig has made the following statement regarding what needs to be done for the woman pharmacist who is inactive because of having a young family.

> We must recognize that a housewife and mother cannot leave home for two or three days to return to the campus for pharmacy institutes and seminars. We don't need more courses as much as we need 'convenient' courses that the

2. Salisbury, op. cit.
3. Horton, op. cit.

> woman can take within the confines of her hometown or her own living room.[4]

Little, if anything, has been done to help inactive women pharmacists back into practice. Andersen recently challenged pharmacy educators into supporting the need to provide programs for these women by asking two questions: (1) "Is there one college of pharmacy even in the planning stage of a program to retrain the woman pharmacist 35-40 years old?" and (2) "Is there one college of pharmacy even in the planning stage of a program of continuing education geared for the young woman pharmacist who has "dropped out" to raise young children?"[5]

Need for Special Programs for Inactive Women Pharmacists

Although most pharmacy educators realize the importance of continuing education for pharmacists, this study sought to determine the attitudes of women pharmacists. These women were asked if there was a need for special continuing education programs for inactive women pharmacists to return to practice. A total of 1,031 out of 1,248, or 82.6 percent, responding women checked "Yes," there was such a need. Table 40 shows how the responses of active and

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4. "Can Mothers 'Keep Up' with Progress," Pharmacy News (11:2) Smith Kline and French Laboratories, Summer 1970, p. 10.

5. Andersen, op. cit.

TABLE 40

NEED FOR SPECIAL CONTINUING EDUCATION PROGRAMS FOR INACTIVE WOMEN PHARMACISTS - ACTIVE VS. INACTIVE RESPONDENTS

Need Programs for Inactive Women R.Ph.	Active N	Active %	Inactive N	Inactive %	Total
Yes	826	82.8	205	82.0	1,031
No	172	17.2	45	18.0	217
Total	998	100.0	250	100.0	1,248*

χ^2 = 0.08 (1 d.f.)

*74 active and 19 inactive pharmacists did not express their opinion.

inactive pharmacists compared. A chi-square analysis showed there was no significant difference between the two groups of women. The percentage figures in the table illustrate this relationship.

Another comparison was made of the responses of the women based on the number of years they had been a pharmacist. Table 41 shows there were very little differences between the pharmacists' responses. Thus, women pharmacists of all ages recognize the need for special continuing education programs to be available for inactive women pharmacists who wish to return to practice.

TABLE 41

NEED FOR SPECIAL CONTINUING EDUCATION PROGRAMS FOR INACTIVE WOMEN PHARMACISTS - YEARS AS A PHARMACIST

Need Programs for Inactive Women R.Ph.	Range of Years As a Pharmacist					
	Less Then 10	10-19	20-29	30-39	40 or More	Total
	%	%	%	%	%	%
Yes	83.2	79.5	84.7	86.6	81.9	82.8
No	16.8	20.5	15.3	13.4	18.1	17.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
	(202)	(430)	(353)	(157)	(94)	(1,236)*

*89 pharmacists did not express their opinion, 12 did not report the years they became a pharmacist, and 4 did not express their opinion or report the year they became a pharmacist.

A further comparison was made between pharmacists in community and hospital pharmacy. Table 42 shows a slightly higher percentage of hospital pharmacists reported "Yes," although more than 80 percent of both groups thought there was a need for special continuing education programs for inactive women pharmacists who wished to return to practice.

TABLE 42

NEED FOR SPECIAL CONTINUING EDUCATION PROGRAMS FOR INACTIVE WOMEN PHARMACISTS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Need Programs for Inactive Women R.Ph.	Type of Practice			
	Community		Hospital	
	N	%	N	%
Yes	536	80.7	226	86.9
No	128	19.3	34	13.1
Total	664*	100.0	260*	100.0

*49 community and 16 hospital pharmacists did not express their opinion.

Need for Mandatory Continuing Education

One issue which currently is getting much attention in pharmacy continuing education is whether or not participation should be mandatory for the relicensure of

pharmacists.[6] Two States, Kansas and Florida, now require their pharmacists to meet certain continuing education standards in order to remain licensed each year. Two other States, Ohio and California, will begin requiring participation in continuing education programs in the near future.[7,8] Other States are in the talking stages and it is probable that some will make continuing education mandatory within the next five years.

The AACP Committee on Continuation Studies submitted the following resolution in 1970 which was adopted later.

> Be it resolved that the AACP recommend to the NABP and to the APhA that a tripartite committee be established with membership from each organization to conduct such studies and to make such recommendations as would be appropriate for the development of programs and the adoption of legislation to make continuing education mandatory for licensure renewal.[9]

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6. For a recent review of the literature regarding pros and cons of mandatory continuing education for pharmacists, see Kirk, Kenneth W. and Weinswig, Melvin H., "Mandatory Continuing Education for the Relicensure of Pharmacists," American Journal of Pharmaceutical Education (36:1) February 1972, pp. 48-55.

7. "The Alibi--The Fib," Ohio Pharmacist (21:2) February 1972, p. 22.

8. Dozier, Terry, "Mandatory Continuing Education - A Reality," California Pharmacist (19:12) December 1971, p. 25.

9. "Standing Committee Reports," American Journal of Pharmaceutical Education (34:3) August 1970, p. 393.

With all the publicity being given to mandatory continuing education, it was thought pertinent to obtain the opinions of the women pharmacists regarding the desirability of such a requirement. Bowers had said that some degree of acceptance by pharmacists is necessary before compulsory continuing education programs could become operative.[10] Specifically, the women were asked, "Do you think the participation in continuing education programs should become mandatory for the relicensure of pharmacists?" Table 43 shows that just over half of the respondents said "Yes." This is encouraging since the

TABLE 43

OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS

Favor Mandatory Continuing Education	Respondents N	%
Yes	663	50.2
No	511	38.8
Yes-No	35	2.7
No Opinion	109	8.3
Total	1,318*	100.0

*23 women did not express their opinion.

10. Bowers, Roy A., Proceedings of the 40th Conference of the State Boards and Colleges of Pharmacy, District No. 2, October 2-4, 1969, pp. 54-55.

implementation of such a requirement would be particularly difficult for those women who are going through an inactive period of their professional career due to raising children. It might have been thought that women would be opposed to mandatory continuing education on these grounds.

A comparison was made of opinions between active and inactive pharmacists to see if the inactive pharmacists would oppose such a concept. Table 44 shows the results of this comparison. Although the percentage of active

TABLE 44

OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS - ACTIVE VS. INACTIVE RESPONDENTS

Favor Mandatory Continuing Education	Active N	Active %	Inactive N	Inactive %	Total
Yes	542	51.4	121	46.0	663
No	403	38.2	108	41.1	511
No Opinion or Yes-No Answer	110	10.4	34	12.9	144
Total	1,055	100.0	263	100.0	1,318*

$\chi^2 = 2.86$ (2 d.f.)

*17 active and 6 inactive pharmacists did not express an opinion.

pharmacists favoring mandatory continuing education was slightly higher than that for inactive pharmacists, a chi-square analysis showed there was no significant difference between the two groups of women pharmacists.

Another comparison was made between the opinions of community and hospital pharmacists as well as those women practicing concurrently in both environments. Table 45 shows there was a significant difference in the opinions of the three groups. Hospital pharmacists were most receptive to the idea, followed by women practicing both community and hospital pharmacy. The community pharmacists were the least receptive to the concept of mandatory continuing education. However, in all three groups, more women favored the concept than opposed it which should be encouraging to program planners.

A comparison was made between the opinions of the women pharmacists based on the number of years they had been pharmacists. Table 46 shows noticeable difference in the opinions, with the younger women favoring it about two-to-one, and the oldest group of pharmacists opposing it. This finding probably would be predictable since they would see mandatory continuing education as a threat to their being able to retain their pharmacy license. The fact that those women who have been pharmacists less than 10 years favor the concept so strongly is encouraging. It is this group that most likely has the young family and

TABLE 45

OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Favor Mandatory Continuing Education	Type of Practice: Community N	Community %	Hospital N	Hospital %	Comm/Hosp N	Comm/Hosp %	Total
Yes	323	46.3	175	63.6	32	55.2	530
No	295	42.3	78	28.4	20	34.5	393
No Opinion or Yes-No Answer	80	11.5	22	8.0	6	10.3	108
Total	698	100.1	275	100.0	58	100.0	1,031*

$\chi^2 = 24.21$ (4 d.f.)

*15 community, 1 hospital, and 1 community-hospital pharmacist did not express their opinion.

TABLE 46

OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS - YEARS AS A PHARMACIST

Favor Mandatory Continuing Education	Range of Years As a Registered Pharmacist					
	Less Than 10	10-19	20-29	30-39	40 or More	Total
	%	%	%	%	%	%
Yes	63.0	50.5	47.5	47.2	38.9	50.2
No	30.3	37.5	43.8	38.6	45.3	38.8
No Opinion or Yes-No Answer	6.7	12.0	8.7	14.2	15.8	11.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
	(211)	(456)	(379)	(163)	(95)	(1,304)*

*21 did not express an opinion, 14 did not report the year they became a pharmacist, and 2 answered neither question.

might not be in practice, or if so, on a part-time basis.

The sample of women pharmacists was analyzed according to the AACP District of their residence. The reason for this analysis was to see if the reception of continuing education varied in different geographical locations. Table 47 shows there was no significant difference in the opinions of women regarding mandatory continuing education regardless of the area of the country they were from.

The concept of mandatory continuing education has been promoted to some extent in various professional organizations. A comparison was made between the opinions of women belonging to three particular professional organizations: (1) American Pharmaceutical Association; (2) American Society of Hospital Pharmacists; and (3) National Association of Retail Druggists. A pharmacist who joins ASHP must also join APhA. In fact, it is possible that one respondent could be in all three organizations, but no attempt was made to sort these people out. Table 48 shows that members of APhA and ASHP were in favor of mandatory continuing education, while NARD members opposed the concept slightly.

The comparison of opinions between members of various professional organizations was carried out in a little more detail with APhA and ASHP members. The opinions of APhA members were compared to: (1) non-APhA members, but

TABLE 47

SHOULD CONTINUING EDUCATION BE MANDATORY FOR RELICENSURE OF PHARMACISTS - BY AACP DISTRICT OF RESIDENCE

Favor Mandatory Continuing Education	AACP District of Residence								
	1	2	3	4	5	6	7	8	Total
Yes	47	145	79	144	35	72	48	90	660
No	52	112	50	111	32	56	28	70	511
No Opinion or Yes-No Answer	10	30	15	36	8	21	8	15	143
Total	109	287	144	291	75	149	84	175	1,314*

χ^2 = 10.20 (14 d.f.)

*23 women did not express an opinion and 4 women did not report the State in which they were residing.

TABLE 48

OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS - APHA VS. ASHP VS. NARD MEMBERS

Favor Mandatory Continuing Education	Respondent Members APhA %	ASHP %	NARD %
Yes	60.3	64.5	43.4
No	31.7	28.5	48.4
No Opinion or Yes-No Answer	8.0	7.0	8.2
Total	100.0 (416)*	100.0 (172)*	100.0 (120)*

*3 APhA, 1 ASHP, and 5 NARD members did not express their opinion.

members in state and/or local pharmacy organizations; and (2) non-members in APhA as well as state and/or local pharmacy organizations. Table 49 shows there were marked differences in the opinions, as those of state and/or local pharmacy organization members were more closely in line with non-members than with APhA members. It appears that some state associations do not favor mandatory continuing education as strongly as APhA, if the womens' responses can be interpreted to reflect the organizations' views.

TABLE 49

OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS - APHA VS. STATE AND/OR LOCAL VS. NON-MEMBERS

Favor Mandatory Continuing Education	APhA Member	Non-APhA, but State and/or Local Member	Non-Member
	%	%	%
Yes	60.3	46.1	45.4
No	31.7	41.3	42.4
No Opinion or Yes-No Answer	8.0	12.6	12.2
Total	100.0	100.0	100.0
	(416)*	(308)*	(594)*

*3 APhA, 7 State and/or Local Only, and 13 Non-members did not express their opinion.

The opinion of ASHP members were compared to: (1) non-ASHP members, but members in some other hospital organization; and (2) non-members in any hospital organization. Table 50 shows the results to be similar to those with the preceding APhA analysis. Those women belonging to a hospital organization other than ASHP had an opinion towards mandatory continuing education which was more similar to non-members than to ASHP members. Once again, if the womens' responses can be interpreted to reflect the organizations' views, it appears there are some hospital

pharmacy organizations that do not favor mandatory continuing education as strongly as ASHP.

TABLE 50

OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS - ASHP VS. OTHER HOSPITAL PHARMACY ASSOCIATIONS VS. NON-MEMBERS

Favor Mandatory Continuing Education	ASHP Member	Non-ASHP, but State and/or Other Hosp. Assn. Member	Non-Member Hosp. Assn.
	%	%	%
Yes	64.5	47.6	48.2
No	28.5	42.9	40.2
No Opinion or Yes-No Answer	7.0	9.5	11.6
Total	100.0 (172)*	100.0 (42)*	100.0 (1,102)*

*1 ASHP, 1 Other Hospital Association Member, and 21 Non-members did not express their opinion.

Number of Programs Attendance

An analysis was made to see how many programs the women pharmacists had attended. Specifically, they were asked to report the number of continuing education programs they had participated in (attended) since July 1, 1969. This date was about two years from the time the women

received the questionnaire. Table 51 shows how the entire sample responded to the question.

TABLE 51

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS

Number of Programs	Respondents N	%
Eight or More	41	3.3
Seven	5	0.4
Six	16	1.3
Five	25	2.0
Four	42	3.3
Three	98	7.8
Two	163	13.0
One	191	15.2
None	676	53.8
Total	1,257*	100.1

*84 women did not report the number of programs they had attended.

More than one-half the respondents had not attended any continuing education programs in the last two years. It is probable that many of the 84 nonrespondents did not attend any programs either and because of it, left the

space blank. This is somewhat inconsistent with the earlier finding that about one-half the women favored making continuing education mandatory for relicensure. As Dowling recently pointed out, good intentions which may motivate responses to surveys are not always translatable into registrations.[11]

A comparison in the number of programs attended was made between the currently active and inactive women pharmacists. One would expect the inactive women to participate less in continuing education. However, there was no way of knowing if those inactive women had been inactive for the last two years, and if the active pharmacists had been practicing for the last two years. Table 52 shows there was a significant difference between active and inactive pharmacists. The inactive pharmacists attended fewer programs than did the women who were currently practicing.

These findings show there is a need to involve inactive women pharmacists in continuing education programs. Earlier findings showed inactive women pharmacists did support the need for continuing education. It is important

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11. Dowling, William D., "How To Identify Needs of Groups for Continuing Education," American Journal of Pharmaceutical Education (33:5) December 1969, p. 726.

TABLE 52

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - ACTIVE VS. INACTIVE RESPONDENTS

Number of Programs	Active N	Active %	Inactive N	Inactive %	Total
Five or More	81	8.0	6	2.5	87
Three or Four	134	13.2	6	2.5	140
Two	151	14.9	12	4.9	163
One	167	16.5	24	9.8	191
None	479	47.3	197	80.4	676
Total	1,012	99.9	245	100.1	1,257*

$\chi^2 = 90.67$ (4 d.f.)

*60 active and 24 inactive women pharmacists did not report the number of programs they had attended.

to help the inactive woman maintain an interest in pharmacy or the chances of her never returning to practice become greater. Weinswig has recognized this need as he thinks pharmacy must develop new, practical, and convenient continuing education and retraining programs that can keep the temporary "dropout" from becoming a "permanent manpower loss."[12]

12. "Can Mothers 'Keep Up' with Progress," Pharmacy News. (11:2) Smith Kline and French Laboratories, Summer 1970, p. 9.

A comparison was made between community pharmacists, hospital pharmacists, and those pharmacists practicing in both environments to see if continuing education participation varied. Table 53 shows that nearly twice the percentage of community pharmacists did not attend any programs in the last two years, compared to hospital

TABLE 53

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Number of Programs	Type of Practice		
	Community	Hospital	Comm/Hosp
	%	%	%
Five or More	4.6	13.2	21.4
Three or Four	9.4	23.5	12.5
Two	13.6	16.3	21.4
One	16.3	18.6	10.7
None	56.1	28.4	34.0
Total	100.0 (669)*	100.0 (264)*	100.0 (56)*

*44 community, 12 hospital, and 3 community-hospital pharmacists did not report the number of programs they had attended.

pharmacists. The percent of hospital pharmacists who had attended three or more programs was almost three times the

percent of community pharmacists. These findings clearly show that hospital practitioners participate more in continuing education than do community pharmacists. It is possible that much of the continuing education programs for hospital pharmacists take place in the hospital, thereby making it easier for them to participate. Sufficient data were not collected, however, to verify this possibility.

A comparison was made to see if younger pharmacists attended more programs than did older pharmacists. Table 54 shows that there was very little difference in participation except for the group of women who had been registered 40 years or more. These women would have been at least 60 years old and it is probable they were working on a part-time basis until retirement. Also, the decreasing percentage of women attending one program might indicate that the women either decide to attend programs or not to attend any as they get older.

A comparison was made between women in different geographic locations around the country to see if continuing education participation was greater in some areas than in others. Table 55 shows there was a significant difference between AACP Districts.

Data from Table 55 were converted to percentages to see if the differences in program attendance could be

TABLE 54

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - YEARS AS A PHARMACIST

Number of Programs	Range of Years As a Registered Pharmacist: Less Than 10	10-19	20-29	30-39	40 or More	Total
	%	%	%	%	%	%
Five or More	5.4	7.1	7.5	7.2	6.5	6.8
Three or Four	10.4	10.7	12.0	13.2	7.6	11.1
Two	11.3	11.4	16.2	14.5	7.6	12.9
One	20.7	17.1	14.2	7.9	10.9	15.3
None	52.2	53.7	50.1	57.2	67.4	53.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
	(203)	(438)	(359)	(152)	(92)	(1,244)*

*81 women did not report the number of programs they had attended, 13 women did not report the year they became a pharmacist, and 3 women reported neither.

TABLE 55

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - BY AACP DISTRICT OF RESIDENCE

Number of Programs	AACP District In Which Residing 1	2	3	4	5	6	7	8	Total
Three or More	14	40	43	44	10	23	15	38	227
Two	14	28	12	43	10	18	16	22	163
One	8	43	15	46	19	21	11	28	191
None	66	166	61	149	35	80	39	77	673
Total	102	277	131	282	74	142	81	165	1,254*

$\chi^2 = 49.67$ (21 d.f.)

*83 women did not report the number of programs they had attended, 3 women did not report the State in which they were residing, and 1 woman reported neither.

found. Table 56 shows that women residing in the southern and western areas of the United States attended more programs than women pharmacists in other AACP Districts. Among the possible reasons for this difference are: (1) women in these States are more interested in continuing education; and (2) more programs are available for pharmacists to attend. No data were collected in this study which could explain these findings.

Another comparison was made between the opinions of women belonging to three particular professional organizations: (1) American Pharmaceutical Association; (2) American Society of Hospital Pharmacists; and (3) National Association of Retail Druggists. Table 57 shows that there is considerable difference between all three groups with members of ASHP being the most active, followed by APhA members, and NARD members. These findings coincide with earlier findings which showed hospital pharmacists to be more active in continuing education programs than community pharmacists.

The participation of APhA members in continuing education programs was compared to two other groups: (1) non-APhA members, but members in state and/or local pharmacy organizations; and (2) non-members in APhA as well as state and/or local pharmacy organizations. Table 58 shows that members of professional organizations

TABLE 56

PERCENTAGE COMPARISON OF CONTINUING EDUCATION PROGRAMS ATTENDED LAST TWO YEARS - BY AACP DISTRICT OF RESIDENCE

Number of Programs	AACP District In Which Residing								
	1	2	3	4	5	6	7	8	Total
	%	%	%	%	%	%	%	%	%
Three or More	13.7	14.4	32.8	15.6	13.5	16.2	18.5	23.0	18.1
Two	13.7	10.1	9.2	15.3	13.5	12.7	19.8	13.3	13.0
One	7.8	15.5	11.5	16.3	25.7	14.8	13.6	17.0	15.2
None	64.7	59.9	46.6	52.8	47.3	56.3	48.2	46.7	53.7
Total	99.9	99.9	100.1	100.0	100.0	100.0	100.1	100.0	100.0
	(102)	(277)	(131)	(282)	(74)	(142)	(81)	(165)	(1,254)*

*83 women did not report the number of programs they had attended, 3 women did not report the State in which they were residing, and 1 woman reported neither.

TABLE 57

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - APHA VS. ASHP VS. NARD MEMBERS

Number of Programs	Respondent Members APhA %	ASHP %	NARD %
Five or More	14.7	21.0	9.8
Three or Four	22.1	27.2	12.5
Two	17.0	18.5	12.5
One	15.4	12.3	18.8
None	30.8	21.0	46.4
Total	100.0 (389)*	100.0 (162)*	100.0 (112)*

*30 APhA, 11 ASHP, and 13 NARD members did not report the number of programs they had attended.

participate much more in continuing education than do non-members. This is predictable since if a pharmacist is conscientious enough to support pharmacy associations, she more likely is conscientious enough to want to keep current on new developments in pharmacy, thus participating in continuing education programs.

The participation of ASHP members was compared to: (1) non-ASHP members, but members in some other hospital

TABLE 58

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - APHA VS. STATE AND/OR LOCAL VS. NON-MEMBERS

Number of Programs	APhA Member	Non-APhA, but State and/or Local Member	Non-Member
	%	%	%
Five or More	14.7	6.8	1.7
Three or Four	22.1	13.3	2.6
Two	17.0	15.4	9.0
One	15.4	16.7	14.2
None	30.8	47.8	72.5
Total	100.0 (389)*	100.0 (293)*	100.0 (575)*

*30 APhA, 22 State and/or Local Only, and 32 Non-members did not report the number of programs they had attended.

organization; and (2) non-members in any hospital organization. Table 59 shows that members in hospital pharmacy organizations attended more continuing education programs than did non-members. The reasoning is the same as that used in the preceding analysis of APhA members, namely those who support their professional organizations also want to keep current on new developments in pharmacy practice.

TABLE 59

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - ASHP VS. OTHER HOSPITAL PHARMACY ASSOCIATIONS VS. NON-MEMBERS

Number of Programs	ASHP Member	Non-ASHP, but State and/or Other Hospital Assn. Member	Non-Member Hosp. Assn.
	%	%	%
Three or More	48.2	39.0	12.6
One or Two	30.8	22.0	28.0
None	21.0	39.0	59.4
Total	100.0 (162)*	100.0 (41)*	100.0 (1,054)*

*11 ASHP, 2 Other Hospital Organization Only, and 71 Non-members did not report the number of programs they attended.

An analysis was made to see how much the women, who thought there was a need for special continuing education programs for inactive women pharmacists, participated in continuing education programs. Table 60 shows that a higher percentage of those women who had participated in continuing education supported having special programs for inactive women pharmacists. However, nearly 80 percent of the women who did not attend any programs in the last two years were in favor of special programs for inactive women pharmacists. Thus, the question of whether there was a

need for special continuing education programs for inactive women pharmacists was positively supported strongly by the women, whether or not they actually had attended programs.

TABLE 60

NUMBER OF CONTINUING EDUCATION PROGRAMS ATTENDED DURING LAST TWO YEARS - BY NEED FOR SPECIAL CONTINUING EDUCATION PROGRAMS FOR INACTIVE RESPONDENTS

Need Programs for Inactive Women R.Ph.	Number of Programs Attended					
	5 or more	3 or 4	2	1	None	Total
	%	%	%	%	%	%
Yes	86.9	91.7	85.6	89.3	78.4	83.0
No	13.1	8.3	14.4	10.7	21.6	17.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
	(84)	(132)	(153)	(177)	(634)	(1180)*

*77 women did not report their opinion about the need for special programs, 68 women did not report the number of programs attended, and 16 women failed to answer either question.

A final analysis was made comparing how women, who favored making continuing education mandatory for relicensure, participated in continuing education programs. Table 61 shows that the more programs attended, the higher the percentage of women who favored mandatory continuine education. It is probable that women who were attending continuing education programs could see their value in

making them better pharmacists. There are no quantifiable data collected, though, to verify this possibility.

TABLE 61

NUMBER OF PROGRAMS ATTENDED DURING LAST TWO YEARS - BY OPINION TOWARD MANDATORY CONTINUING EDUCATION FOR RELICENSURE OF PHARMACISTS

Favor Mandatory Continuing Education	Number of Programs Attended					
	5 or more	3 or 4	2	1	None	Total
	%	%	%	%	%	%
Yes	75.9	69.3	64.8	61.9	36.6	50.5
No	19.5	25.0	28.4	31.6	49.1	39.0
No Opinion or Yes-No Answer	4.6	5.7	6.8	6.5	14.3	10.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
	(87)	(140)	(162)	(186)	(664)	(1,239)*

*18 women did not give their opinion, 79 women did not report the number of programs they had attended, and 5 women did not answer either question.

Deficiencies from Not Practicing

The women pharmacists were asked if there had been a time when at least two years passed during which they did not practice pharmacy. A total of 535 women reported "Yes." These women were asked to describe what they believed to be their greatest deficiencies when they returned to practice.

The responses were placed into one of five predetermined categories. Table 62 shows that the deficiency which received major attention was "knowledge of new drugs." More than three-fourths of the respondents cited this as one of their greatest deficiencies when they returned to practice. Most of the women gave this as the sole deficiency.

TABLE 62

DEFICIENCIES OF RESPONDENTS WHO HAD BEEN INACTIVE AT LEAST TWO YEARS

Deficiency	Respondents N	%
Knowledge of New Drugs	340	77.3
General Incompetency	59	13.4
Changes in Pharmacy Laws	43	9.8
No Deficiencies	31	7.1
Lack of Pharmacy Math	13	3.0
Knowledge of Hospital Pharmacy Procedures	7	1.6
Other Reasons Given	38	---
Total	440*	---

*95 women did not give any deficiencies.

Thus, persons in continuing education programming might make a strong contribution to women pharmacists by developing a home study course in new drug products that have been introduced in the last two to three years. The use of casette tapes would be ideal for such a presentation and certainly should be considered by anyone interested in attracting a new group of pharmacists into the continuing education world, namely temporarily inactive women pharmacists.

CHAPTER SIX

OPINIONS OF SELECTED CURRENT ISSUES IN PHARMACY

The profession of pharmacy currently has important issues before it, the solutions to which may well alter the practice of pharmacy as it is known today. Some of these issues are controversial and it would be difficult to predict the opinions of the "average pharmacist." The women pharmacists were asked about some of these issues, not as representatives for the "average pharmacist," but as representatives of all women pharmacists in the country.

One issue was that of sex discrimination being a serious problem in pharmacy. This issue is discussed in Chapter Seven. Another issue was whether or not participation in continuing education programs should become mandatory for the relicensure of pharmacists. The analysis of the women's responses to this issue was presented in Chapter Five.

Four other issues were "voted on" by the women pharmacists and are discussed in the following pages. These four issues were: (1) unionization of pharmacists; (2) the need for "pharmacy technicians"; (3) repeal of the antisubstitution laws; and (4) need for the establishment of a national drug formulary. Each issue will be discussed separately.

Unionization of Pharmacists

The women were asked the following question: Are you in favor of pharmacists becoming unionized? The opinions of the total sample of women pharmacists are shown in Table 63.

TABLE 63

RESPONDENTS' OPINIONS TOWARD SHOULD PHARMACISTS UNIONIZE

Favor Unionization of Pharmacists	Respondents N	%
Yes	202	15.2
No	970	72.9
Yes-No	18	1.4
No Opinion	140	10.5
Total	1,330*	100.0

*11 women did not express their opinion.

Nearly 75 percent of the respondents said "No," they did not favor pharmacists becoming unionized. Only about 15 percent said "Yes," while just over 10 percent reported "No Opinion." A small percentage of women answered "Yes-No" by checking both on the questionnaire.[1]

1. Throughout this chapter, the "Yes-No" responses are included only in the analysis of the entire sample of women. In comparisons with different groups of pharmacists, the "Yes-No" responses are combined with the "No Opinion" responses.

A comparison was made between active and inactive women pharmacists regarding their opinions about unionization of pharmacists. Table 64 shows there was a significant difference between the two groups of women pharmacists. The women currently practicing pharmacy were more opposed to unionization. A higher percentage of inactive pharmacists either had no opinion or gave yes/no answers.

TABLE 64

SHOULD PHARMACISTS UNIONIZE - ACTIVE VS. INACTIVE RESPONDENTS

Favor Unionization of Pharmacists	Active N	Active %	Inactive N	Inactive %	Total
Yes	156	14.6	46	17.5	202
No	795	74.5	175	66.5	970
Yes-No or No Opinion	116	10.9	42	16.0	158
Total	1,067	100.0	263	100.0	1,330*

$\chi^2 = 7.60$ (2 d.f.)

*5 active and 6 inactive pharmacists did not express their opinion.

A comparison was made between the opinions toward unionization of women practicing community and hospital pharmacy. Table 65 shows there was a significant difference between these two groups of women pharmacists. Although the

percentage opposed to unionization for the two groups was similar, a higher percentage of community pharmacists favored unions and a higher percentage of hospital pharmacists either had no opinion or gave yes/no answers.

TABLE 65

SHOULD PHARMACISTS UNIONIZE - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Favor Unionization of Pharmacists	Type of Practice Community N	%	Hospital N	%	Total
Yes	107	15.1	33	12.0	140
No	538	75.8	205	74.6	743
Yes-No or No Opinion	65	9.2	37	13.5	102
Total	710	100.1	275	100.1	985*

$\chi^2 = 12.49$ (2 d.f.)

*3 community and 1 hospital pharmacist did not express their opinion.

The American Pharmaceutical Association historically has been opposed to unionization of pharmacists.[2] APhA leaders recently have spoken against unionization in an

2. "Report of Committee C," Journal of the American Pharmaceutical Association (NS11:5) May 1971, p. 274.

effort to keep pharmacists from forming or joining unions.[3,4] A comparison was made between women pharmacists who were APhA members regarding their opinions about the unionization of pharmacists. The sample was divided into three parts: (1) APhA members; (2) non-APhA members, but members of state and/or local pharmacy associations; and (3) non-members at the national, state, and local level. Table 66 shows each group to be strongly opposed to

TABLE 66

SHOULD PHARMACISTS UNIONIZE - APHA VS. STATE AND/OR LOCAL VS. NON-MEMBERS

Favor Unionization of Pharmacists	APhA Member	Non-APhA, but State and/or Local Member	Non-Members
	%	%	%
Yes	13.2	12.5	18.0
No	76.3	76.9	68.5
Yes-No or No Opinion	10.5	10.6	13.5
Total	100.0*	100.0*	100.0*
	(418)	(312)	(600)

*11 women did not express their opinion.

3. Hennessy, William B., "An Eagerness and Willingness to Participate," Journal of the American Pharmaceutical Association (NS10:6) June 1970, p. 309.

4. Roberts, Carl, "Pharmacy Unions - Misconceptions," Journal of the American Pharmaceutical Association (NS10:2) February 1970, pp. 93-95.

unionization for pharmacists. Thus, the position of APhA toward unions in pharmacy appears to be supported by members and non-members alike.

A final comparison was made of the opinions toward unionization of pharmacists between members of the following organizations: (1) APhA; (2) ASHP; and (3) NARD. Table 67 shows that members of ASHP were more strongly opposed to unionization than members of APhA and NARD. However, all three groups showed a definite opposition to unionization of pharmacists. As mentioned previously, a member of ASHP must belong to APhA also. No attempt was made to separate out women who belonged to more than one of these three organizations. The only analysis in this study which does so is with the issue of the need for pharmacy technicians, where ASHP members are excluded from the APhA members.

Need for Pharmacy Technicians

The women were asked the following question: Do you think there is a need in pharmacy for "pharmacy technicians?" The term "pharmacy technician" has been given other names such as "subprofessional" or "pharmacy aide," but it was thought the term "technician" would be least confusing to the respondents. No further explanation of the term was made because it would bias the response. What was desired was the opinion of the women pharmacists

TABLE 67

SHOULD PHARMACISTS UNIONIZE - APHA VS. ASHP VS. NARD MEMBERS

Favor Unionization of Pharmacists	Women Pharmacist Members APhA %	ASHP %	NARD %
Yes	13.2	7.5	16.0
No	76.3	80.3	80.0
Yes-No or No Opinion	10.5	12.2	4.0
Total	100.0 (418)*	100.0 (173)	100.0 (125)

*1 APhA member did not express her opinion.

as they perceived the term.

The opinions of the total sample are shown in Table 68. The issue of the need for pharmacy technicians appears to be split quite evenly between those for and those against the concept.

Most of the "Yes-No" responses were qualified as to whether one was referring to community or hospital practice. These respondents tended to say "Yes" for hospital, but "No" for community pharmacy. This difference in opinion based on type of practice is examined in more detail on the following page.

TABLE 68

RESPONDENTS' OPINIONS TOWARD THE NEED FOR PHARMACY TECHNICIANS

Need Technicians	Respondents N	%
Yes	525	39.8
No	600	45.5
Yes-No	35	2.7
No Opinion	160	12.1
Total	1,320*	100.1

*21 women did not express their opinion.

Comparisons were made between active and inactive women pharmacists regarding their opinions about the need for pharmacy technicians. Table 69 shows there was a significant difference between the two groups of pharmacists. This difference was caused primarily by the fact that nearly one-quarter of the inactive women pharmacists either had no opinion or gave yes/no answers.

A comparison was made between the opinions of women practicing community and hospital pharmacy toward pharmacy technicians. Table 70 shows there was a significant in opinion between the two areas of pharmacy practice. The community pharmacists were strongly opposed to pharmacy

TABLE 69

NEED FOR PHARMACY TECHNICIANS - ACTIVE VS. INACTIVE RESPONDENTS

Need Technicians	Active N	Active %	Inactive N	Inactive %	Total
Yes	427	40.4	98	37.4	525
No	496	46.9	104	39.7	600
Yes-No or No Opinion	135	12.8	60	22.9	195
Total	1,058	100.1	262	100.0	1,320*

$\chi^2 = 17.46$ (2 d.f.)

*14 active and 7 inactive women pharmacists did not express their opinion.

TABLE 70

NEED FOR PHARMACY TECHNICIANS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Need Technicians	Type of Practice: Community N	Community %	Hospital N	Hospital %	Total
Yes	204	29.1	192	69.8	396
No	405	57.7	51	18.6	456
Yes-No or No Opinion	93	13.3	32	11.6	125
Total	702	100.1	275	100.0	977*

χ^2 = 848.26 (2 d.f.)

*11 community and 1 hospital pharmacist did not express their opinion.

technicians while hospital pharmacists were strongly in favor of them. This finding makes it clear that the concept of pharmacy technicians is recognized as a real need in hospital pharmacy practice, but women community pharmacists do not think technicians are needed in their pharmacy environment.

The American Society of Hospital Pharmacists has been interested in using subprofessional personnel in

hospital pharmacy.[5] In 1967, the ASHP and AACP made a joint recommendation "to explore and study the need for, the use of, and the educational and training requirements of subprofessional pharmacy personnel."[6] In 1969, an APhA Task Force studied the pharmacist's and subprofessional's roles in pharmacy practice. The intent of the study was to develop guidelines for what responsibilities a "pharmacy technician or subprofessional" could have in the practice of pharmacy.[7] This Task Force included members of ASHP and APhA plus representatives of other pharmacy organizations.

In early 1972, an announcement was made of a two-year degree program for hospital pharmacy technicians at the University of Cincinnati. The hospital pharmacy technician will be trained "to work under the supervision of pharmacists to perform tasks involved in the preparation, packaging, and distribution of drugs in hospitals."[8] This project is being supported by funds

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5. "ASHP Workshops On Subprofessional Personnel in Hospital Pharmacy," American Journal of Hospital Pharmacy (26:4) April 1969, p. 224.

6. Ibid., p. 225.

7. "Report of the Task Force: Practitioner's and Subprofessional's Roles in Pharmacy," Journal of the American Pharmaceutical Association (NS9:8) August 1969, pp. 415-417, 420-423.

8. Weekly Pharmacy Reports (21:5) January 31, 1972, p. 4.

from the Department of Health, Education, and Welfare Bureau of Manpower Education, so apparently the federal government is interested in how technicians can be used in pharmacy practice. At the moment, this interest appears to center around hospital pharmacy practice.

The opinion of ASHP members was compared to: (1) non-ASHP members, but members in some other hospital organization; and (2) non-members in any hospital organization. Table 71 shows ASHP members to strongly support the need for technicians, where non-members of any hospital pharmacy association were opposed to the concept.

TABLE 71

NEED FOR PHARMACY TECHNICIANS - ASHP VS. OTHER HOSPITAL PHARMACY ASSOCIATIONS VS. NON-MEMBERS

Need Technicians	ASHP Member %	Non-ASHP, but State and/or Other Hospital Assn. Member %	Non-Member Hosp. Assn. %
Yes	71.9	50.0	34.4
No	21.1	38.1	49.5
Yes-No or No Opinion	7.0	11.9	16.1
Total	100.0 (171)*	100.0 (42)*	100.0 (1,107)*

*21 women did not express their opinions.

A final comparison was made of the opinions toward the need for pharmacy technicians between members of the following pharmacy organizations: (1) APhA; (2) ASHP; and (3) NARD. Table 72 shows that the majority of both ASHP and APhA members support the need for technicians, while the majority of NARD members were opposed to them. However, when the ASHP members were excluded from the APhA members, the remaining APhA members were opposed to pharmacy technicians. This finding supports earlier findings where hospital pharmacists were in favor of technicians, but community pharmacists were opposed to them.

TABLE 72

NEED FOR PHARMACY TECHNICIANS - APHA VS. ASHP VS. NARD MEMBERS

Need Technicians	Respondent Members APhA	ASHP	NARD
	%	%	%
Yes	50.8	71.9	32.8
No	40.4	21.1	55.7
Yes-No or No Opinion	8.8	7.0	11.5
Total	100.0 (411)*	100.0 (171)*	100.0 (122)*

*8 APhA, 2 ASHP, and 3 NARD members did not express their opinions.

Repeal of the Antisubstitution Laws

The women were asked the following question: Do you favor repeal of the antisubstitution laws which would give pharmacists the legal right to substitute one brand of a drug for the brand prescribed by the physician, if more than one brand of the drug is available? The explanation of what repeal of the antisubstitution laws means was thought to be necessary because of the confusion over the term. The use of the "double negative" of repeal and anti- can cause a person to be unsure about what is being asked, especially when the person has not had considerable contact with the issue. The opinions toward this issue of the total sample of women pharmacists are shown in Table 73.

TABLE 73

RESPONDENTS' OPINIONS TOWARDS SHOULD ANTISUBSTITUTION LAWS BE REPEALED

Favor Repeal of Antisubstitution Laws	Respondents N	%
Yes	408	30.7
No	852	64.1
Yes-No	24	1.8
No Opinion	45	3.4
Total	1,329*	100.0

*12 women did not express their opinion.

More than twice as many women pharmacists were opposed to the repeal of the antisubstitution laws than favored the repeal. Nearly 95 percent of the respondents reported either "Yes" or "No" which indicated the women were familiar with the subject area. It appears from this response that women pharmacists are content to leave the selection of the drug product to the discretion of the physician.

Comparisons were made between active and inactive women pharmacists regarding their opinions about the repeal of the antisubstitution laws. Table 74 shows there was not a significant difference between the two groups of women pharmacists. Nearly two-thirds of both

TABLE 74

SHOULD ANTISUBSTITUTION LAWS BE REPEALED - ACTIVE VS. INACTIVE RESPONDENTS

Favor Repeal of Antisubstitution Laws	Active N	Active %	Inactive N	Inactive %	Total
Yes	332	31.1	76	29.0	408
No	683	64.0	169	64.5	852
Yes-No or No Opinion	52	4.9	17	6.5	69
Totals	1,067	100.0	262	100.0	1,329*

$\chi^2 = 1.37$ (2 d.f.)

*5 active and 7 inactive women pharmacists did not express their opinion.

active and inactive women pharmacists were opposed to repealing the antisubstitution laws.

A comparison was made between the opinions toward the repeal of the antisubstitution laws of women practicing community pharmacy and those in hospital pharmacy. Table 75 shows the majority of both groups of pharmacists opposed repealing the antisubstitution laws, although the

TABLE 75

SHOULD ANTISUBSTITUTION LAWS BE REPEALED - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Favor Repeal of Antisubstitution Laws	Type of Practice: Community N	Community %	Hospital N	Hospital %	Total
Yes	200	28.3	110	39.9	310
No	479	67.7	149	54.0	628
Yes-No or No Opinion	29	4.1	17	6.2	46
Total	708	100.1	276	100.1	984*

$\chi^2 = 16.11$ (2 d.f.)

*5 community pharmacists did not express their opinion.

difference between the percentage reporting "Yes" and those reporting "No" was not as great for the hospital pharmacists. A chi-square analysis showed the differences

were significant. Perhaps more of the hospital pharmacists had functioned as drug product selectors, possibly through their role on pharmacy and therapeutics committees. In any case, the present antisubstitution laws appear to be supported by women pharmacists in both community and hospital practice.

The American Pharmaceutical Association recently published a White Paper on the pharmacist's role in product selection which centered around why the APhA thought the antisubstitution laws should be repealed. Specifically, the APhA wanted the antisubstitution laws to be amended to give the pharmacists the option of selecting the source or manufacturer of a drug product to be dispensed when the prescription order specified a multisource drug product by product trade name alone.[9] The paper reviewed the following issues involved with repeal of the antisubstitution laws: (1) therapeutic; (2) professional; (3) economic; and (4) legal.[10]

APhA officials have been promoting the repeal of antisubstitution laws for some time. In 1970, the APhA Policy Committee on Public Affairs recommended "that the Association seek the repeal of antisubstitution laws."

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9. "A White Paper on the Pharmacist's Role in Product Selection," Journal of the American Pharmaceutical Association (NS11:4) April 1971, p. 182.

10. Ibid., p. 182.

The recommendation was adopted by the APhA House of Delegates.[11] The following year, this same committee recommended "The Association should encourage and assist state pharmaceutical associations, state governments or other groups which seek changes in their state law to permit pharmacists to select the source of supply of drugs which they dispense."[12]

The opinion of APhA members was compared to: (1) non-APhA members, but members of state and/or local pharmacy organizations; and (2) non-members in APhA, state and/or local pharmacy organizations. Table 76 shows that the majority of APhA members are opposed to the repeal of the antisubstitution laws, although not as strongly opposed as non-APhA members. At the 1971 APhA Convention, some pharmacists suggested that the House of Delegates should not have acted on the issue of anti-substitution laws repeal without first conducting a membership referendum.[13] This shows that there was some

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11. "Report of Reference Committee B," Journal of the American Pharmaceutical Association (NS10:6) June 1970, p. 348.

12. "Report of Reference Committee B," Journal of the American Pharmaceutical Association (NS11:5) May 1971, p. 260.

13. Apple, William S., "The Association As Activist," Journal of the American Pharmaceutical Association (NS11:5) May 1971, p. 247.

opposition to APhA's stand by APhA members. However, the Executive Director of APhA answered this criticism by saying, "Currents change, and the minority opinion of leadership today frequently becomes the majority opinion of membership tomorrow."[14] If the opinions of the women pharmacists reflect the views of all APhA members, the APhA leadership still holds the minority opinion.

TABLE 76

SHOULD ANTISUBSTITUTION LAWS BE REPEALED - APHA VS. STATE AND/OR LOCAL VS. NON-MEMBERS

Favor Repeal of Antisubstitution Laws	APhA Member	Non-APhA, but State and/or Local Member	Non-Member
	%	%	%
Yes	38.4	29.0	26.2
No	56.5	66.2	68.3
Yes-No or No Opinion	5.1	4.8	5.5
Total	100.0 (416)*	100.0 (314)*	100.0 (599)*

*12 women did not express their opinion.

A final comparison was made of the opinions toward repealing the antisubstitution laws between members of the following pharmacy organizations: (1) APhA; (2) ASHP;

14. Ibid., p. 247.

and (3) NARD. Table 77 shows that members of all three organizations are opposed to the repeal of the anti-substitution laws, although NARD members are much more strongly opposed to the idea than either APhA or ASHP members.

TABLE 77

SHOULD ANTISUBSTITUTION LAWS BE REPEALED - APHA VS. ASHP VS. NARD MEMBERS

Favor Repeal of Antisubstitution Laws	Respondent Members APhA %	ASHP %	NARD %
Yes	38.4	41.9	26.6
No	56.5	50.0	70.2
Yes-No or No Opinion	5.1	8.1	3.2
Total	100.0 (416)*	100.0 (172)*	100.0 (124)*

*3 APhA, 1 ASHP, and 1 NARD member did not express their opinion.

Need for a National Drug Formulary

The women were asked the following question: Are you in favor of the establishment of a national drug formulary from which physicians would select their drugs to prescribe? The reason such a formulary is an issue is because support for it is coming from the federal

government. Senator Long's formulary proposal has made this topic an important issue in pharmacy today. The opinions of the women pharmacists toward the need for the establishment of such a formulary are found in Table 78.

TABLE 78

RESPONDENTS' OPINIONS TOWARD THE NEED FOR A NATIONAL DRUG FORMULARY

Favor a National Drug Formulary	Respondents N	%
Yes	473	36.3
No	565	43.3
Yes-No	9	0.7
No Opinion	258	19.8
Total	1,305*	100.1

*36 women did not express their opinion.

The response indicates that the issue of a national drug formulary is not familiar to many women, as nearly 20 percent gave "No Opinion." It is true that a national drug formulary has not received as much publicity as the other three issues in this chapter, but the Long proposal has been brought before Congress several times in the past years. Of those women who did take a position, there were

more opposed to a national drug formulary than there were in favor of it.

Comparisons were made between active and inactive women pharmacists regarding their opinions about the need for establishing a national drug formulary. Table 79 shows there was a significant difference between the two groups of women pharmacists. The proposal was supported by the inactive women pharmacists, while opposed by the women who were currently practicing. Apparently, those

TABLE 79

NEED FOR A NATIONAL DRUG FORMULARY - ACTIVE VS. INACTIVE RESPONDENTS

Favor a National Drug Formulary	Active N	Active %	Inactive N	Inactive %	Total
Yes	349	33.2	124	48.6	473
No	493	47.0	72	28.2	565
Yes-No or No Opinion	208	19.8	59	23.1	267
Total	1,050	100.0	255	99.9	1,305*

$\chi^2 = 31.12$ (2 d.f.)

*22 active and 14 inactive women pharmacists did not express their opinion.

women in practice do not see a need for such a formulary. It also is possible that some of the inactive women pharmacists did not understand fully the issue.

A comparison was made between the opinions toward the need for establishing a national drug formulary of women practicing community pharmacy and those practicing hospital pharmacy. Table 80 shows both groups opposing the idea, with the community pharmacists opposing it more strongly than hospital pharmacists. A chi-square analysis showed the difference was significant. Most hospital pharmacies have a formulary from which physicians prescribe drugs. It is, therefore, somewhat surprising that the hospital pharmacists would oppose the need for establishing a formulary on a national scale.

TABLE 80

NEED FOR A NATIONAL DRUG FORMULARY - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Favor a National Drug Formulary	Type of Practice: Community N	Community %	Hospital N	Hospital %	Total
Yes	215	30.9	108	39.6	323
No	327	47.0	119	43.6	446
Yes-No or No Opinion	154	22.1	46	16.9	200
Total	696	100.0	273	100.1	969*

$\chi^2 = 7.56$ (2 d.f.)

*17 community and 3 hospital pharmacists did not express their opinion.

In 1971, the American Pharmaceutical Association Committee on Public Affairs recommended that "the Association continue its support of Senator Long's formulary proposal."[15] Also, recent speeches given by the Executive Director of the APhA and past-President of the APhA contained statements supporting the need for a national drug formulary.[16,17]

A comparison was made between women pharmacists who were APhA members regarding their opinions about the need for establishing a national drug formulary. The sample was divided into three parts: (1) APhA members; (2) non-APhA members, but members of state and/or local pharmacy associations; and (3) non-members at the national, state, and local level. Table 81 shows little difference in the opinions between the three groups of pharmacists, as just over one-third of the APhA members reported "Yes" there was a need for establishing a national drug formulary. Thus, if the women pharmacists in this study who are APhA members reflect the opinion of all APhA members, the APhA is supporting another issue which its members do not support.

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15. "Report of Reference Committee B," op. cit., p. 263.

16. Hennessy, op. cit., p. 308.

17. Apple, William S., "'Pharmacy's Lib'," Journal of the American Pharmaceutical Association (NS11:10) October 1971, pp. 528-533.

TABLE 81

NEED FOR A NATIONAL DRUG FORMULARY - APHA VS. STATE AND/OR LOCAL VS. NON-MEMBERS

Favor a National Drug Formulary	APhA Member	Non-APhA, but State and/or Local Member	Non-Member
	%	%	%
Yes	35.5	32.7	38.7
No	46.7	48.2	38.3
Yes-No or No Opinion	17.8	19.1	23.0
Total	100.0	100.0	100.0
	(416)*	(308)*	(594)*

*36 women did not express their opinion.

A final comparison was made of the opinions toward establishing a national drug formulary between members of the following pharmacy organizations: (1) APhA; (2) ASHP; and (3) NARD. Table 82 shows that ASHP members are about evenly divided on the issue, while APhA and NARD members oppose it, NARD members being much more strongly opposed.

TABLE 82

NEED FOR A NATIONAL DRUG FORMULARY - APHA VS. ASHP VS. NARD MEMBERS

Favor a National Drug Formulary	Respondent Members APhA	ASHP	NARD
	%	%	%
Yes	35.5	41.8	27.3
No	46.7	44.1	56.2
Yes-No or No Opinion	17.8	14.1	16.5
Total	100.0	100.0	100.0
	(409)*	(170)*	(121)*

*10 APhA, 3 ASHP, and 4 NARD members did not express their opinion.

CHAPTER SEVEN

ATTITUDES CONCERNING OPPORTUNITIES FOR WOMEN IN PHARMACY

Women pharmacists were asked questions related to their attitudes toward the opportunities that exist for women in pharmacy. These questions were: (1) What advantages do you think women have in pharmacy that men pharmacists do not have? (2) What disadvantages do you think women have in pharmacy that men pharmacists do not have? (3) Do you think there is sufficient sex discrimination within pharmacy to consider it a serious problem? (4) What do you think is the one single most important reason why so many women are now choosing pharmacy as a career? and (5) Would you recommend a pharmacy career to an interested female high school or college student? If "Yes," why, and if "No," why not? In addition, each respondent was asked to check one statement which best exemplified her satisfaction with pharmacy as a career. Responses were compared between: (1) active and inactive pharmacists; and (2) community and hospital pharmacists. Since some of these questions resulted in multiple responses by the women, percentage totals in some of the tables do not total 100 percent.

Advantages of Women Pharmacists Over Men Pharmacists

The sample of women pharmacists were requested to describe whatever advantages they thought women pharmacists had that men pharmacists did not have. The responses were placed in one of eight categories which had been established through a preliminary examination of the early questionnaire returns. Table 83 shows the ranking of these advantages for the entire sample, with the percentage figures representing the percent of respondents who mentioned each category as being an advantage.

Nearly 40 percent of the respondents thought there were no advantages for women pharmacists over men pharmacists. This finding, by itself, should not be construed to mean that these women think there are only disadvantages. At best, this relatively high percentage response might indicate that women think they have equal treatment with their men counterparts. A better interpretation can be made after the disadvantages given by the women are analyzed.

The advantage given most frequently by the respondents was that pharmacy practice is more suitable for women, or that women make better pharmacists. Nearly 25 percent of the respondents gave this as an advantage. This finding coincides with the results of a recent survey conducted by

TABLE 83

ADVANTAGES OF WOMEN PHARMACISTS OVER MEN PHARMACISTS

Advantages	Respondents N	Respondents %
There are no advantages	461	39.4
Work is more suitable for women - Women are better pharmacists	281	24.0
Women are more understanding and have more empathy with the patient in distress	212	18.1
Many part-time jobs are available for women	112	9.6
Patients prefer women pharmacists	74	6.3
Physicians and/or fellow pharmacists prefer women pharmacists	15	1.3
Women can leave practice and return easily	13	1.1
Other	107	---
Total Number of Respondents	1,170*	---

*171 women did not respond.

the National Association of Chain Drug Stores. Their survey showed women pharmacists to be more attentive to their duties, neater, more pleasant to customers, and showed they had more tendency to remain as employees than their male counterpart.[1] In another recent analysis of

1. Fleisher, Raymond T., "There is Nothing Like a Dame," P.A.R.D. Bulletin, March 1970, p. 12.

women pharmacists, employers repórted that women tend to be neater, more accurate, and more precise than many males.[2]

Another advantage given by nearly 20 percent of the women was that women pharmacists are more understanding and have more empathy with the patient's problems. It is possible this advantage stems from the "mother-image" which a woman pharmacist could have on her patients resulting in her being more sympathetic with patient ailments and problems. It has been stated that a woman pharmacist's inherent patience and understanding often engenders better rapport with sympathy-seeking patrons.[3]

Although nearly three times as many respondents listed a woman's understanding and empathy as an advantage than the fact that patient's prefer women pharmacists, it is probable that the two responses are similar. The two statements might well be two ways of saying the same thing. The Dean of a large school of pharmacy in the midwest recently was quoted as saying, "Actually, more and more recruiters are looking for women pharmacists. They've

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2. "Pharmacy's Planners Are Girl-Watching," Pharmacy News (11:2) Smith, Kline and French Laboratories, Summer 1970, p. 2.

3. Ibid.

found that once customers get used to the idea, many prefer to have a woman handle their problems."[4]

A comparison between advantages given by inactive women pharmacists and those given by women currently practicing pharmacy was made. The findings appear in Table 84 and they show much similarity in the ratings of the two groups of women. A higher percentage of active women mentioned that women work better with patients and are more understanding. However, the ranking of this advantage was the same between the two groups. A total of 12.0 percent of the active pharmacists did not respond to the question compared to 15.6 percent of the inactive women.

Another comparison was made between advantages given by community and hospital pharmacists. The findings in Table 85 show that the rankings between the two groups of practicing pharmacists are the same. There are some differences in percentages, but overall, the comparison shows much similarity in the thinking between community and hospital pharmacists regarding the advantages of women over men pharmacists. A total of 10.2 percent of the community practitioners did not answer the question compared to 15.2 percent of the hospital pharmacists.

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4. "Herstory: Walgreen Women In Pharmacy," Walgreen World (38:9) October 1971, p. 2.

TABLE 84

ADVANTAGES OF WOMEN PHARMACISTS OVER MEN PHARMACISTS - ACTIVE VS. INACTIVE RESPONDENTS

Advantages	Active N	Active %	Inactive N	Inactive %	Total
There are no advantages	361	38.3	100	44.1	461
Work is more suitable for women - women are better pharmacists	227	24.1	54	23.8	281
Women are more understanding and have more empathy for the patient	190	20.2	22	9.7	212
Many part-time jobs are available for women	98	10.4	14	6.2	112
Patients prefer women pharmacists	61	6.5	13	5.7	74
Physicians and/or fellow pharmacists prefer women pharmacists	14	1.5	1	0.4	15
Women can leave practice and return easily	7	0.7	6	2.6	13
Other	90	---	17	---	107
Total Number of Respondents	943	---	227	---	1,170*

*129 active and 42 inactive pharmacists did not respond.

TABLE 85

ADVANTAGES OF WOMEN PHARMACISTS OVER MEN PHARMACISTS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Advantages	Type of Practice: Community N	Community %	Hospital N	Hospital %
There are no advantages	233	36.4	103	44.0
Work is more suitable for women - women are better pharmacists	146	22.8	69	29.5
Women are more understanding and have more empathy with the patient	129	20.2	34	14.5
Many part-time jobs are available for women	73	11.4	17	7.3
Patients prefer women pharmacists	48	7.5	9	3.9
Physicians and/or fellow pharmacists prefer women pharmacists	9	1.4	4	1.7
Women can leave practice and return easily	5	0.8	2	0.9
Other	69	---	25	---
Total Number of Respondents	640	---	234*	---

*73 community and 42 hospital pharmacists did not respond.

Disadvantages of Women Pharmacists Over Men Pharmacists

The women were requested to write out the disadvantages they thought women pharmacists had that men pharmacists did not have. The responses were placed in one of nine categories established through a preliminary examination of the early questionnaire returns. Table 86 shows the ranking of these disadvantages for the entire sample of women, with the percentage figures representing the percent of respondents who mentioned each category as being a disadvantage.

The disadvantage given most frequently by the respondents was women pharmacists are not accepted by the public, as nearly 25 percent of the women respondents mentioned this. This is about four times the number of women who said that one advantage of women pharmacists was patients prefer women pharmacists. It should be pointed out that many of the women giving this as a disadvantage referred specifically to men patients, while those giving it as an advantage often mentioned female patients in particular. Although these data are not quantifiable, it would appear to be generally true that women patients prefer dealing with women pharmacists, while men patients still resist talking with women pharmacists and prefer, instead, to deal with the more "traditional" men pharmacists.

TABLE 86

DISADVANTAGES OF WOMEN PHARMACISTS OVER MEN PHARMACISTS

Disadvantages	Respondents N	Respondents %
Women R.Ph. are not accepted by the public	281	23.1
There are no disadvantages	261	21.4
Women are paid less than men	177	14.5
Women are not accepted by physicians and/or fellow pharmacists	130	10.7
Discrimination (not defined)	121	9.9
Women must also take care of children and household	117	9.6
Promotions are not easily available - administrative jobs hard to get	113	9.3
Work is too strenuous for a woman	89	7.3
Other	108	---
Total Number of Respondents	1,219*	---

*122 women did not respond.

Possibly as more women become pharmacists, the assumed resistance of the male public to deal with them will diminish.

About 20 percent of the respondents said women had no disadvantages over men pharmacists. This represents nearly half the percentage of women who said women had no advantages over men pharmacists. A total of 151, or 15.0 percent, of the respondents said there were no advantages or disadvantages that women had over men pharmacists. A total of 1,007 women gave at least one advantage and one disadvantage. These womens' responses probably could be interpreted to mean they think men and women are treated equally in pharmacy.

Nearly 15 percent of the respondents stated that women pharmacists are paid less than men pharmacists. Salary discrimination is one of the most frequently stated points of differences between women and men in the work force.[5-8] Austin's study of women hospital pharmacists showed that the women seemed satisfied with their salaries, but readily

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5. Underutilization of Women Workers, U.S. Department of Labor, Washington, D.C., 1971, p. iv.

6. Scotch, C. Bernard, "Sex Status In Social Work: Grist for Women's Liberation," Social Work (16:3) July 1971, pp. 6-7.

7. Lewin and Duchan, op. cit., p. 892.

8. Lewis, 1968, op. cit., p. 118.

admitted that perhaps the position would pay more if a man occupied it.[9] A woman pharmacist recently stated that by giving male pharmacists meaningless titles, the male pharmacist receives a higher salary than female pharmacists working alongside him.[10] On the other hand, a recent study of female community pharmacists showed no discrimination in salary scales between men and women pharmacists.[11] More information is given on women pharmacists' salaries in Chapter Eight.

Just over 10 percent of the respondents said that women were not accepted by physicians and/or fellow pharmacists. Lewis has suggested that men resist the influx of women into their occupations because they don't know how to work with them, or how to deal with them on an equal basis.[12]

One thing that limits the interpretation of the disadvantages given by the women pharmacists is nearly 10 percent of them used the word "discrimination," without defining it. Thus, it is impossible to know if they were

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9. Austin, op. cit., p. 43.

10. Horton, op. cit.

11. Bolger, Robert J., "The Professional Woman as an Employee," American Journal of Pharmacy (143:4) July-August 1971, p. 138.

12. Lewis, 1968, op. cit., p. 113.

referring to salary discrimination, promotional discrimination, job opportunity discrimination, or some other type of discrimination.

It is interesting to note that less than 10 percent of the respondents mentioned lack of promotions or administrative positions as a disadvantage. Next to salary discrimination, such discrimination in promoting women to administrative levels has been a leading criticism in the country's labor force. There are different interpretations of what causes this lack of promotions for women as demonstrated by the following statements made by Stevens and Lewis.

> Women are kept down in our society. They are not promoted to administrative positions, even in women's professions like teaching and social work. They are shunted from classes that would prepare them for demanding careers, hired last and fired first in industry, paid consistently less than men for the same jobs, and generally ignored in intellectually demanding situations.[13]

> The major cause of (job) discrimination against women has been the failure of women in the past to take full advantage of educational and employment opportunities. If women expect to be treated equally with men, they must accept the responsibility to make full use of the opportunities accorded them.[14]

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13. Stevens, op. cit., p. 16.

14. Lewis, 1969, op. cit., pp. 20-21.

Dutton has claimed that in general, women are not willing and able to pay the prices of leadership and achievement. Women prefer to devote time and energy for family matters rather than career matters.[15] Bird has stated that the principal reason women are not considered for promotions in industry is that managers assume they are not serious about working.[16]

Lopate has described the problem women physicians have when it comes time to be considered for an administrative position as follows.

> In one case, a woman may feel that a promotion is in order, but knows that a man in a similar position has worked full-time since he entered the institution, while she had worked only three-quarters of the time for several years when her children were young. In another case, the women knows that even if she demanded it, her request would carry little weight: because of her husband's job and her children's school, she is tied to this particular locale, and she cannot threaten her superiors with leaving for an institution somewhere else, forcing them to match the offer.[17]

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15. Dutton, Richard E., "Sex As a Factor in Occupational Choice," Personnel Journal (46:8) September 1967, p. 512.

16. Bird, op. cit., p. 30.

17. Lopate, op. cit., p. 186.

Horton thinks the most vivid example of discrimination in pharmacy is in women moving from the practice of pharmacy into an administrative position.[18] A study of hospital pharmacists by Francke showed that although the ratio of men to women pharmacists in all hospitals was 2 to 1, the ratio of men to women chief pharmacists (excluding women who were members of religious orders) was 6 to 1.[19]

Lewis has listed three barriers to promotion for women: (1) their irregular work pattern; (2) most women have little interest in being promoted; and (3) most employees, whether male or female, prefer to be supervised by a man rather than a woman.[20] The fact that relatively few women gave lack of promotions as a disadvantage might indicate that they are not interested in eventually being promoted to administrative positions.

Although it is true that women are physiologically at a disadvantage as employees by reason of their lower strength per weight ratio,[21] only about seven percent of the respondents mentioned this as a disadvantage.

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18. Horton, op. cit.

19. Francke, Latiolais, Francke, and Ho, op. cit., p. 75.

20. Lewis, 1968, op. cit., pp. 133-134.

21. "Social Problems of Women," British Medical Journal (3:5770) August 7, 1971, p. 354.

Part of Sehgal's study of women pharmacists in Wisconsin showed the following problems that were reported as being unique to women pharmacists. The percentage of his respondents stating these problems is compared to the percentages in this study. He referred to three problems: (1) lack of patron confidence - 27.4% (23.1% in this study); (2) salary discrimination - 22.1% (14.5% in this study); and (3) not accepted as a pharmacist by patrons, physicians, or male pharmacists - 36.3% (33.8% in this study, combining two of the disadvantages).[22]

A comparison was made between disadvantages given by inactive women pharmacists and those given by women currently practicing pharmacy. The findings appear in Table 87 and show there are few differences. A higher percentage of active respondents said there were no disadvantages. This might be expected since it is possible an inactive pharmacist might not be practicing because of one or more presumed disadvantages. However, the difference in these two percentage figures is not great enough to draw valid conclusions. A total of 8.6 percent of the active pharmacists did not answer the question compared to 11.2 percent of the inactive pharmacists.

Another comparison was made between disadvantages given by community and hospital pharmacists. The findings are

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22. Sehgal, op. cit., p. 125.

TABLE 87

DISADVANTAGES OF WOMEN PHARMACISTS OVER MEN PHARMACISTS - ACTIVE VS. INACTIVE RESPONDENTS

Disadvantages	Active N	Active T	Inactive N	Inactive %	Total
Women R.Ph. are not accepted by the public	227	23.2	54	22.6	281
There are no disadvantages	222	22.7	39	16.3	261
Women are paid less than men	139	14.2	38	15.9	177
Women are not accepted by physicians and/or fellow pharmacists	100	10.2	30	12.6	130
Discrimination (not defined)	101	10.3	20	8.4	121
Women must also take care of children and household	90	9.2	27	11.3	117
Promotions are not easily available - administrative jobs hard to get	89	9.1	24	10.0	113
Work is too strenuous for a woman	62	6.3	27	11.3	89
Other	85	---	23	----	108
Total number of respondents	980	---	239	----	1,219*

*92 active and 30 inactive pharmacists did not respond.

given in Table 88 and show there were two areas where there was a marked difference in the ratings of disadvantages. Discrimination against promotions or administration positions was ranked second by hospital pharmacists, but next to last by community pharmacists. This indicates that women in hospital pharmacy are more apt to desire promotions to positions such as chief pharmacist, where community practitioners are more content to accept their role as employee pharmacists. Related to this finding might be the earlier finding that more hospital pharmacists tended to have full-time jobs than women in community pharmacy.

The other difference in ranking was that not being accepted by the public was ranked first by community pharmacists, but sixth by women in hospital practice. This could be expected, however, since hospital pharmacists do not come in contact with the public as much and would, therefore, not think of this as being a disadvantage.

The total of 7.6 percent of the community pharmacists did not answer the question compared to 9.4 percent of the hospital pharmacists.

TABLE 88

DISADVANTAGES OF WOMEN PHARMACISTS OVER MEN PHARMACISTS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Disadvantages	Type of Practice: Community N	Community %	Hospital N	Hospital %
Women R.Phs. are not accepted by the public	184	27.9	27	10.8
There are no disadvantages	155	23.5	51	20.4
Women are paid less than men	99	15.0	31	12.4
Women are not accepted by physicians and/or fellow pharmacists	63	9.6	28	11.2
Discrimination (not defined)	61	9.3	28	11.2
Women must also take care of children and household	53	8.0	26	10.4
Promotions are not easily available - administrative jobs hard to get	51	7.7	35	14.0
Work is too strenuous for a woman	41	6.2	13	5.2
Other	50	---	21	----
Total number of respondents	659*	---	250*	----

*54 community and 26 hospital pharmacists did not respond.

Opinions About Sex Discrimination in Pharmacy

One of the purposes of this study was to get some idea of the extent of sex discrimination in pharmacy as perceived by women pharmacists. The women were requested to answer the following question: Do you think there is sufficient sex discrimination within pharmacy to consider it a serious problem? This topic was covered indirectly in the preceding section where the women were asked what disadvantages they thought women had in pharmacy that men pharmacists did not have.

Some women checked both "Yes" and "No" to the question and their responses were combined with those women who checked "No Opinion." Table 89 shows that nearly 75 percent of the respondents checked "No," meaning sex discrimination in pharmacy was not a serious problem to them. This might be somewhat surprising to some people since sex discrimination is being publicized so widely through the current "Women's Liberation" movement. Of all complaints received in fiscal year 1969 by the Equal Employment Opportunity Commission under Title VII of the Civil Rights Act, almost 2700, or about 20 percent, were concerned with discrimination on the basis of sex.[23] A 1971 report by the Citizens'

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23. Underutilization of Women Workers, U.S. Department of Labor, Washington, D.C., 1971, p. iii.

Advisory Council on the Status of Women listed 15 laws which discriminate on the basis of sex.[24]

TABLE 89

RESPONDENTS' OPINIONS TOWARD SEX DISCRIMINATION IN PHARMACY BEING A SERIOUS PROBLEM

Sex Discrimination Is a Serious Problem	Respondents N	%
Yes	246	18.4
No	991	74.3
Yes-No or No Opinion	97	7.3
Total	1,334*	100.0

*7 women did not express their opinion.

Thus, one might infer from the response of the women pharmacists that discrimination on the basis of sex is not as prevalent in pharmacy as it is in other occupational areas. These findings support a recent statement made in a popular pharmacy journal that there are few careers for women that pay as well, provide the professional

24. Women In 1970, Citizens' Advisory Council on the Status of Women, Washington, D.C., 1971, p. 10.

opportunities, and are as universally accepted as that of pharmacy.[25]

An analysis was made of the opinions of active women pharmacists regarding the sex discrimination question and were compared to those of inactive women pharmacists. Table 90 shows there was a significant difference between the opinions of active and inactive women pharmacists. It is possible that some of the inactive women pharmacists are not practicing because of sex discrimination invoked against them. However, a clear majority of both groups did not think sex discrimination in pharmacy was a serious problem.

TABLE 90

IS SEX DISCRIMINATION IN PHARMACY A SERIOUS PROBLEM - ACTIVE VS. INACTIVE RESPONDENTS

Sex Discrimination Is a Serious Problem	Active N	Active %	Inactive N	Inactive %	Total
Yes	179	16.8	67	25.0	246
No	822	77.1	169	63.1	991
Yes-No or No Opinion	65	6.1	32	11.9	97
Total	1,066	100.0	268	100.0	1,334*

$\chi^2 = 23.57$ (2 d.f.)

*6 active and 1 inactive woman did not express their opinion.

25. "A Pharmacy School Geared For Women?," American Druggist (163:9) May 3, 1971, p. 20.

Another comparison was made between the opinions of community and hospital pharmacists concerning the question on sex discrimination being a serious problem in pharmacy. A chi-square analysis showed there was no significant difference in the opinions of these two groups of practicing pharmacists. The figures are given in Table 91. Thus, it appears the relative lack of sex discrimination in pharmacy extends to the two primary areas of practice, community and hospital pharmacy.

TABLE 91

IS SEX DISCRIMINATION IN PHARMACY A SERIOUS PROBLEM - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Sex Discrimination Is a Serious Problem	Type of Practice: Community N	Community %	Hospital N	Hospital %	Total
Yes	105	14.8	53	19.3	158
No	558	78.7	205	74.6	763
Yes-No or No Opinion	46	6.5	17	6.2	63
Total	709	100.0	275	100.1	984*

$\chi^2 = 2.93$ (2 d.f.)

*4 community and 1 hospital pharmacist did not express her opinion.

A comparison was made to see if opinions about possible sex discrimination in pharmacy varied according to the number of years the woman had been a pharmacist.

Table 92 shows there was little difference in opinions between the younger and older women. Thus, it appears that women pharmacists of all ages do not think sex discrimination in pharmacy is a serious problem.

Reasons Why Women Are Choosing Pharmacy As a Career Today

The women were asked to give the one most important reason why they think women are choosing pharmacy as a career today. However, some women gave two reasons. In such a case, both reasons were included in the analysis. Each reason was placed in one of eight categories which had been established through a preliminary examination of the early questionnaire returns. Table 93 ranks these eight categories of reasons with the percentage of respondents giving each reason listed. Because of the multiple responses, the percentages do not add up to 100.

Two reasons stood out among the seven reasons given: (1) economic security; and (2) need or demand for pharmacists. The large number of reasons which were not categorized was due to many women stating that the increase was due to more women in the work force in general. This probably could have been prevented to some degree if the question had been worded more clearly. The response desired was why women were choosing pharmacy and not some other occupation, but many women interpreted the question

TABLE 92

IS SEX DISCRIMINATION IN PHARMACY A SERIOUS PROBLEM - YEARS AS A PHARMACIST

Sex Discrimination Is a Serious Problem	Years As a Pharmacist						
	Less than 10	10-14	15-19	20-24	25-39	40 or more	Total
	%	%	%	%	%	%	%
Yes	20.4	17.2	19.8	15.4	20.7	16.8	18.6
No	73.9	76.1	73.4	76.8	70.7	75.2	74.1
Yes-No or No Opinion	5.7	6.7	6.8	7.7	8.7	7.9	7.3
Total	100.0	100.0	100.0	99.9	100.1	100.0	100.0
	(211)	(238)	(222)	(246)	(300)	(101)	(1318)*

*7 women did not report the number of years they had been a pharmacist and 16 women did not express their opinion.

TABLE 93

REASONS WHY WOMEN ARE CHOOSING PHARMACY FOR A CAREER

Reasons	Respondents N	Respondents %
Economic security - money	332	28.8
Need or demand for pharmacists - job opportunities	183	15.9
Good part-time work available	94	8.2
Fits well with marriage and raising family	93	8.1
Challenging and/or rewarding work	72	6.3
Flexible working hours	72	6.3
Good working conditions	44	3.8
Other	419	---
Total number of respondents	1,151*	---

*190 women did not report any reasons.

as why women were choosing pharmacy rather than not having a career.

An analysis was made to see if inactive pharmacists emphasized different reasons than did women who were currently practicing pharmacy. Table 94 shows there were few differences between the two groups of women.

TABLE 94

REASONS WHY WOMEN ARE CHOOSING PHARMACY FOR A CAREER - ACTIVE VS. INACTIVE RESPONDENTS

Reasons	Active N	Active %	Inactive N	Inactive %	Total
Economic security - money	272	29.6	60	26.0	332
Need or demand for pharmacists - job opportunities	150	16.3	33	14.3	183
Good part-time work	78	8.5	16	6.9	94
Fits well with marriage	81	8.8	12	5.2	93
Challenging and/or rewarding work	63	6.9	9	3.9	72
Flexible work hours	57	6.2	15	6.5	72
Good working conditions	32	3.5	12	5.2	44
Other	319	---	100	----	419
Total number of respondents	920	---	231	----	1,151*

*152 active and 38 inactive pharmacists did not report any reasons.

An additional analysis was made comparing the responses of women practicing community pharmacy and those in hospital pharmacy. Table 95 again shows there was little variation in the reasons given by the two groups of women. In summary, these analyses show that women pharmacists think

the financial rewards and demand for pharmacists are the primary reasons why more women are now choosing pharmacy for a career. This finding does not support Wageheim's recent statement that income usually is not the major motivation of women who work.[26]

TABLE 95

REASONS WHY WOMEN ARE CHOOSING PHARMACY FOR A CAREER - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Reasons	Type of Practice: Community N	Community %	Hospital N	Hospital %
Economic security - money	187	30.5	65	27.5
Need or demand for pharmacists - job opportunities	97	15.8	40	17.0
Good part-time work available	58	9.5	17	7.2
Fits well with marriage and raising family	57	9.3	22	9.3
Challenging and/or rewarding work	40	6.5	17	7.2
Flexible work hours	44	7.2	13	5.5
Good working conditions	21	3.4	10	4.2
Other	200	---	87	---
Total number of respondents	614*	---	236*	---

*99 community and 40 hospital pharmacists did not report any reasons.

26. Wagenheim, Helen S., "The Psychology of a Woman Professional," American Journal of Pharmacy (143:4) July-August 1971, p. 130.

Recommend a Pharmacy Career to Women

The women were asked if they would recommend a pharmacy career to an interested female high school or college student. It was thought that the response to this question would indicate each woman pharmacist's attitude toward opportunities in pharmacy for women. Of 1,312 responding women pharmacists, 1,210, or 92.2 percent, replied "Yes" to the question. This overwhelming positive reaction toward women in pharmacy give evidence that the respondents believe a pharmacy career holds a promising future for an interested girl.

An analysis was made to see if there was a significant difference between the responses of active and inactive women pharmacists. The women who were not currently practicing pharmacy might be less optimistic about career opportunities for women in pharmacy, depending upon the circumstances which were preventing them from practicing. Table 96 shows there was no significant difference between the responses of active and inactive women pharmacists. This finding suggests that women who are not currently practicing pharmacy are doing so voluntarily, and not because there are no job opportunities for them.

An additional analysis was made to see if the responses differed between community and hospital pharmacists. Table 97 shows there was not a significant difference

TABLE 96

RECOMMEND PHARMACY CAREER TO INTERESTED GIRLS - ACTIVE VS. INACTIVE RESPONDENTS

Recommend Pharmacy	Active N	Active %	Inactive N	Inactive %	Total
Yes	973	92.8	237	89.8	1,210
No	75	7.2	27	10.2	102
Total	1,048	100.0	264	100.0	1,312*

$\chi^2 = 2.77$ (1 d.f.)

*24 active and 5 inactive women pharmacists did not respond.

TABLE 97

RECOMMEND PHARMACY CAREER TO INTERESTED GIRLS - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Recommend Pharmacy	Type of Practice: Community N	Community %	Hospital N	Hospital %	Total
Yes	642	92.6	257	93.5	899
No	51	7.4	18	6.5	69
Total	693	100.0	275	100.0	968*

$\chi^2 = 0.20$ (1 d.f.)

*20 community and 1 hospital pharmacists did not respond.

between the responses of these two groups of women pharmacists. Thus, community pharmacy practice appears to hold as much opportunity as does hospital pharmacy, at least from the viewpoint of women practicing in each of these two areas of pharmacy.

The women pharmacists were asked why they would, or would not recommend a pharmacy career to an interested female high school or college student. The question was open-end and each response was placed in one of eight categories. The eight categories were the same ones used to classify the reasons the women gave for more women now going into pharmacy. Table 98 shows that three reasons for recommending pharmacy stood out from the other five: economic security; challenging and/or rewarding work; and need or demand for pharmacists. Nearly one-third of the responding women mentioned challenging and/or rewarding work as why they would recommend pharmacy to a girl, but only about six percent mentioned it as a reason why women are now choosing pharmacy for a career. With the exception of this difference, the rankings closely followed those given for reasons why women are now choosing pharmacy for a career.

A separate analysis was made to see if reasons for recommending a pharmacy career differed between community and hospital pharmacists. Table 99 shows that the rankings and percentages were similar between the two groups of

TABLE 98

REASONS WHY RESPONDENTS WOULD RECOMMEND A PHARMACY CAREER TO AN INTERESTED GIRL

Reasons	Respondents N	Respondents %
Economic security - money	327	36.3
Challenging and/or rewarding work	292	32.4
Need or demand for pharmacists - job opportunities	229	25.4
Good part-time work available	154	17.1
Fits well with marriage and raising family	133	14.7
Good working conditions	115	12.7
Flexible working hours	77	8.5
Other	124	----
Total number of respondents	902*	----

*308 women said they would recommend a pharmacy career, but did not report any reasons why.

TABLE 99

REASONS WHY RESPONDENTS WOULD RECOMMEND A PHARMACY CAREER TO AN INTERESTED GIRL - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Reasons	Type of Practice: Community N	Community %	Hospital N	Hospital %
Economic security - money	171	35.4	61	34.1
Challenging and/or rewarding work	142	29.4	68	38.0
Need or demand for pharmacists - job opportunities	118	24.4	42	23.5
Good part-time work available	81	16.8	27	15.1
Fits well with marriage and raising family	82	17.0	21	11.7
Good working conditions	71	14.7	16	8.9
Flexible working hours	47	9.7	13	7.3
Other	62	----	36	----
Total number of respondents	483*	----	179*	----

*159 community and 78 hospital pharmacists said they would recommend a pharmacy career, but did not give any reason why.

women. Thus, community and hospital pharmacists perceive the opportunities in pharmacy to be similar, at least in terms of their recommending a pharmacy career to an interested girl.

The women who reported they would not recommend a pharmacy career to an interested female high school or college student also were asked to explain their reasons for this decision. Each reason given was placed in one of eight categories. Since only 95 women made up the sample for this analysis, only the reasons given are listed in order of frequency, and no separate analyses were made with various groups of women pharmacists. Table 100 shows a listing of these reasons.

TABLE 100

REASONS WHY RESPONDENTS WOULD NOT RECOMMEND A PHARMACY CAREER TO AN INTERESTED GIRL

Reasons	Respondents N	Respondents %
Work is not challenging or worth five years education	33	34.7
Bad working conditions	25	26.3
The future of pharmacy is too uncertain	19	20.0
No job opportunities	7	7.4
Too much sex discrimination	5	5.3
Work is too hard for a woman	2	2.1
Women are not accepted as pharmacists	2	2.1
Other	16	---
Total number of respondents	95*	---

*7 women said they would not recommend a pharmacy career, but did not give any reason why.

Only three reasons for not recommending a pharmacy career received any significant mention: work is not challenging or worth five years education; bad working conditions; and the future of pharmacy is too uncertain. The reason of bad working conditions centered around community pharmacists having to work alone during late hours in a pharmacy. No conclusions can be made from these findings because the total sample was too small.

Satisfaction with Pharmacy

The women were asked to check one of five statements which best exemplified their satisfaction with pharmacy as a career. Table 101 shows how the women responded to this question of satisfaction with pharmacy. Although this analysis is too incomplete to draw valid conclusions regarding career satisfaction, it strongly indicates the women were happy with their profession. The primary purpose for this question is the information is necessary for developing a Pharmacist scale on the Strong Vocational Interest Blank. This is explained in more detail in Chapter Ten.

TABLE 101

SATISFACTION LEVEL WITH PHARMACY FOR RESPONDENTS

Satisfaction Level	Respondents N	Respondents %
Enthusiastic about pharmacy	581	43.5
Like pharmacy	701	52.5
Indifferent to pharmacy	38	2.8
Do not like pharmacy	13	1.0
Hate pharmacy	3	0.2
Total	1,336*	100.0

*5 women did not respond to the question.

CHAPTER EIGHT

SALARY COMPARISONS FOR WOMEN PHARMACISTS

In Chapter Seven it was shown that about 15 percent of the women thought that one disadvantage women pharmacists had was they were paid less than men pharmacists. The women were requested in the questionnaire to report their present salary on a per hour basis. If they were not paid on an hourly basis, the women were asked to estimate what their average salary was per hour. The problem of working with annual or weekly salaries is that the number of hours is unknown so no meaningful comparisons can be made.

Salary Ranges of Sample

Table 102 shows the salary ranges reported by the women pharmacists. Two percentages are given: (1) percentage in each salary range; and (2) cumulative percentages as salary range increases. Nuns were excluded from all salary analyses because most reported not receiving any salary. The hourly salaries were coded by rounding them off to the nearest dime due to lack of space on the computer card.

These findings are similar to those found in a 1971 survey of female graduates of the St. Louis College of Pharmacy. In that survey of 58 women, 15 percent were

TABLE 102

SALARY RANGES FOR RESPONDENTS

Salary Ranges	Respondents N	%	Cumulative %
Less than $4.0	25	2.7	2.7
$4.0 - 4.9	131	14.0	16.7
$5.0 - 5.9	344	36.7	53.4
$6.0 - 6.9	299	31.9	85.3
$7.0 - 7.9	92	9.8	95.1
$8.0 - 8.9	29	3.1	98.2
$9.0 - 9.9	9	1.0	99.2
$10.0 or more	8	0.9	100.1
Total	937*	100.1	

*95 women did not report their hourly salary.

earning less than $5.00 per hour, 69 percent were earning between $5.00 and $6.50 per hour, and 16 percent were earning more than $6.50 per hour.[1]

Mean Salary Comparisons

Several calculations were made of the mean salaries reported by various groups of women pharmacists. Table 103 shows the mean salaries for the women based on the

1. "Marriage and Pharmacy Mesh Nicely for Women," Drug Topics (115:14) July 5, 1971, p. 15.

number of hours they were working per week. Those working less than 10 hours per week were earning 25 cents an hour less than those working at least 40 hours per week. An F-test analysis, however, showed there was not a significant difference between the mean salaries.[2,3]

TABLE 103

MEAN HOURLY SALARIES FOR RESPONDENTS WORKING FULL-TIME AND PART-TIME

Range of Hours Working Per Week					
Less than 10	10-19	20-29	30-39	40 or more	Total
$5.58	$5.71	$5.72	$5.80	$5.83	$5.75
(129)	(188)	(146)	(113)	(357)	(933)*
F = 1.10					

*92 women did not report their salary, 4 did not report the number of hours they were working per week, and 3 reported neither.

2. The F-tests used to compare the mean salary data in this chapter do not represent the true F-test value. Due to limited room on the computer card, hourly salaries of $10.00 or more could not be coded on the cards. Thus, these salaries were not included in the F-test. These salaries were included in all mean calculations in this chapter, however. Only eight women reported having a salary of $10.00 per hour or more, so it was not thought their exclusion would alter the true F-test value significantly. Of these eight salaries, six were $10.00, one was $10.30, and one was $11.50 per hour. Four of these eight women were in community practice, one was in hospital pharmacy, one was in both community and hospital, and two were in some other type of pharmacy practice.

3. See Appendix O for an explanation of how the F-tests were calculated.

Sehgal's study of women pharmacists in 1968 showed a mean salary for 119 women to be $4.15 per hour.[4] Nearly 60 percent of Sehgal's sample reported earning $4.00 per hour or less, and no one was earning more than $6.00 per hour.[5] Thus, it appears hourly salaries for women pharmacists have increased greatly in the last three to four years.

A comparison of mean salaries for women in each AACP District was made to see if there were geographical differences in salaries. Table 104 shows the range of hourly salaries was from $5.11 in AACP District 1 to $6.58 in AACP District 8. An F-test showed there was a significant difference between the mean salaries.[6] Thus, there were definite variations in salaries paid to women pharmacists based on geographical location. The large difference between women in AACP District 1 (East) and District 8 (West) could be due to unions being more prevalent for pharmacists in the West, but no data were collected to verify this.

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4. Sehgal, op. cit., p. 114.

5. Ibid., p. 113.

6. The F-test value was calculated without including eight women who reported earning salaries of $10.00 or more per hour. These eight salaries are included in the means calculations.

TABLE 104

MEAN HOURLY SALARIES FOR RESPONDENTS IN EACH AACP DISTRICT

AACP District In Which Practicing	Mean Salary	N
District 1	$ 5.11	74
District 2	5.80	191
District 3	5.47	107
District 4	5.86	223
District 5	5.56	56
District 6	5.32	98
District 7	5.60	60
District 8	6.58	128
Total	$ 5.75	937*
F = 18.80		

*91 women did not report their hourly salary, 2 did not report the AACP District in which they were practicing, and 4 reported neither.

Another comparison in hourly salaries was made based on the population of the town in which the woman was practicing. Table 105 shows that the mean salaries ranged from $5.38 to $5.98. An F-test showed there was a significant difference between the mean salaries.[7] In

7. The F-test value was calculated without including seven women who reported earning salaries of $10.00 or more per hour. These seven salaries are included in the means calculations.

general, salaries increased as the population ranges increased.

TABLE 105

MEAN HOURLY SALARIES FOR RESPONDENTS BASED ON POPULATION OF TOWN IN WHICH PRACTICING

Population Range	Mean Hourly Salary	N
Less than 5,000	$ 5.44	67
5,000 - 9,999	5.56	59
10,000 - 24,999	5.38	147
25,000 - 49,999	5.69	127
50,000 - 99,999	5.97	113
100,000 -499,999	5.92	156
500,000 or more	5.98	164
Total	$ 5.75	833*

*199 women did not report their hourly salary and/or the population of the town in which they were practicing.

Mean hourly salaries were compared for the women based on their marital status. Table 106 shows that the mean hourly salaries are the same for single women and married women living with their husbands. Women who were separated or divorced earned 24 cents more per hour than did the single or married woman. Women whose husbands

were deceased earned 21 cents less per hour than did the single or married women. An F-test showed there was not a significant difference between the mean salaries.[8]

TABLE 106

MEAN HOURLY SALARIES FOR RESPONDENTS BASED ON MARITAL STATUS

Marital Status	Mean Hourly Salary	N
Single	$ 5.76	124
Married, and living with husband	5.76	700
Separated or Divorced	6.00	44
Husband Deceased	5.55	69
Total	$ 5.75	937*

*95 women did not report their hourly salary.

Salary Comparisons for Community and Hospital Pharmacists

A final comparison in mean hourly salaries was made between three groups of women pharmacists: (1) community pharmacists; (2) hospital pharmacists; and (3) women working in both community and hospital pharmacy. Table 107

8. The F-test value was calculated without including eight women who reported earning salaries of $10.00 or more per hour.

shows that the hospital pharmacists were earning an average of 47 cents more per hour than were community pharmacists. An F-test showed there was a significant difference between the mean salaries.[9] This is somewhat surprising because salaries for hospital pharmacists usually are thought of as being less than for community pharmacists. Sehgal found the mean salaries received by women hospital and women community pharmacists to be nearly identical.[10]

TABLE 107

MEAN HOURLY SALARIES - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Type of Practice	Mean Hourly Salary	N
Community Pharmacy	$ 5.60	634
Hospital Pharmacy	6.07	227
Combination of Community and Hospital	5.85	58
Total	$ 5.73	919*

F = 6.38

*79 community, 9 hospital, and 1 community-hospital pharmacists did not report their hourly salary.

9. The F-test value was calculated without including six women who reported earning salaries of $10.00 or more per hour.

10. Sehgal, op. cit., p. 114.

It is possible these findings show there was less salary discrimination in hospital pharmacy than in community pharmacy. Unfortunately, there was little if any national data which compare hourly salaries of men pharmacists in hospital and community practice. Thus, valid conclusions cannot be made from the sole finding that in this sample of women pharmacists, hospital pharmacists were paid 8.4 percent more per hour on an average than were community pharmacists.

An additional table was prepared only for community and hospital pharmacists to understand better the difference in mean salaries. Table 108 shows a series of salary ranges with the cumulative percentage figures as the ranges increase. About 20 percent of the community pharmacists earn less than $5.00 per hour compared to less than eight percent of the hospital pharmacists. The difference becomes less apparent as the salaries become greater. Earlier analyses showed that a higher percentage of community pharmacists practiced on a part-time basis than did hospital pharmacists. It is possible these part-time pharmacists do not earn as much per hour as do full-time pharmacists.

A separate analysis was made between community and hospital pharmacists to see if women working part-time earned less salary than those working full-time. Table 109 shows there was no relationship between salary and number

TABLE 108

HOURLY SALARY RANGES - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS

Salary Ranges	Type of Practice: Community N	Community Cum. %	Hospital N	Hospital Cum. %
Less than $4.0	21	3.3	2	0.9
$4.0 - 4.9	110	20.7	15	7.5
$5.0 - 5.9	228	56.6	89	46.7
$6.0 - 6.9	194	87.2	81	82.4
$7.0 - 7.9	56	96.1	28	94.7
$8.0 - 8.9	16	98.6	9	98.7
$9.0 - 9.9	5	99.4	2	99.6
$10.0 or more	4	100.0	1	100.0
Total	634*		227*	

*79 community and 9 hospital pharmacists did not report their hourly salaries.

of hours working per week. Thus, the difference in salary between community and hospital pharmacists was not due to the fact that a higher percentage community pharmacists were working part-time.

A final analysis of salaries of women pharmacists was made to see if salaries increase as the women gain more experience in pharmacy practice. Table 110 shows that

TABLE 109

MEAN HOURLY SALARIES FOR COMMUNITY AND HOSPITAL PHARMACIST RESPONDENTS WORKING FULL-TIME AND PART-TIME

Type of Practice	Range of Hours Working Per Week: 40 or more	20-39	Less then 20	Total
Community Pharmacy	$ 5.60 (210)	$ 5.66 (181)	$ 5.55 (241)	$ 5.60 (632)
Hospital Pharmacy	$ 6.09 (126)	$ 6.15 (51)	$ 5.92 (50)	$ 6.07 (227)
Community/ Hospital Pharmacy	$ 5.89 (17)	$ 5.63 (21)	$ 6.03 (20)	$ 5.85 (58)
Total	$ 5.79 (353)	$ 5.76 (253)	$ 5.64 (311)	$ 5.73 (917)*

*79 community, 9 hospital, and 1 community/hospital pharmacist did not report their hourly salary. 2 community pharmacists did not report the number of hours they were working per week.

salaries for community pharmacists have no relationship with years of practice, while salaries for hospital pharmacists increase slightly with experience. The difference in salaries between women hospital pharmacists with less than ten years experience and women hospital pharmacists with 30 or more years of experience was only $0.20 per hour.

TABLE 110

MEAN HOURLY SALARIES - COMMUNITY VS. HOSPITAL PHARMACIST RESPONDENTS BASED ON YEARS OF EXPERIENCE

Type of Practice	Range of Years of Pharmacy Practice: Less than 10	10-19.9	20-29.9	30 or more	Total
Community Pharmacy	$ 5.72 (176)	$ 5.50 (250)	$ 5.72 (126)	$ 5.42 (63)	$ 5.60 (615)
Hospital Pharmacy	$ 5.97 (70)	$ 6.07 (75)	$ 6.16 (57)	$ 6.17 (19)	$ 6.07 (221)
Community/ Hospital Pharmacy	$ 5.54 (19)	$ 5.89 (22)	$ 6.10 (13)	$ 5.60 (2)	$ 5.81 (56)
Total	$ 5.77 (265)	$ 5.65 (347)	$ 5.87 (196)	$ 5.59 (84)	$ 5.73 (892)*

*79 community, 9 hospital, and 1 community/hospital pharmacist did not report their hourly salary. 17 community, 6 hospital, and 2 community/hospital pharmacists did not report their years of practice.

This lack of salary increase with years of experience might indicate some discrimination in the salaries received by women pharmacists. It is difficult to imagine that the salaries of the women would not show some trend toward increasing as the women obtained more experience as pharmacists.

Another possible explanation for this finding is that women enter and leave pharmacy practice so much that they do not accumulate any type of seniority with fellow male pharmacists. In other words, the lack of career continuity by the women might account for their salaries remaining relatively constant over time. Sehgal also found that salaries of women pharmacists did not rise as the amount of experience increased, and he concluded this was due to women's lack of career continuity in pharmacy.[11]

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11. Ibid., pp. 116, 118.

CHAPTER NINE

VOCATIONAL INTERESTS OF WOMEN PHARMACISTS

Determination of vocational interests is one means by which guidance counselors can help a student select an occupation. While there is no clear formulation of the concept of interest, there is no disagreement that interest is closely related to other motivational terms, such as drive, want, desire, need, attitude, and feeling.[1]

Counselors generally are more interested in helping clients with career planning and vocational exploration than they are in making specific job predictions.[2] Strong has said that determination of a "general direction" is about as far as the high school counselor should attempt to go in discussing careers with students.[3] The use of interest inventories is centered around a general exploration of career areas. Johnson has stated that at

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1. Thorndike, Robert M., Weiss, David J., Davis, Rene V., "Canonical Correlation of Vocational Interests and Vocational Needs," Journal of Counseling Psychology (15:2) March 1968, p. 101.

2. Johnson, Richard W., "Use of Interest Inventories with Women," Counseling Center Reports (3:13) June 1970, p. 12.

3. Strong, op. cit., p. 36.

the very least, interest inventories should be helpful in: (1) suggesting possible job fields or areas of specialization for the undecided student; or (2) reassuring the concerned student who wants to know, if, in fact, his interests do correspond with people employed in a certain area.[4]

Lewis has stated that women who are employed in jobs related to interests are more "satisfied" with their jobs than those whose interests and jobs are not compatible.[5] Often, the two terms "satisfaction" and "success" are used interchangeably in discussing vocational interests. Thorndike has said that beyond survival in an occupation, "success" is a meaningless concept. Long-range "success" depends so heavily upon contingency factors that one can never hope to predict it from what can be known about the individual in advance.[6]

Strong has warned that interest in an activity is an indicator of satisfaction, but not necessarily of success.[7]

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4. Johnson, 1970, op. cit., p. 16.

5. Lewis, 1968, op. cit., p. 217.

6. Thorndike, Robert L., "The Prediction of Vocational Success," Vocational Guidance Quarterly (11:3) Spring 1963, p. 187.

7. Strong, op. cit., p. 14.

Campbell has said that interest ratings are better indices of job persistence than of job success.[8] Thus, job success as a pharmacist should not be inferred simply because a person's interests are similar to those of pharmacists. Rather, the person likely would be satisfied with a career in pharmacy.

Each individual is unique, and the use of interest inventories helps to mirror the individual's uniqueness, and to suggest vocational alternatives particularly suited for that individual. With women, at this point in our society, such approaches seem particularly important.[9] Lewis has stated that it is especially important for a girl's vocational choice to be closely related to her interests and personality characteristics since she will need to maintain her vocational skills during a period of disuse usually related to child-bearing.[10] Unfortunately, the range of occupations covered by interest inventories has been relatively limited to occupations which attract large numbers of females.[11]

In 1971, the Citizens' Advisory Council on the Status of Women made the following recommendation concerning the counseling of women and girls.

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8. Campbell, 1971, op. cit., p. 2.
9. Ibid., p. 314.
10. Lewis, 1968, op. cit., pp. 216-217.
11. Johnson, 1970, op. cit., p. 1.

> The Office of Education should examine the testing tools used in advising boys and girls and determine whether the tools being used to counsel give sufficient attention to the full range of talents and potentialities of both boys and girls and whether boys and girls are encouraged to consider all professional fields, not only those considered appropriate to their sex.[12]

Thus, the use of vocational interests is important in counseling, and the need for more involvement of women with interest inventories is important to understand better the opportunities for women.

The Strong Vocational Interest Blank

One interest inventory available to guidance counselors is the Strong Vocational Interest Blank (SVIB).[13] The SVIB is one of the most widely used instruments in vocational counseling as well as in vocational interest research.[14] In fact, the SVIB has the longest history of any current widely used psychological inventory.[15]

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12. Women In 1970, Citizens' Advisory Council on the Status of Women, Washington, D.C., 1971, pp. 22-23.

13. A brief description of the SVIB was given in Chapter One, pp. 15-16.

14. Siess, Thomas F. and Jackson, Douglas N., "Vocational Interests and Personality: An Empirical Integration," Journal of Counseling Psychology (17:1) January 1970, p. 27.

15. For a brief history of the SVIB since its origination, see Campbell, 1971, op. cit., pp. 343-365.

Although a separate SVIB is available for women, it is not unusual for counselors to use the men's form of the SVIB when counseling women. Because of the lack of information on women's interests, counselors continually are faced with the difficulty of providing women clients with information about vocational interests and relating the test information to the world of work.[16] One of the purposes of this study was to provide counselors with information about the vocational interests of women pharmacists.

There is not complete agreement on the best time for a student to complete the SVIB. Rothney and Schmidt have been critical of all interest inventories and have suggested that counselors be sure to provide the opportunity for counselees to tell them "in their own words" and the "length and detail of their own choosing" what their interests really are.[17] Nolting has observed that the SVIB may be most predictive at the time a person

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16. Morrill, Weston H., Miller, C. Dean, and Thomas, Lucinda E., "Educational and Vocational Interests of College Women," Vocational Guidance Quarterly (19:2) December 1970, p. 85.

17. Rothney, John W. M. and Schmidt, Louis G., "Some Limitations of Interest Inventories," Personnel and Guidance Journal (33:4) December 1954, p. 204.

is required to select a specific academic major.[18]

Some criticism of the use of the SVIB for Women also has been raised. Lewis has questioned the usefulness of the SVIB-W because relationships between job choice and personal interests are not as evident for women as for men. Women's reasons for a particular occupational choice typically are based on short-term considerations.[19] Skodak and Crissey have concluded from their research that the SVIB-W has less guidance value at the high school level than the stated occupational choices of the students themselves.[20] However, Campbell has stated, "It is difficult to work with this inventory (SVIB) over several years without becoming convinced that there is some substantial relationship between a person's scores and what he chooses to do with his life, especially for adults."[21]

The results from high school testing have shown that the SVIB can be used with students at this level to indicate

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18. Nolting, Earl, Jr., "Vocational Interests of Women: A Longitudinal Study of the Strong Vocational Interest Blank," Journal of Applied Psychology (54:2) April 1970, pp. 126-127.

19. Lewis, 1968, op. cit., pp. 220-223.

20. Skodak, Marie and Crissey, Orlo L., "Stated Vocational Aims and Strong Interest Test Scores of High School Senior Girls," Journal of Applied Psychology (26:1) February 1942, p. 74.

21. Campbell, 1971, op. cit., p. 49.

general direction of a career, but not specific occupations.[22] However, as already mentioned, the primary purpose of interest inventories is to supply general information about career direction, and they should not be used to recommend specific occupations.

Dunteman studied women enrolled in five health-related college curricula and showed the SVIB to be a useful instrument for discriminating between college majors.[23,24] Anderson has shown the SVIB-W to be useful in providing some indication of the likelihood of a nursing student transferring out of nursing sometime before graduation.[25]

Strong, the originator of the SVIB, has said that interests are permanent enough and sufficiently unaffected by vocational training and experience to furnish a basis for the prediction of future behavior.[26] The interests of

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22. Ibid., p. 57.

23. Dunteman, George H., "Discriminant Analysis of the SVIB for Female Students in Five College Curricula," Journal of Applied Psychology (50:6) December 1966, p. 514.

24. Dunteman, George H., "Cross Validities of Six SVIB Discriminant Equations for Female Students in Health and Education," Educational and Psychological Measurement (27:4) Winter 1967, pp. 1091-1097.

25. Anderson, Wayne, "Predicting Graduation from a School of Nursing," Vocational Guidance Quarterly (16:4) June 1968, p. 300.

26. Strong, op. cit., p. 381.

women in psychology, as measured by the SVIB-W, have remained essentially the same during the past 25 years.[27] Campbell has reviewed past research and demonstrated quite conclusively that SVIB occupational scales remain stable over time.[28-30] The general finding, even among young people and over long intervals, is that vocational interests, as reflected by responses to the SVIB, are stable, and related to career choice.[31]

Thus, the Strong Vocational Interest Blank has a long history of usefulness in helping students consider alternative occupational areas. The SVIB has been shown to be useful for both men and women, and vocational interests have been determined to be stable over time.

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27. Campbell, David P. and Soliman, Abdalla M., "The Vocational Interests of Women in Psychology: 1942-66," American Psychologist (23:3) March 1968, p. 163.

28. Campbell, David P., "The Stability of Vocational Interests Within Occupations Over Long Time Spans," Personnel and Guidance Journal (44:10) June 1966, pp. 1012-1019.

29. Campbell, D. P., "Stability of Interests Within an Occupation Over 30 Years," Journal of Applied Psychology (50:1) February 1966, pp. 51-56.

30. Johansson, Charles B. and Campbell, David P., "Stability of the Strong Vocational Interest Blank for Men," Journal of Applied Psychology (55:1) February 1971, pp. 34-36.

31. Campbell, 1971, op. cit., p. 130.

The SVIB Profile

A person who has completed the SVIB receives his or her scores on an SVIB profile form. A brief explanation of how to interpret scores on the profile is printed on the back of the SVIB-W profile form.[32] Occupational scores are presented in groups of related occupations, using the scale intercorrelations and similar data to determine similarity. Counselors should use the occupational group scores to suggest career areas to students rather than rely on individual occupational scale scores. There are 11 occupational groups on the women's profile.[33]

I - Music Performing
II - Art
III - Verbal-Linguistics
IV - Social Service
V - Verbal-Scientific
VI - Scientific
VII - Military-Managerial
VIII - Business
IX - Home Economics
X - Health-Related Services
XI - Nonprofessional

The blank SVIB-W profile form on the following page shows the specific occupational scales in each of the occupational groups.

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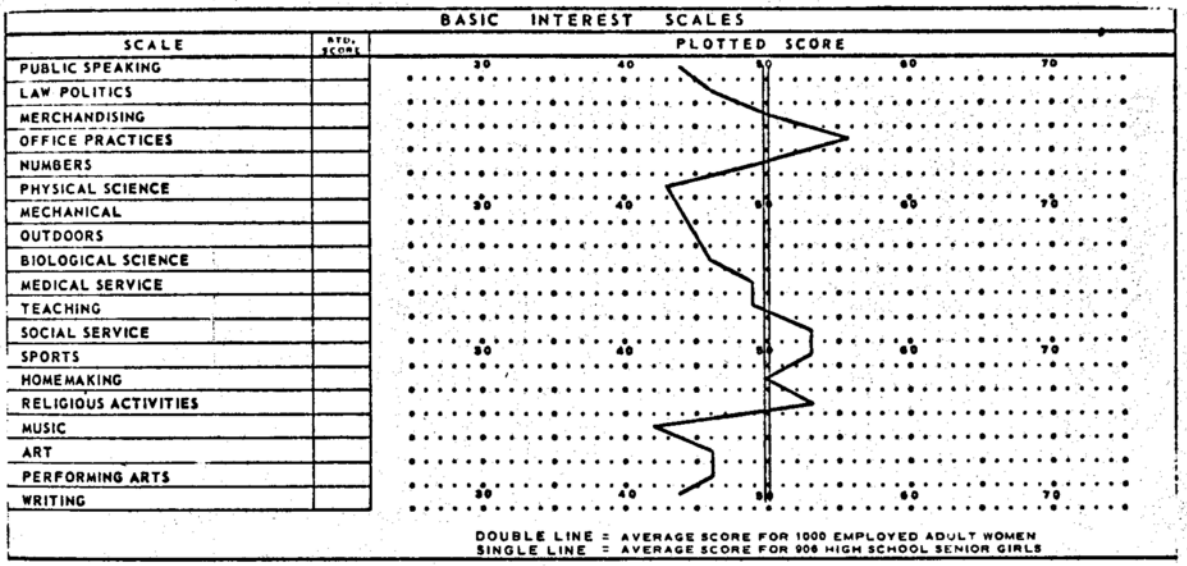
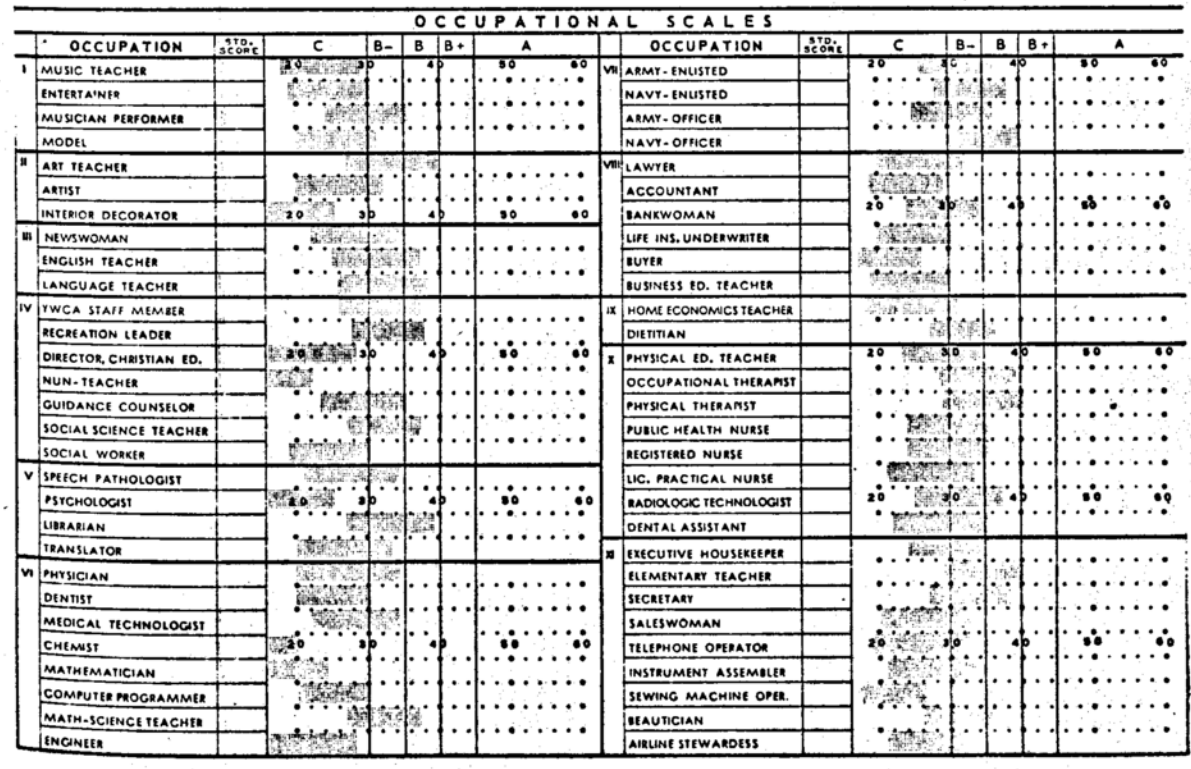
32. See Appendix S for a copy of this explanation of how to interpret findings on the SVIB profile form.

33. Campbell, 1969, op. cit., p. 9.

TABLE 111

SVIB-W PROFILE
SHOWING OCCUPATIONS IN
ELEVEN OCCUPATIONAL SCALES





To make the interpretation of SVIB scores easier, the following system of letter grades was developed.[34]

A	45 and above
B+	40 - 44
B	35 - 39
B-	30 - 34
C	Below 30

Using this grading system, it has been shown that chances are equal that a man will enter an occupation for which he has a B rating. There is a "5-to-1" chance against a student's entering and remaining in an occupation where he has a C rating, and a "3-to-1" chance for his entering and remaining in an occupation where he has an A rating.[35] These letter grades are marked on the SVIB-W profile form to facilitate clearer interpretation of scores for the student.

In addition to the letter grades used for the occupational scale scores, there is a shaded area on each occupational scale. These shaded areas represent the score ranges of the middle third of the SVIB Women-in-General group. The Women-in-General group totals 1,000 women, and consists of 20 women in each of 50 occupations. More information about the Women-in-General group is provided in the chapter on developing a Pharmacist scale for the SVIB-W.

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34. Campbell, 1971, op. cit., p. 275.
35. Strong and Campbell, op. cit., p. 9.

The SVIB-W profile has 19 Basic Interest Scales which were developed in 1969 to supplement the Occupational Scales. The Basic Interest Scale allows counselors to generalize beyond a single occupation, by identifying the dominant themes in a person's interests.[36] On the women's Basic Interest Scale profile, the double line at 50 represents the mean score of the Women-in-General group; the single jagged line represents the average score of 906 Minnesota high school senior girls.[37] Scores of 58 and above are considered "high," and scores of 42 and below are considered "low."[38]

There are four Nonoccupational Scales included on the SVIB-W profile: Academic Achievement (AACH); Diversity of Interests (DIV); Femininity-Masculinity (FMII); and Occupational Introversion-Extroversion (OIE).[39] The The scores for these four scales are not included in the comparison of profiles of women pharmacists because they are not important to the analysis. Only people with sufficient training and experience should utilize information obtained from the Nonoccupational Scales.[40]

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36. Campbell, 1969, op. cit., p. 7.
37. Ibid., p. 8.
38. Ibid., p. 8.
39. Ibid., p. 20.
40. Ibid., p. 9.

Each of the four Nonoccupational Scales will be described briefly. The Academic Achievement Scale contrasts the interest of those who do well in school, both in high school and college, with those who do poorly. The results are more related to persistence in school than to level of performance.[41] The Diversity of Interests Scale was developed to learn somthing about the "breadth of interests" concept.[42] High scores indicate broad interests while low scores indicate a narrow range of interests. The Femininity-Masculinity Scale contrasts the interests of men and women working in the same occupation.[43] The Occupational Introversion-Extroversion Scale contrasts the SVIB responses of "introverts" and "extroverts."[44] High scores indicate introversion, while lower scores indicate extroversion.

SVIB-W Scores of Women Pharmacists

A total of 966 women pharmacists completed the SVIB-W for this study (see Chapter Two). Separate comparisons of interest profiles were made for the following groups of women pharmacists: (1) active and inactive; (2) nuns; (3) community and hospital practitioners; (4) those in

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41. Ibid., p. 9.
42. Ibid., p. 19.
43. Ibid., p. 19.
44. Ibid., p. 19.

different geographic locations; (5) full-time and part-time practitioners; and (6) those who have been pharmacists for various periods of time.

Interest Profiles for Active and Inactive Women Pharmacists

The SVIB-W scores for inactive women pharmacists are shown in SVIB-W Profile 1, while corresponding scores of active women pharmacists are presented in SVIB-W Profile 2. Scores on the Basic Interest Scales are similar with significant differences being noted in only two of the 19 items. An important finding was that active pharmacists scored "high" (58 or above) on two items on the Basic Interest Scales: Biological Science and Medical Service. Usually, there will be at least one or two high scores on the Basic Interest Scales.[45] These two items both are related to the practice of pharmacy. A study of first-year pharmacy students suggested that the Pharmacist scale on the SVIB for Men should be placed in the Biological Sciences Group rather than the Business and Accounting Group in which the scale currently is found.[46] The findings for the women pharmacists also indicate that interest in the biological sciences is characteristic of pharmacists.

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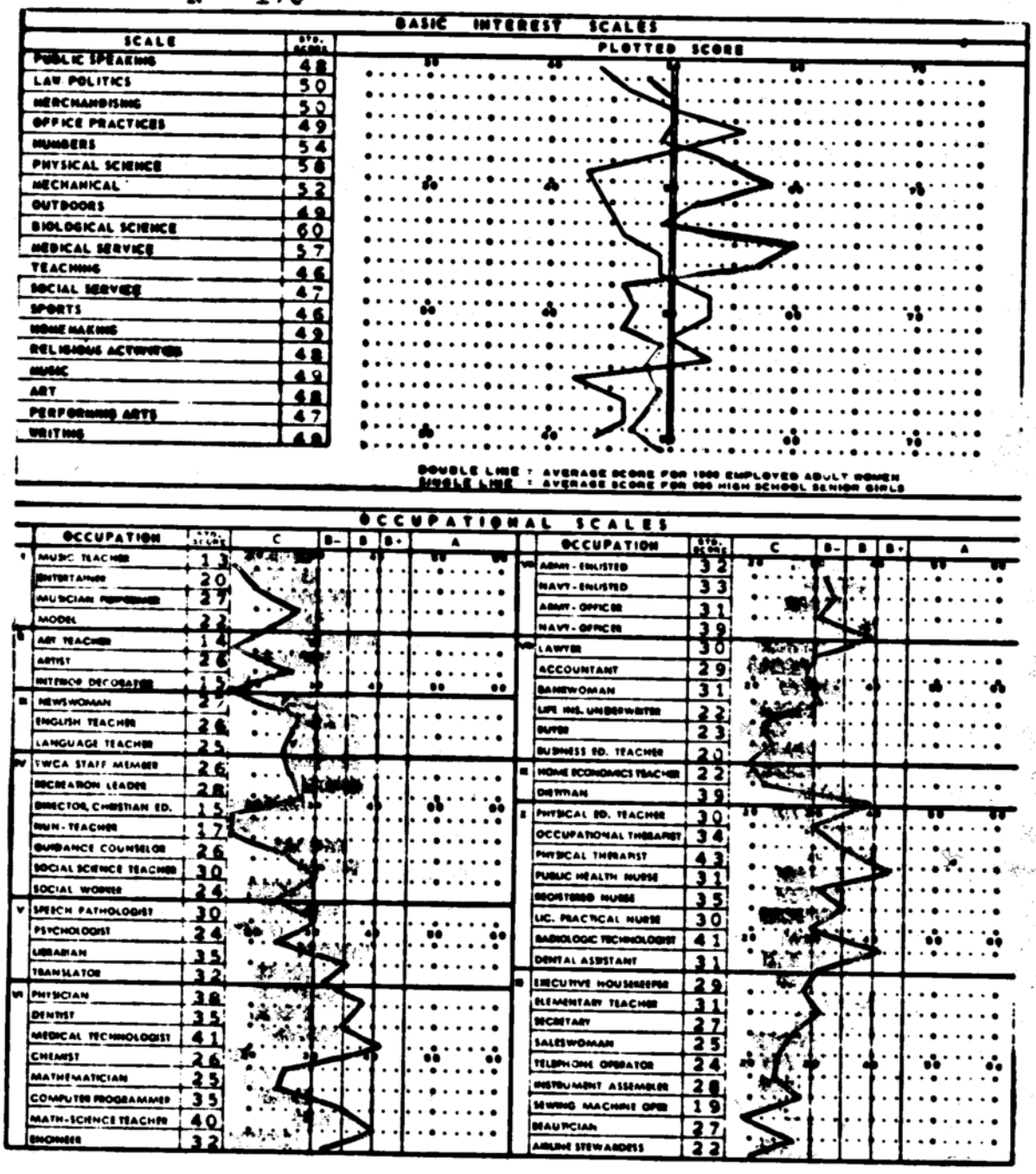
45. Ibid., p. 8.

46. Kirk, Kenneth Wilson, "A Description and Evaluation of Possible Recruitment And Admission Aids for Pharmacy Students," Unpublished Master's Thesis, University of Wisconsin, Madison, 1970, p. 49.

SVIB-W PROFILE 1

SVIB-W SCORES OF WOMEN PHARMACISTS NOT CURRENTLY PRACTICING PHARMACY

N = 176



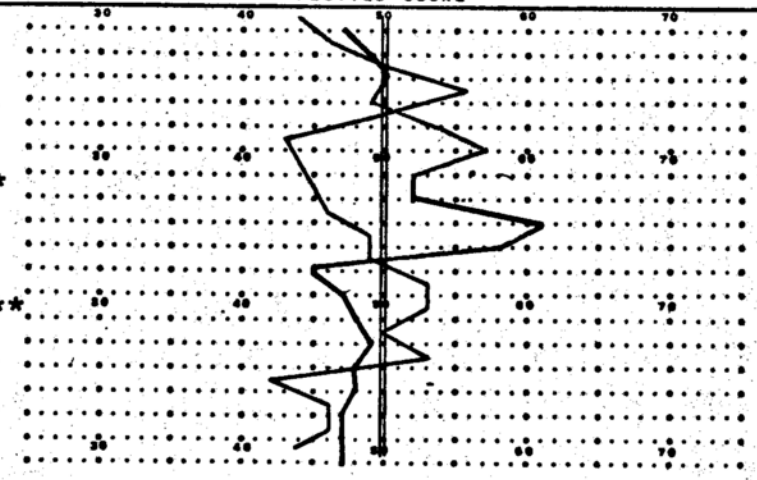
SVIB-W PROFILE 2

SVIB-W SCORES OF WOMEN PHARMACISTS CURRENTLY PRACTICING PHARMACY

N = 766

BASIC INTEREST SCALES

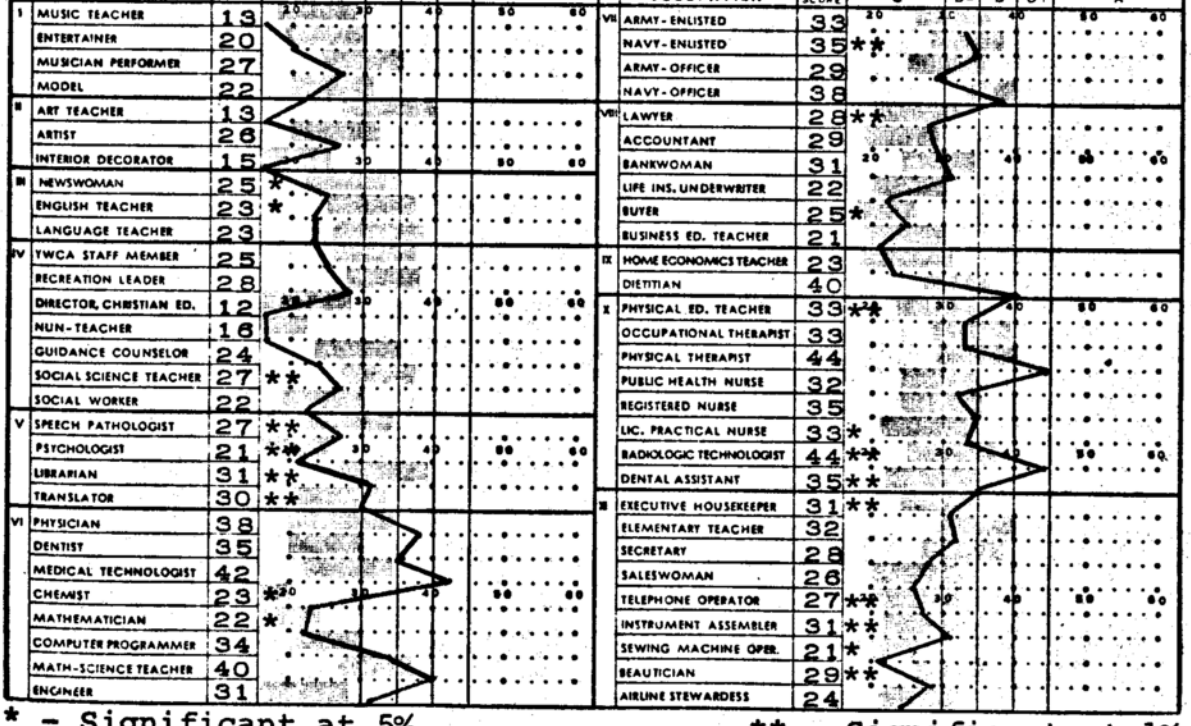
SCALE	STD. SCORE	PLOTTED SCORE
PUBLIC SPEAKING	47	
LAW/POLITICS	49	
MERCHANDISING	50	
OFFICE PRACTICES	49	
NUMBERS	54	
PHYSICAL SCIENCE	57	
MECHANICAL	52	
OUTDOORS	51	*
BIOLOGICAL SCIENCE	61	
MEDICAL SERVICE	58	
TEACHING	45	
SOCIAL SERVICE	47	
SPORTS	48	**
HOMEMAKING	49	
RELIGIOUS ACTIVITIES	48	
MUSIC	48	
ART	47	
PERFORMING ARTS	47	
WRITING	47	



DOUBLE LINE = AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE = AVERAGE SCORE FOR 906 HIGH SCHOOL SENIOR GIRLS

OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE	
I	MUSIC TEACHER	13	
	ENTERTAINER	20	
	MUSICIAN PERFORMER	27	
	MODEL	22	
II	ART TEACHER	13	
	ARTIST	26	
	INTERIOR DECORATOR	15	
III	NEWSWOMAN	25	*
	ENGLISH TEACHER	23	*
	LANGUAGE TEACHER	23	
IV	YWCA STAFF MEMBER	25	
	RECREATION LEADER	28	
	DIRECTOR, CHRISTIAN ED.	12	
	NUN-TEACHER	16	
	GUIDANCE COUNSELOR	24	
	SOCIAL SCIENCE TEACHER	27	**
	SOCIAL WORKER	22	
V	SPEECH PATHOLOGIST	27	**
	PSYCHOLOGIST	21	**
	LIBRARIAN	31	**
	TRANSLATOR	30	**
VI	PHYSICIAN	38	
	DENTIST	35	
	MEDICAL TECHNOLOGIST	42	
	CHEMIST	23	*
	MATHEMATICIAN	22	*
	COMPUTER PROGRAMMER	34	
	MATH-SCIENCE TEACHER	40	
	ENGINEER	31	
VII	ARMY-ENLISTED	33	
	NAVY-ENLISTED	35	**
	ARMY-OFFICER	29	
	NAVY-OFFICER	38	
VIII	LAWYER	28	**
	ACCOUNTANT	29	
	BANKWOMAN	31	
	LIFE INS. UNDERWRITER	22	
	BUYER	25	*
	BUSINESS ED. TEACHER	21	
IX	HOME ECONOMICS TEACHER	23	
	DIETITIAN	40	
X	PHYSICAL ED. TEACHER	33	**
	OCCUPATIONAL THERAPIST	33	
	PHYSICAL THERAPIST	44	
	PUBLIC HEALTH NURSE	32	
	REGISTERED NURSE	35	
	LIC. PRACTICAL NURSE	33	*
	RADIOLOGIC TECHNOLOGIST	44	**
	DENTAL ASSISTANT	35	**
XI	EXECUTIVE HOUSEKEEPER	31	**
	ELEMENTARY TEACHER	32	
	SECRETARY	28	
	SALESWOMAN	26	
	TELEPHONE OPERATOR	27	**
	INSTRUMENT ASSEMBLER	31	**
	SEWING MACHINE OPER.	21	*
	BEAUTICIAN	29	**
	AIRLINE STEWARDESS	24	



* - Significant at 5%

** - Significant at 1%

Some differences were noted between practicing and non-practicing women pharmacists in the occupational scales. There was a significant difference in the scores on all four occupations in the Verbal-Scientific Group (Group V). However, there was similarity in scores in the Scientific Group (Group VI). There were significant differences in the scores for four of the eight occupations in the Health-Related Services Group (Group X), with the practicing pharmacists scoring higher than non-practicing pharmacists in all four occupations. The practicing pharmacists also scored significantly higher on five of the nine occupations in the Nonprofessional Group (Group XI).

The actual differences in scores between the two groups of women do not have to be great to be statistically significant due to the large sample sizes involved. A standard procedure used by counselors in evaluating differences in interest scores is to consider a difference of five points or more between scores as being significant. Using this five-point difference rule, there were no significant differences in SVIB-W scores between the practicing and non-practicing women pharmacists.

This relative similarity of interests between active and inactive pharmacists indicates that the SVIB-W is not useful in measuring a woman's potential for making an

occupation a full-time career. Harmon has concluded that the reasons women become committed to careers are not circumstantial, but motivational. Moreover, she says that career motivation seems to arise, at least in consciousness, at some point in time beyond the entrance to college.[47] Johnson has noted that interest inventories have not been very successful in predicting which women will actually pursue a career and which will not.[48] Lewis, on the other hand, has reported that the SVIB-W often is convenient for differentiating college girls who are career oriented from those who are marriage oriented.[49] The findings for women pharmacists support Johnson rather than Lewis.

A follow-up study of more than 32,000 college graduates by the National Science Foundation has shown that the predictive value of a student's major field for his employment two years after graduation varied greatly among occupations. However, the most predictive major for men was pharmacy.[50] Mitchell has demonstrated that women

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47. Harmon, Lenore W., "Anatomy of Career Commitment in Women," Journal of Counseling Psychology (17:1) January 1970, p. 79.

48. Johnson, op. cit., p. 12.

49. Lewis, 1968, op. cit., p. 250.

50. Whitney, Douglas R., "Predicting From Expressed Vocational Choice: A Review," The Personnel and Guidance Journal (48:4) December 1969, p. 280.

in medicine show an exact duplication of the interest profile of men medical students.[51] One might expect a Pharmacist scale for women to be reasonably predictive so as to be useful in counseling.

The women pharmacists did not score above the C rating for the occupation of chemist in the Scientific Group. This finding does not support a study by Mitchell which showed women pharmacy students to have the same strong interest in chemistry shown by men pharmacy students.[52]

Seiss and Jackson have found men pharmacists score high in areas of "social contact." They concluded that while this might at first glance appear to be "out of place," a job analysis of the typical pharmacists undoubtedly would reveal that the greatest portion of his time is spent in dealing with the public.[53] They further stated that individuals scoring high in "social contact" areas would likely be described as "happy-go-lucky." It is questionable if this description does justice to a pharmacist whose responsibility to the public's health and

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51. Mitchell, Elmer D., "Interest Profiles of University Women," Vocational Guidance Quarterly (6:2) Winter 1957-58, p. 86.

52. Mitchell, op. cit., p. 87.

53. Siess and Jackson, op. cit., p. 34.

welfare requires his or her being more than "happy-go-lucky." In any case, the women pharmacists did not show such strong interests in the Social Service Group (Group IV), as they scored in the C range in all seven occupations in this group. This might be an indication that there are differences in the interests of men and women pharmacists. Further study is necessary to verify this possibility.

Interest Profile for Women Pharmacists Who Were Nuns

The SVIB-W scores for women pharmacists who were members of a religious order are shown in SVIB-W Profile 3. The scores were compared with those of all other active and inactive pharmacists. The analysis of their scores is limited by their sample size of only 24.

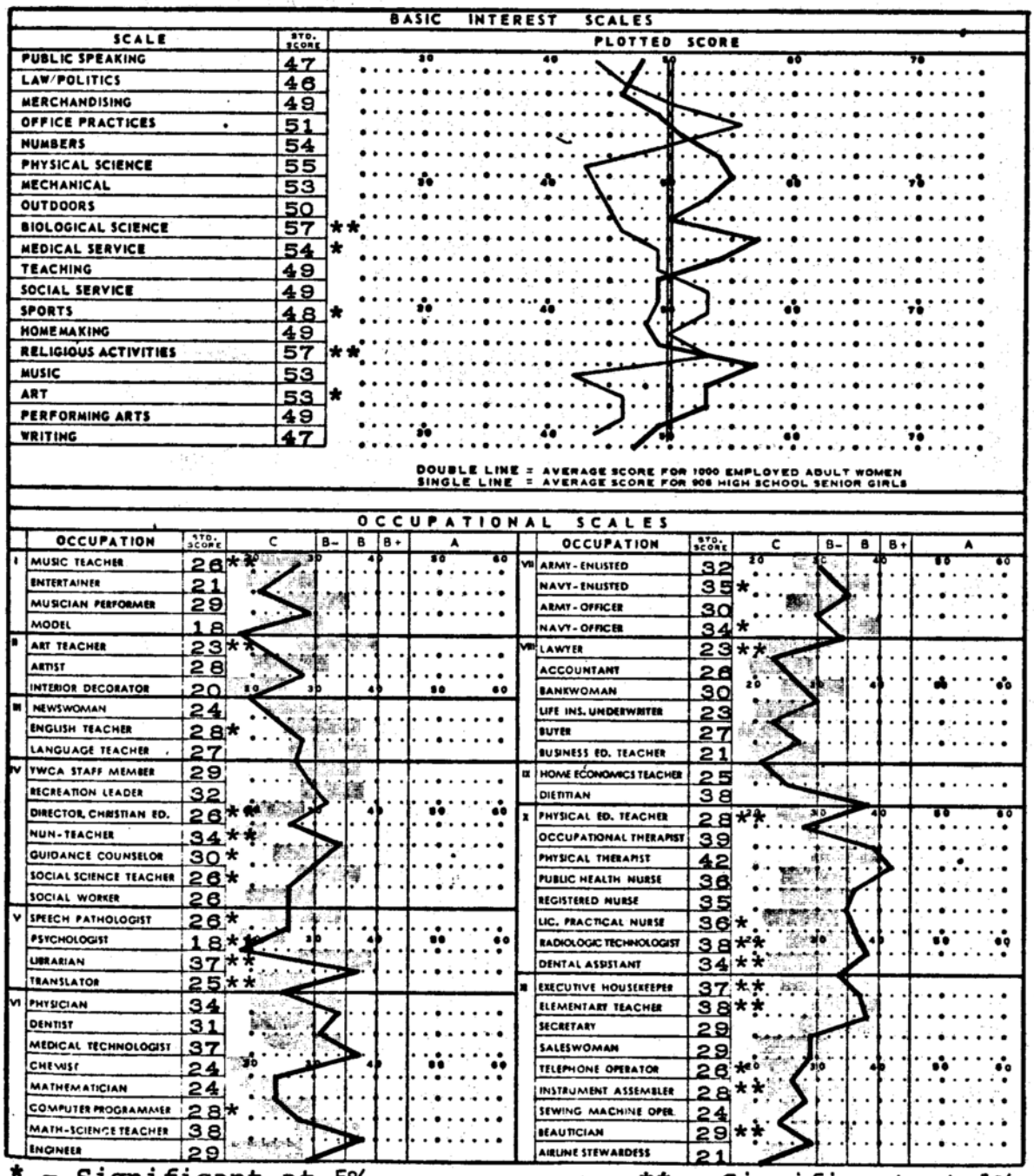
On the Basic Interest Scales, the nuns scored significantly lower in Biological Science and Medical Service. However, they did score high enough to indicate a strong interest in these two areas. As might be expected, the nuns scored significantly higher in Religious Activities.

The nuns scored significantly higher in three of the seven occupations in the Social Service Group (Group IV). This indicates they were more inclined to be interested in working with people. This quality is important to a

SVIB-W PROFILE 3

SVIB-W SCORES OF WOMEN PHARMACISTS WHO WERE MEMBERS OF A RELIGIOUS ORDER

N = 24



BASIC INTEREST SCALES

SCALE	STD. SCORE	PLOTTED SCORE
PUBLIC SPEAKING	47	
LAW/POLITICS	46	
MERCHANDISING	49	
OFFICE PRACTICES	51	
NUMBERS	54	
PHYSICAL SCIENCE	55	
MECHANICAL	53	
OUTDOORS	50	
BIOLOGICAL SCIENCE	57 **	
MEDICAL SERVICE	54 *	
TEACHING	49	
SOCIAL SERVICE	49	
SPORTS	48 *	
HOMEMAKING	49	
RELIGIOUS ACTIVITIES	57 **	
MUSIC	53	
ART	53 *	
PERFORMING ARTS	49	
WRITING	47	

DOUBLE LINE = AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE = AVERAGE SCORE FOR 906 HIGH SCHOOL SENIOR GIRLS

OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE	C	B-	B	B+	A
I	MUSIC TEACHER	26 **					
	ENTERTAINER	21					
	MUSICIAN PERFORMER	29					
	MODEL	18					
II	ART TEACHER	23 **					
	ARTIST	28					
	INTERIOR DECORATOR	20					
III	NEWSWOMAN	24					
	ENGLISH TEACHER	28 *					
	LANGUAGE TEACHER	27					
IV	YWCA STAFF MEMBER	29					
	RECREATION LEADER	32					
	DIRECTOR, CHRISTIAN ED.	26 **					
	NUN-TEACHER	34 **					
	GUIDANCE COUNSELOR	30 *					
	SOCIAL SCIENCE TEACHER	26 *					
	SOCIAL WORKER	26					
V	SPEECH PATHOLOGIST	26 *					
	PSYCHOLOGIST	18 **					
	LIBRARIAN	37 **					
	TRANSLATOR	25 **					
VI	PHYSICIAN	34					
	DENTIST	31					
	MEDICAL TECHNOLOGIST	37					
	CHEMIST	24					
	MATHEMATICIAN	24					
	COMPUTER PROGRAMMER	28 *					
	MATH-SCIENCE TEACHER	38					
	ENGINEER	29					

	OCCUPATION	STD. SCORE	C	B-	B	B+	A
VII	ARMY - ENLISTED	32					
	NAVY - ENLISTED	35 *					
	ARMY - OFFICER	30					
	NAVY - OFFICER	34 *					
VIII	LAWYER	23 **					
	ACCOUNTANT	26					
	BANKWOMAN	30					
	LIFE INS. UNDERWRITER	23					
	BUYER	27					
	BUSINESS ED. TEACHER	21					
IX	HOME ECONOMICS TEACHER	25					
	DIETITIAN	38					
X	PHYSICAL ED. TEACHER	28 **					
	OCCUPATIONAL THERAPIST	39					
	PHYSICAL THERAPIST	42					
	PUBLIC HEALTH NURSE	36					
	REGISTERED NURSE	35					
	LIC. PRACTICAL NURSE	36 *					
	RADIOLOGIC TECHNOLOGIST	38 **					
	DENTAL ASSISTANT	34 **					
XI	EXECUTIVE HOUSEKEEPER	37 **					
	ELEMENTARY TEACHER	38 **					
	SECRETARY	29					
	SALESWOMAN	29					
	TELEPHONE OPERATOR	26 *					
	INSTRUMENT ASSEMBLER	28 **					
	SEWING MACHINE OPER.	24					
	BEAUTICIAN	29 **					
	AIRLINE STEWARDESS	21					

* - Significant at 5% ** - Significant at 1%

Statistical comparisons made with data in SVIB-W Profiles 1 and 2.

pharmacist, particularly those who deal directly with the public. Much similarity was noted in interests in the Scientific Group (Group VI) which indicated the nuns were oriented toward the sciences, certainly an essential quality for a pharmacist.

Using the five-point difference rule described earlier, the nuns had significant differences on 18 of the 58 occupations on the SVIB-W, or 31.0 percent, when compared to the practicing women pharmacists who were not members of a religious order. This large number of differences warrants the exclusion of nuns in developing a Pharmacist scale for the SVIB-W. Nuns have different vocational interests, so a girl interested in being a pharmacist, but also in being a nun, would have to be counseled differently than would a girl interested in becoming a pharmacist but not interested in being a nun.

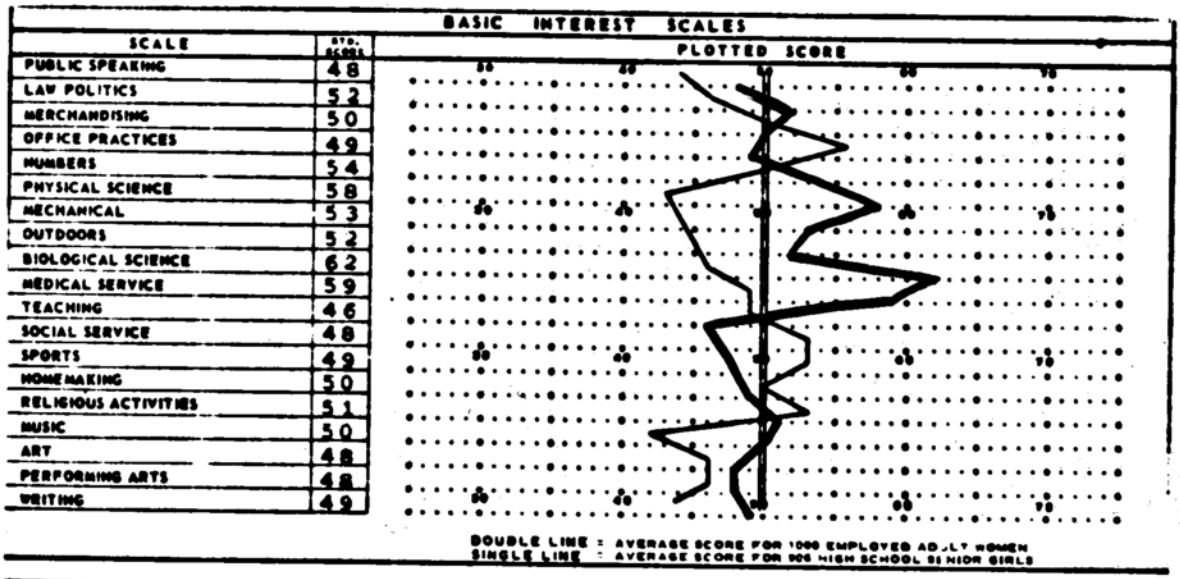
Interest Profiles for Women Pharmacists in Community and/or Hospital Practice

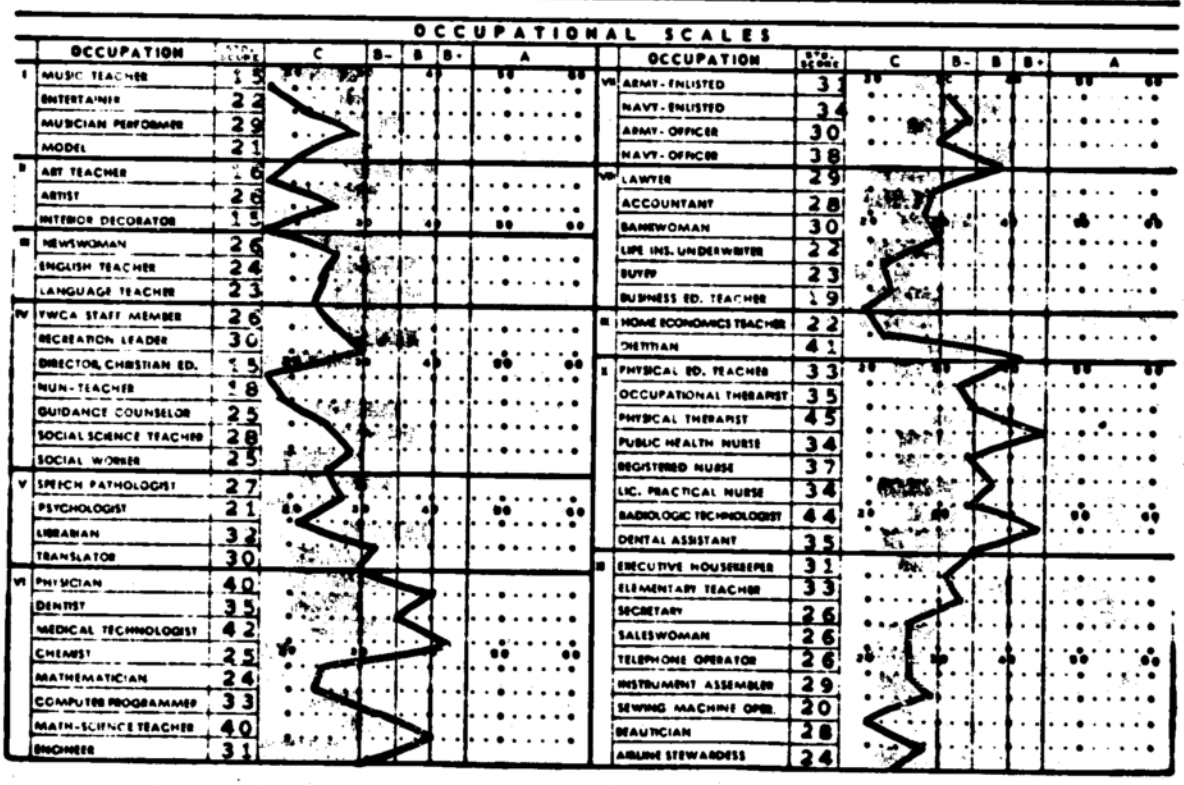
The SVIB-W scores for women pharmacists in both community and hospital pharmacy are shown in SVIB-W Profile 4, those in hospital pharmacy are shown in SVIB-W Profile 5, and those in community pharmacy are shown in SVIB-W Profile 6. A comparison of these three profiles shows an amazing similarity in interest patterns. The only statistically significant differences noted were for

SVIB-W PROFILE 4

SVIB-W SCORES OF WOMEN PHARMACISTS IN BOTH COMMUNITY AND HOSPITAL PRACTICE

N = 49





SVIB-W PROFILE S

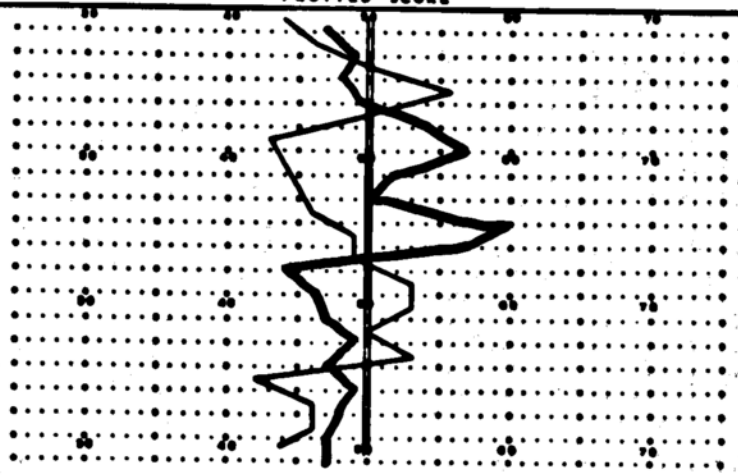
SVIB-W SCORES OF WOMEN PHARMACISTS IN HOSPITAL PRACTICE

N = 171

BASIC INTEREST SCALES

SCALE	STD. SCORE
PUBLIC SPEAKING	47
LAW POLITICS	49
MERCHANDISING	48
OFFICE PRACTICES	49
NUMBERS	54
PHYSICAL SCIENCE	57
MECHANICAL	52
OUTDOORS	50
BIOLOGICAL SCIENCE	60
MEDICAL SERVICE	57
TEACHING	44
SOCIAL SERVICE	46
SPORTS	47
HOMEMAKING	49
RELIGIOUS ACTIVITIES	47
MUSIC	49
ART	48
PERFORMING ARTS	47
WRITING	47

PLOTTED SCORE



DOUBLE LINE : AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE : AVERAGE SCORE FOR 806 HIGH SCHOOL SENIOR GIRLS

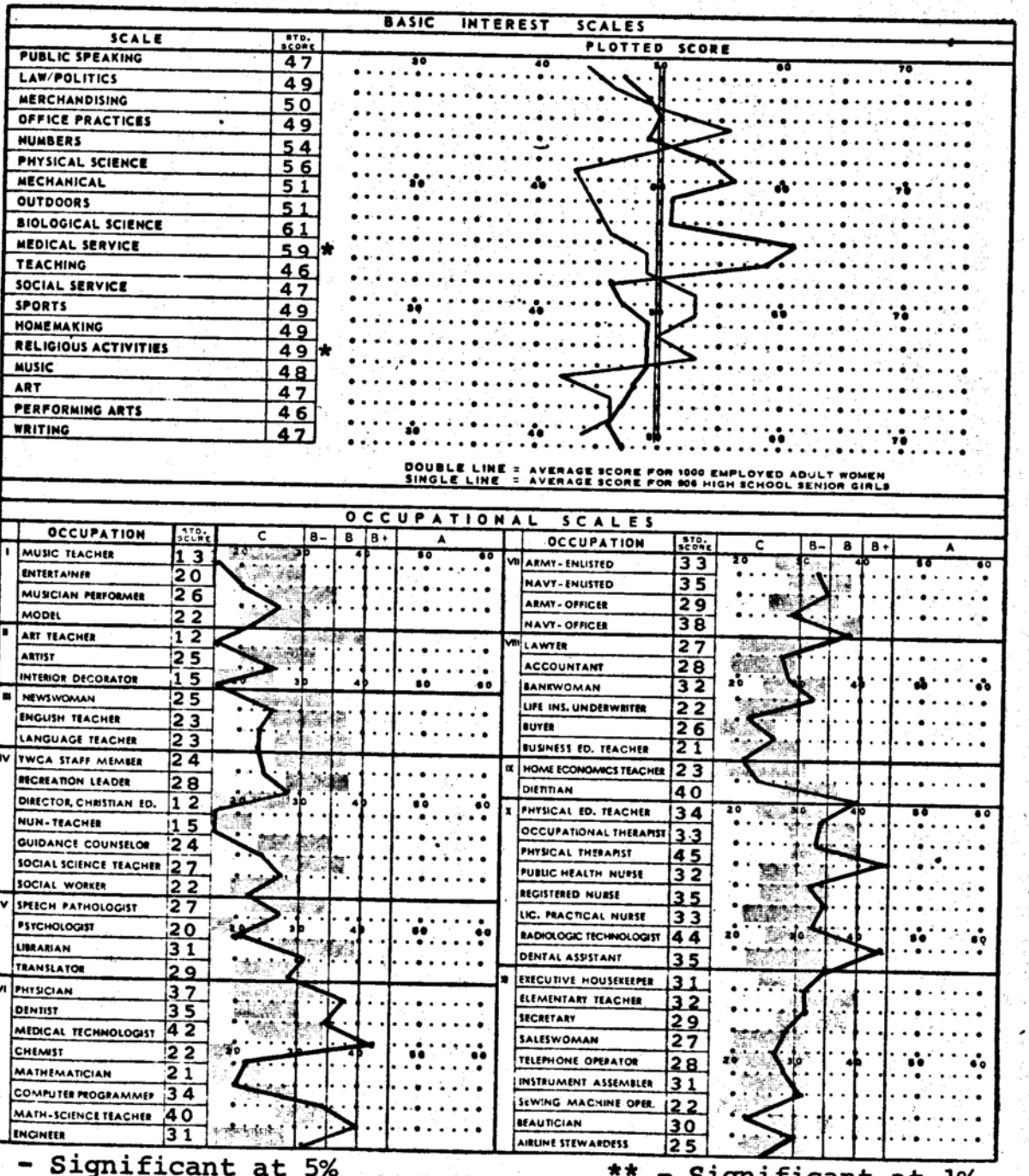
OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE
I	MUSIC TEACHER	13
	ENTERTAINER	21
	MUSICIAN PERFORMER	27
	MODEL	22
II	ART TEACHER	14
	ARTIST	27
	INTERIOR DECORATOR	16
III	NEWSWOMAN	26
	ENGLISH TEACHER	24
	LANGUAGE TEACHER	24
IV	YWCA STAFF MEMBER	24
	RECREATION LEADER	27
	DIRECTOR, CHRISTIAN ED.	11
	NUN - TEACHER	16
	GUIDANCE COUNSELOR	24
	SOCIAL SCIENCE TEACHER	27
	SOCIAL WORKER	23
V	SPEECH PATHOLOGIST	28
	PSYCHOLOGIST	23
	LIBRARIAN	33
	TRANSLATOR	32
VI	PHYSICIAN	39
	DENTIST	35
	MEDICAL TECHNOLOGIST	42
	CHEMIST	25
	MATHEMATICIAN	25
	COMPUTER PROGRAMMER	35
	MATH-SCIENCE TEACHER	40
	ENGINEER	32
VII	ARMY - ENLISTED	32
	NAVY - ENLISTED	34
	ARMY - OFFICER	30
	NAVY - OFFICER	40
VIII	LAWYER	29
	ACCOUNTANT	30
	BANKWOMAN	31
	LIFE INS. UNDERWRITER	22
	BUYER	24
	BUSINESS ED. TEACHER	20
IX	HOME ECONOMICS TEACHER	22
	DIETITIAN	41
X	PHYSICAL ED. TEACHER	31
	OCCUPATIONAL THERAPIST	33
	PHYSICAL THERAPIST	43
	PUBLIC HEALTH NURSE	32
	REGISTERED NURSE	34
	LIC. PRACTICAL NURSE	31
	RADIOLOGIC TECHNOLOGIST	42
	DENTAL ASSISTANT	33
XI	EXECUTIVE HOUSEKEEPER	30
	ELEMENTARY TEACHER	30
	SECRETARY	27
	SALESWOMAN	24
	TELEPHONE OPERATOR	25
	INSTRUMENT ASSEMBLER	30
	SEWING MACHINE OPER	20
	BEAUTICIAN	28
	AIRLINE STEWARDESS	22

C B- B B+ A

SVIB-W PROFILE 6

SVIB-W SCORES OF WOMEN PHARMACISTS IN COMMUNITY PRACTICE
N = 528



BASIC INTEREST SCALES

SCALE	STD. SCORE	
PUBLIC SPEAKING	47	
LAW/POLITICS	49	
MERCHANDISING	50	
OFFICE PRACTICES	49	
NUMBERS	54	
PHYSICAL SCIENCE	56	
MECHANICAL	51	
OUTDOORS	51	
BIOLOGICAL SCIENCE	61	
MEDICAL SERVICE	59	*
TEACHING	46	
SOCIAL SERVICE	47	
SPORTS	49	
HOMEMAKING	49	
RELIGIOUS ACTIVITIES	49	*
MUSIC	48	
ART	47	
PERFORMING ARTS	46	
WRITING	47	

PLOTTED SCORE

DOUBLE LINE = AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE = AVERAGE SCORE FOR 906 HIGH SCHOOL SENIOR GIRLS

OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE
I	MUSIC TEACHER	13
	ENTERTAINER	20
	MUSICIAN PERFORMER	26
	MODEL	22
II	ART TEACHER	12
	ARTIST	25
	INTERIOR DECORATOR	15
III	NEWSWOMAN	25
	ENGLISH TEACHER	23
	LANGUAGE TEACHER	23
IV	YWCA STAFF MEMBER	24
	RECREATION LEADER	28
	DIRECTOR, CHRISTIAN ED.	12
	NUN-TEACHER	15
	GUIDANCE COUNSELOR	24
	SOCIAL SCIENCE TEACHER	27
	SOCIAL WORKER	22
V	SPEECH PATHOLOGIST	27
	PSYCHOLOGIST	20
	LIBRARIAN	31
	TRANSLATOR	29
VI	PHYSICIAN	37
	DENTIST	35
	MEDICAL TECHNOLOGIST	42
	CHEMIST	22
	MATHEMATICIAN	21
	COMPUTER PROGRAMMER	34
	MATH-SCIENCE TEACHER	40
	ENGINEER	31
VII	ARMY-ENLISTED	33
	NAVY-ENLISTED	35
	ARMY-OFFICER	29
	NAVY-OFFICER	38
VIII	LAWYER	27
	ACCOUNTANT	28
	BANKWOMAN	32
	LIFE INS. UNDERWRITER	22
	BUYER	26
	BUSINESS ED. TEACHER	21
IX	HOME ECONOMICS TEACHER	23
	DIETITIAN	40
X	PHYSICAL ED. TEACHER	34
	OCCUPATIONAL THERAPIST	33
	PHYSICAL THERAPIST	45
	PUBLIC HEALTH NURSE	32
	REGISTERED NURSE	35
	LIC. PRACTICAL NURSE	33
	RADIOLOGIC TECHNOLOGIST	44
	DENTAL ASSISTANT	35
XI	EXECUTIVE HOUSEKEEPER	31
	ELEMENTARY TEACHER	32
	SECRETARY	29
	SALESWOMAN	27
	TELEPHONE OPERATOR	28
	INSTRUMENT ASSEMBLER	31
	SEWING MACHINE OPER.	22
	BEAUTICIAN	30
	AIRLINE STEWARDESS	25

C B- B B+ A

20 30 40 50 60

* - Significant at 5%

** - Significant at 1%

two items on the Basic Interest Scales, as there were no significant differences in occupational scale scores.

Thus, it is evident that vocational interests do not play a role in whether a woman chooses to enter community or hospital pharmacy. The differences in opinions and attitudes between community and hospital pharmacists described in earlier chapters cannot be accounted for by differences in interests. Rather, these differences probably resulted from a difference in the nature of pharmacy practiced in these two environments.

A study by Tucker and Strong demonstrated that the mean scores on the Physician scale of 783 male senior medical students approximated that of the physician criterion group. However, there were no significant differences between those students doing teaching or research and others, between those in general practice and specialists, and between those in private practice and those working in a clinic or institution. The conclusion was that the Physicians scale on the SVIB for Men was useful in deciding on medicine as a career, but did not contribute to making plans within the profession.[54]

In an 11-year follow-up study, Athelstan and Paul compared the item responses on the SVIB for Men of general

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54. Tucker, Anthony C. and Strong, Edward K., Jr., "Ten-Year Follow-Up of Vocational Interest Scores of 1950 Medical College Seniors," Journal of Applied Psychology (46:2) April 1962, p. 82.

practitioners (physicians) and internists with those of four other medical specialists. They did not find a sufficient number of differentiating items to consider developing scales for those specialities.[55] Thus, one probably would not have expected to find enough differences between community and hospital women pharmacists to warrant a separate SVIB-W occupational scale for each.

Interest Profiles for Practicing Women Pharmacists In Different Geographic Locations

The SVIB-W scores for women pharmacists practicing in Northern United States are shown in SVIB-W Profile 7-A, those in Southern United States are in SVIB-W Profile 7-B, women in Eastern United States are in SVIB-W Profile 7-C, and those in Western United States are in SVIB-W Profile 7-D.[56] The reason this comparison in interest profiles was made was because as many as 11 of the 58 occupational

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55. Athelstan, Gary T. and Paul, Gerald J., "New Approach to the Prediction of Medical Specialization: Student-Based Strong Vocational Interest Blank Scales," Journal of Applied Psychology (55:1) February 1971, p. 82.

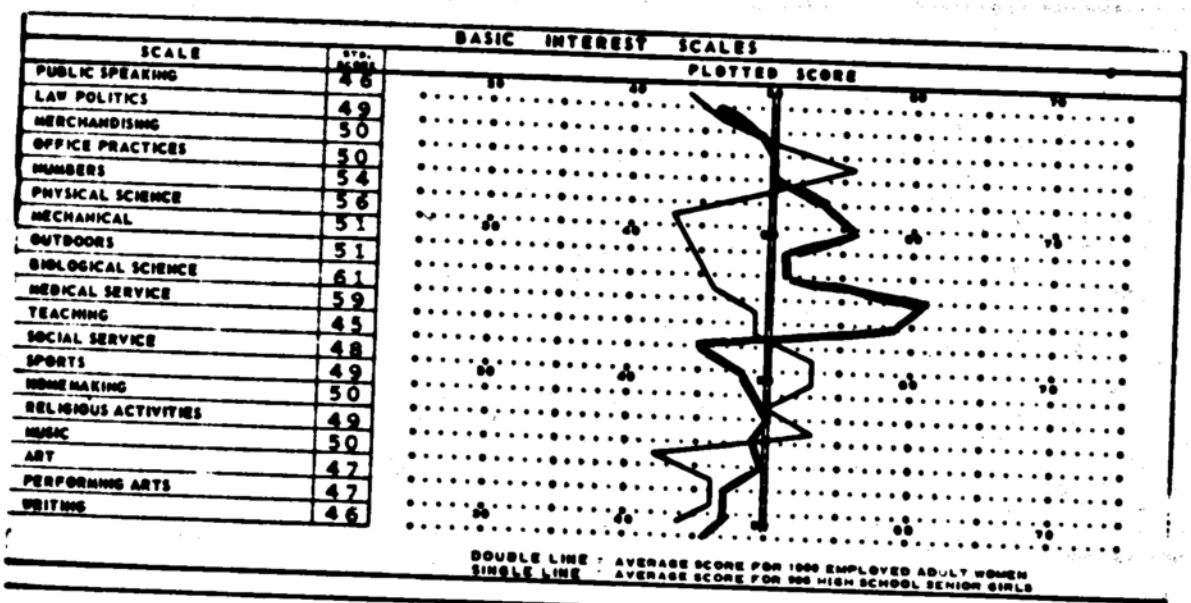
56. The geographic areas were based on the following combination of AACP Districts: Northern: AACP Districts 4 and 5; Southern: AACP Districts 3 and 6; Eastern: AACP Districts 1 and 2; and Western: AACP Districts 7 and 8. See Appendix H for a listing of the States in each AACP District.

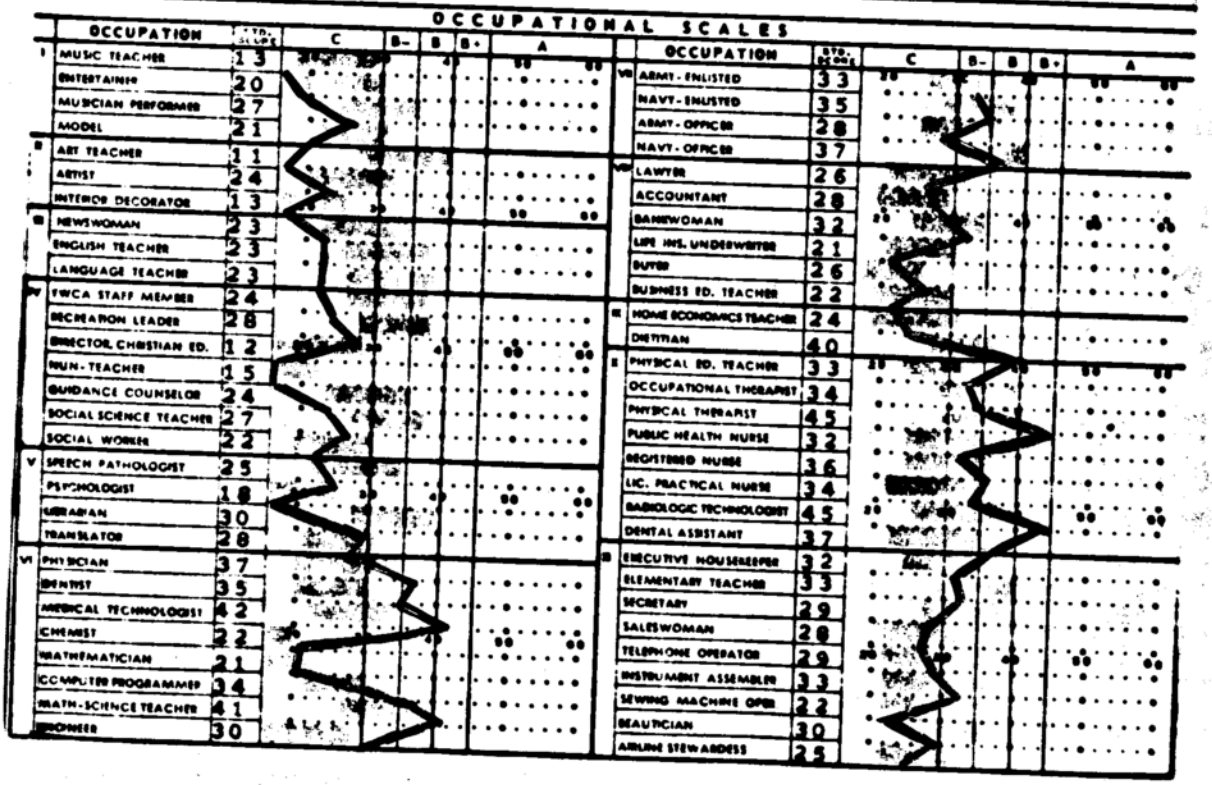
SVIB-W PROFILE 7-A

SVIB-W SCORES OF WOMEN PHARMACISTS PRACTICING IN DIFFERENT GEOGRAPHIC LOCATIONS

Women Pharmacists Practicing in Northern United States

N = 220



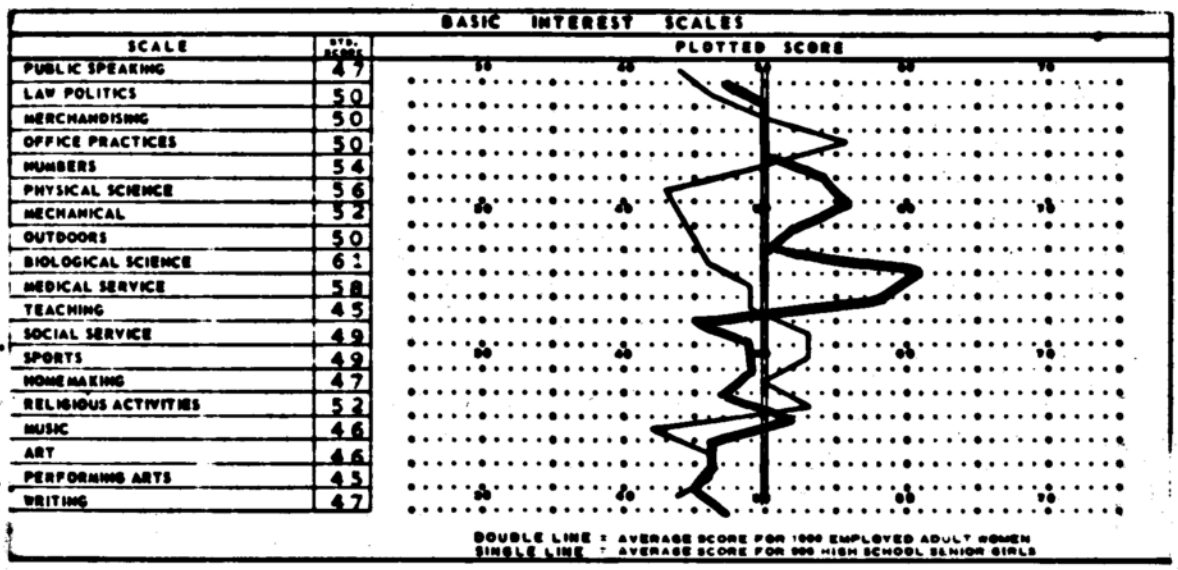


SVIB-W PROFILE 7-B

SVIB-W SCORES OF WOMEN PHARMACISTS PRACTICING IN DIFFERENT GEOGRAPHIC LOCATIONS

Women Pharmacists Practicing in Southern United States

N = 167



BASIC INTEREST SCALES

SCALE	STD. SCORE
PUBLIC SPEAKING	47
LAW POLITICS	50
MERCHANDISING	50
OFFICE PRACTICES	50
NUMBERS	54
PHYSICAL SCIENCE	56
MECHANICAL	52
OUTDOORS	50
BIOLOGICAL SCIENCE	61
MEDICAL SERVICE	58
TEACHING	45
SOCIAL SERVICE	49
SPORTS	49
HOMEMAKING	47
RELIGIOUS ACTIVITIES	52
MUSIC	46
ART	46
PERFORMING ARTS	45
WRITING	47

PLOTTED SCORE

30 40 50 60 70

DOUBLE LINE = AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE = AVERAGE SCORE FOR 900 HIGH SCHOOL SENIOR GIRLS

OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE
I	MUSIC TEACHER	13
	ENTERTAINER	19
	MUSICIAN PERFORMER	24
	MODEL	21
II	ART TEACHER	10
	ARTIST	24
	INTERIOR DECORATOR	13
III	NEWSWOMAN	24
	ENGLISH TEACHER	24
	LANGUAGE TEACHER	23
IV	YWCA STAFF MEMBER	25
	RECREATION LEADER	29
	DIRECTOR, CHRISTIAN ED.	11
	NUN - TEACHER	18
	GUIDANCE COUNSELOR	25
	SOCIAL SCIENCE TEACHER	28
	SOCIAL WORKER	23
V	SPEECH PATHOLOGIST	26
	PSYCHOLOGIST	19
	LIBRARIAN	31
	TRANSLATOR	28
VI	PHYSICIAN	37
	DENTIST	35
	MEDICAL TECHNOLOGIST	42
	CHEMIST	22
	MATHEMATICIAN	22
	COMPUTER PROGRAMMER	33
	MATH-SCIENCE TEACHER	41
	BIOLOGIST	31

	OCCUPATION	STD. SCORE
VII	ARMY - ENLISTED	35
	NAVY - ENLISTED	37
	ARMY - OFFICER	30
	NAVY - OFFICER	38
VIII	LAWYER	28
	ACCOUNTANT	30
	BANKWOMAN	33
	LIFE INS. UNDERWRITER	24
	BUYER	26
	BUSINESS ED. TEACHER	23
IX	HOME ECONOMICS TEACHER	21
	DIETITIAN	39
X	PHYSICAL ED. TEACHER	34
	OCCUPATIONAL THERAPIST	32
	PHYSICAL THERAPIST	45
	PUBLIC HEALTH NURSE	32
	REGISTERED NURSE	35
	LIC. PRACTICAL NURSE	34
	RADIOLOGIC TECHNOLOGIST	44
	DENTAL ASSISTANT	35
XI	EXECUTIVE HOUSEKEEPER	32
	ELEMENTARY TEACHER	33
	SECRETARY	29
	SALESWOMAN	28
	TELEPHONE OPERATOR	29
	INSTRUMENT ASSEMBLER	32
	SEWING MACHINE OPER.	23
	BEAUTICIAN	30
	AIRLINE STEWARDESS	24

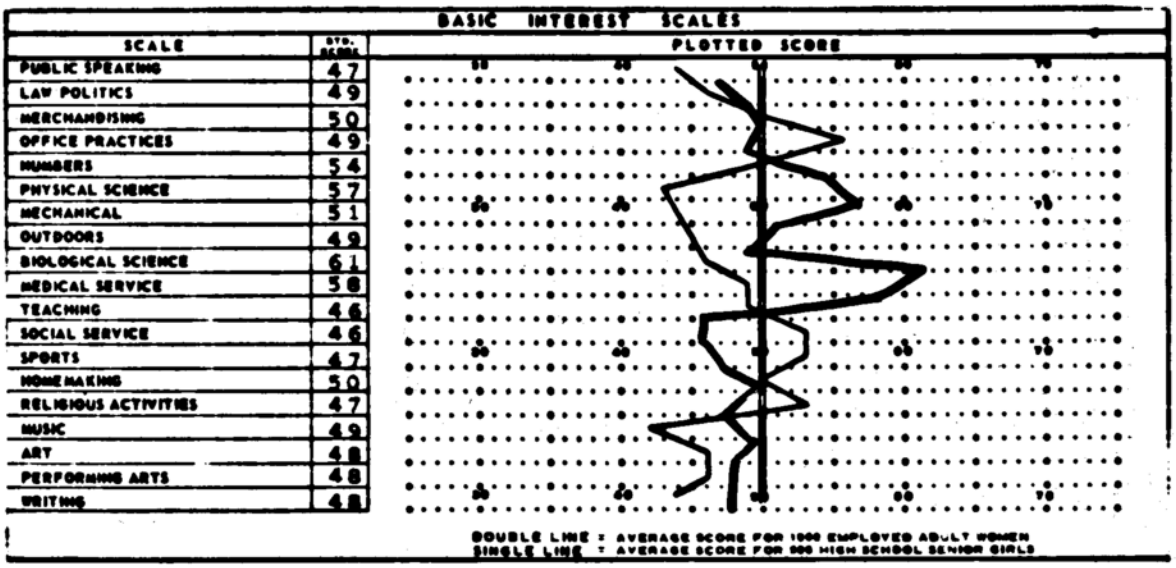
C B- B B+ A

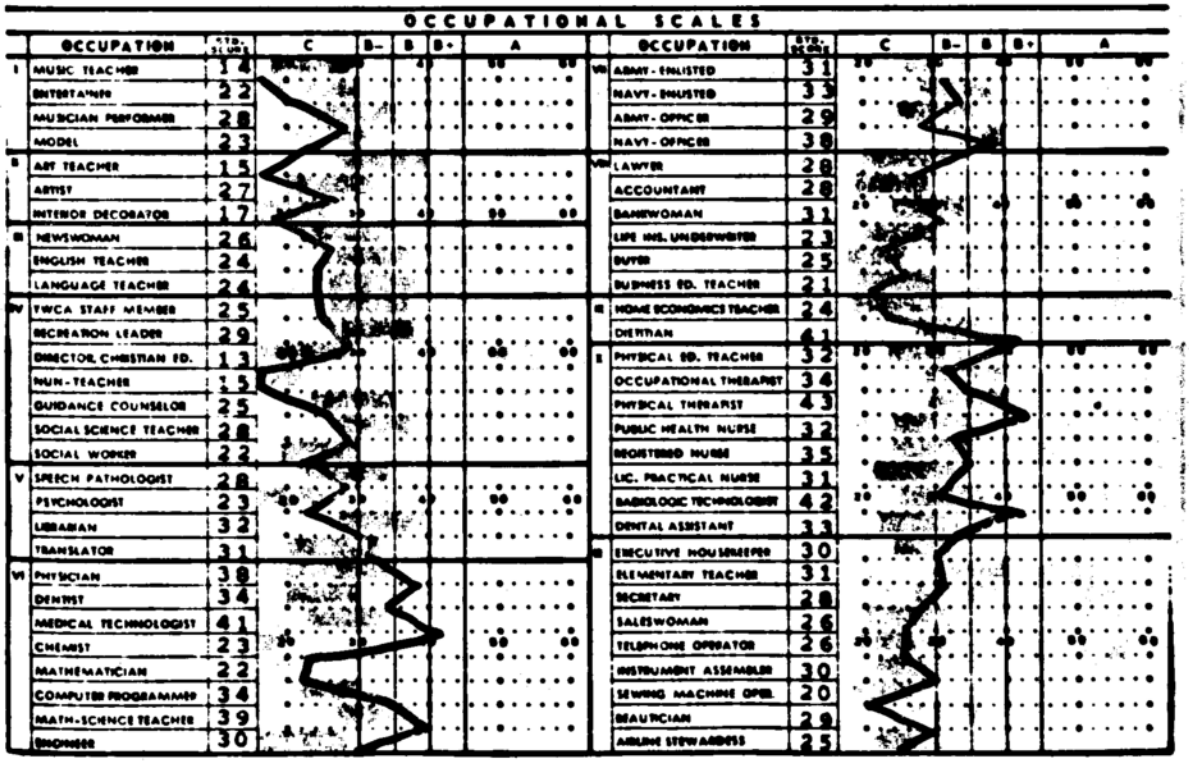
SVIB-W PROFILE 7-C

SVIB-W SCORES OF WOMEN PHARMACISTS PRACTICING IN DIFFERENT GEOGRAPHIC LOCATIONS

Women Pharmacists Practicing in Eastern United States

N = 228



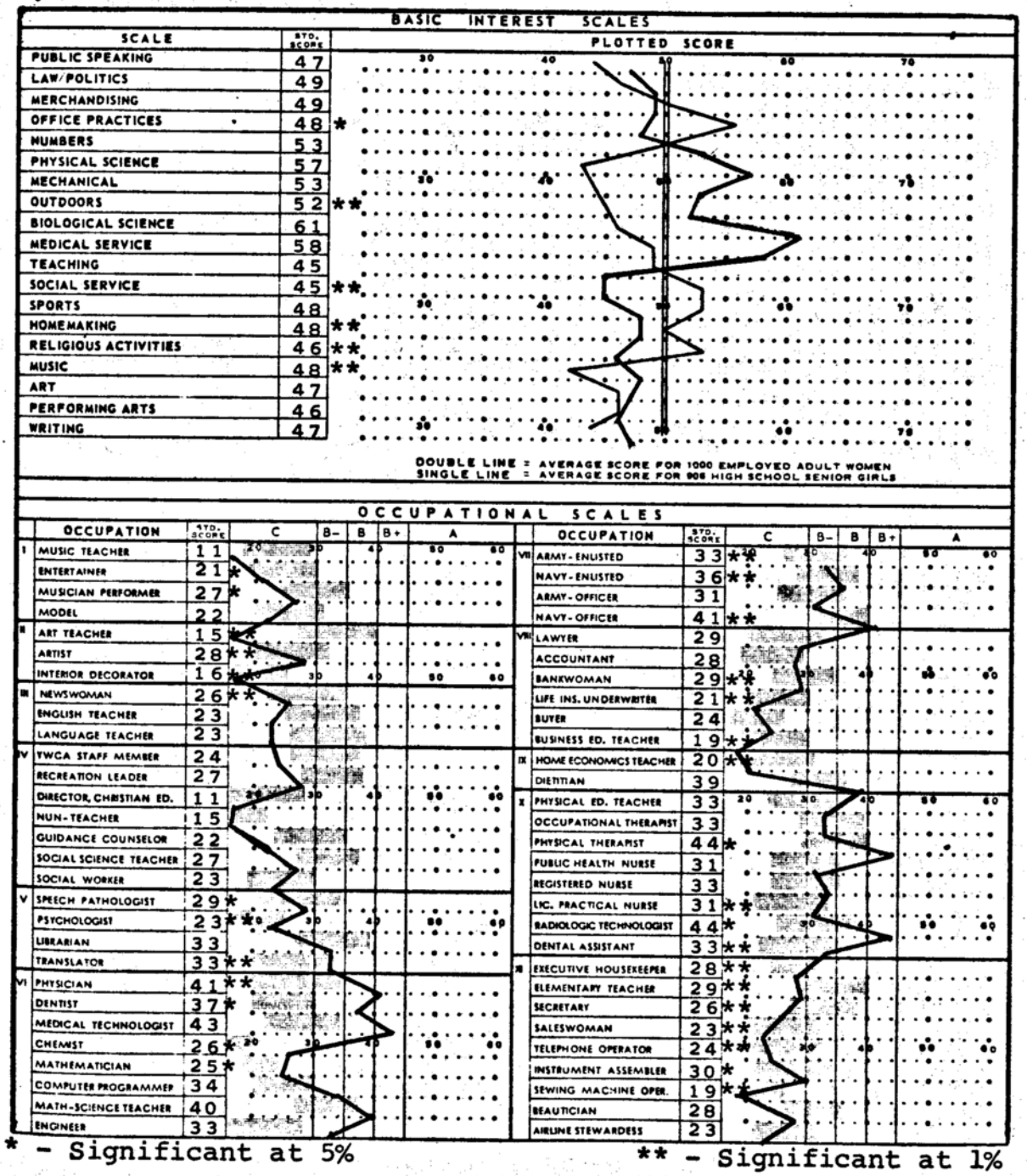


SVIB-W PROFILE 7-D

SVIB-W SCORES OF WOMEN PHARMACISTS PRACTICING IN DIFFERENT GEOGRAPHIC LOCATIONS

Women Pharmacists Practicing in Western United States

N = 150



* - Significant at 5%

** - Significant at 1%

scales on the SVIB-W were developed with the criterion group residing in a limited geographic location.[57] It is possible the vocational interests of members of a given occupation differ, depending on the area of the country in which they work.

Significant differences were noted on six of the 19 items on the Basic Interest Scales. However, the actual differences were very small and were statistically significantly different because of the large sample sizes involved. Using the five-point difference rule, there were differences on only one item, with women from Southern United States scoring higher on Religious Activities. It is important to note that women in all four geographic areas scored "high" (58 and above) on Biological Science and Medical Service, both of which are important interests for pharmacists.

Although numerous statistically significant differences were noted on the occupational scales, the five-point difference rule showed differences in only three occupations. Many of the statistically significant differences appeared to be due to the women pharmacists in Western United States. However, such differences were not sufficiently evident to draw any conclusions about this observation.

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57. Campbell, 1971, op. cit., pp. 390-393.

It would appear from these findings that developing an occupational scale for the SVIB-W using a sample of women from a particular geographic area in the United States should give results that can be used for women in other geographic areas of the United States. Further study is needed to determine if a scale developed from a sample of women in Western United States would represent the interests of women in the occupation from other areas of the country.

Interest Profiles for Women Pharmacists Based On Years As a Pharmacist

The SVIB-W scores for women pharmacists who had been pharmacists for 30 years or more are shown in SVIB-W Profile 8-A, those with 20 through 29 years as pharmacists are in SVIB-W Profile 8-B, women with 10 through 19 years as pharmacists are in SVIB-W Profile 8-C, and women who had been pharmacists less than ten years are shown in SVIB-W Profile 8-D. The purpose of this analysis was to see if younger women pharmacists had different interest patterns than older women pharmacists. The results could indicate if older women should be excluded from analyses which attempt to explain the interest patterns of women pharmacists, when such analyses will be used to counsel young women regarding a possible pharmacy career.

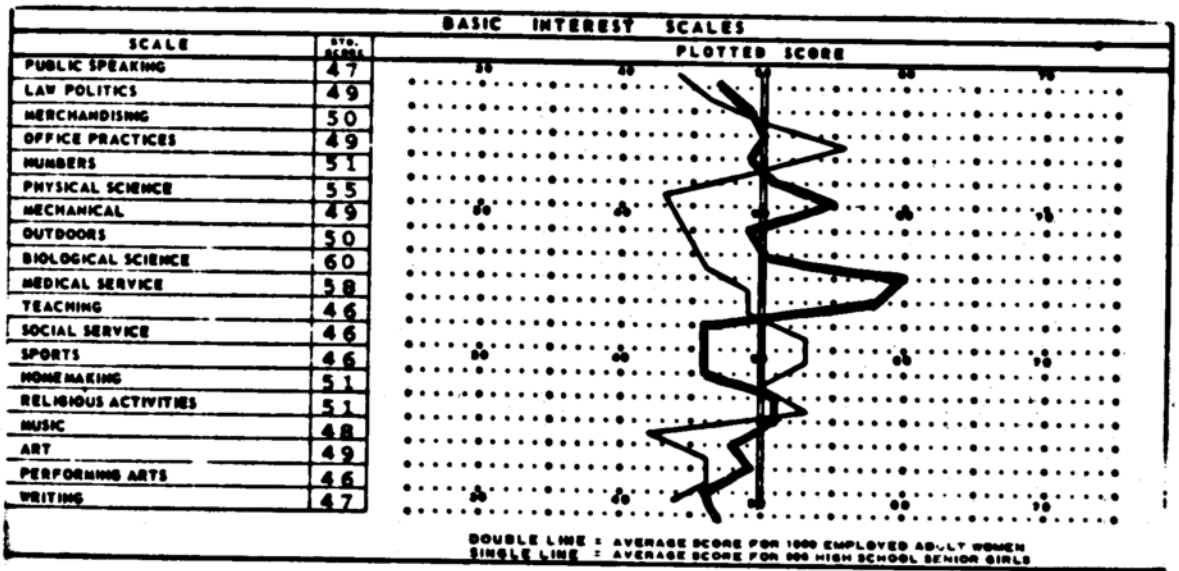
Although statistically significant differences were noted in six of the 19 items on the Basic Interest Scales,

SVIB-W PROFILE 8-A

SVIB-W SCORES OF WOMEN PHARMACISTS BASED ON NUMBER OF YEARS AS A PHARMACIST

Women Pharmacists With 30 or More Years as a Pharmacist

N = 119



BASIC INTEREST SCALES

SCALE	STD. SCORE
PUBLIC SPEAKING	47
LAW POLITICS	49
MERCHANDISING	50
OFFICE PRACTICES	49
NUMBERS	51
PHYSICAL SCIENCE	55
MECHANICAL	49
OUTDOORS	50
BIOLOGICAL SCIENCE	60
MEDICAL SERVICE	58
TEACHING	46
SOCIAL SERVICE	46
SPORTS	46
HOMEMAKING	51
RELIGIOUS ACTIVITIES	51
MUSIC	48
ART	49
PERFORMING ARTS	46
WRITING	47

PLOTTED SCORE

DOUBLE LINE : AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE : AVERAGE SCORE FOR 1000 HIGH SCHOOL SENIOR GIRLS

OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE
I	MUSIC TEACHER	17
	ENTERTAINER	20
	MUSICIAN PERFORMER	28
	MODEL	22
II	ART TEACHER	12
	ARTIST	26
	INTERIOR DECORATOR	17
III	NEWSWOMAN	25
	ENGLISH TEACHER	25
	LANGUAGE TEACHER	24
IV	YWCA STAFF MEMBER	24
	RECREATION LEADER	28
	DIRECTOR, CHRISTIAN ED.	15
	NUN - TEACHER	17
	GUIDANCE COUNSELOR	26
	SOCIAL SCIENCE TEACHER	29
	SOCIAL WORKER	26
V	SPEECH PATHOLOGIST	27
	PSYCHOLOGIST	17
	LIBRARIAN	34
	TRANSLATOR	29
VI	PHYSICIAN	36
	DENTIST	35
	MEDICAL TECHNOLOGIST	39
	CHEMIST	20
	MATHEMATICIAN	21
	COMPUTER PROGRAMMER	28
	MATH-SCIENCE TEACHER	39
	PHYSICIST	27
VII	ARMY - ENLISTED	32
	NAVY - ENLISTED	33
	ARMY - OFFICER	28
	NAVY - OFFICER	37
VIII	LAWYER	28
	ACCOUNTANT	28
	BANKWOMAN	33
	LIFE INS. UNDERWRITER	24
	BUYER	29
	BUSINESS ED. TEACHER	22
IX	HOME ECONOMICS TEACHER	23
	DIETITIAN	41
X	PHYSICAL ED. TEACHER	30
	OCCUPATIONAL THERAPIST	31
	PHYSICAL THERAPIST	42
	PUBLIC HEALTH NURSE	34
	REGISTERED NURSE	33
	LIC. PRACTICAL NURSE	36
	RADIOLOGIC TECHNOLOGIST	42
	DENTAL ASSISTANT	37
XI	EXECUTIVE HOUSEKEEPER	35
	ELEMENTARY TEACHER	34
	SECRETARY	29
	SALESWOMAN	30
	TELEPHONE OPERATOR	28
	INSTRUMENT ASSEMBLER	31
	SEWING MACHINE OPER	23
	BEAUTICIAN	30
	AIRLINE STEWARDESS	22

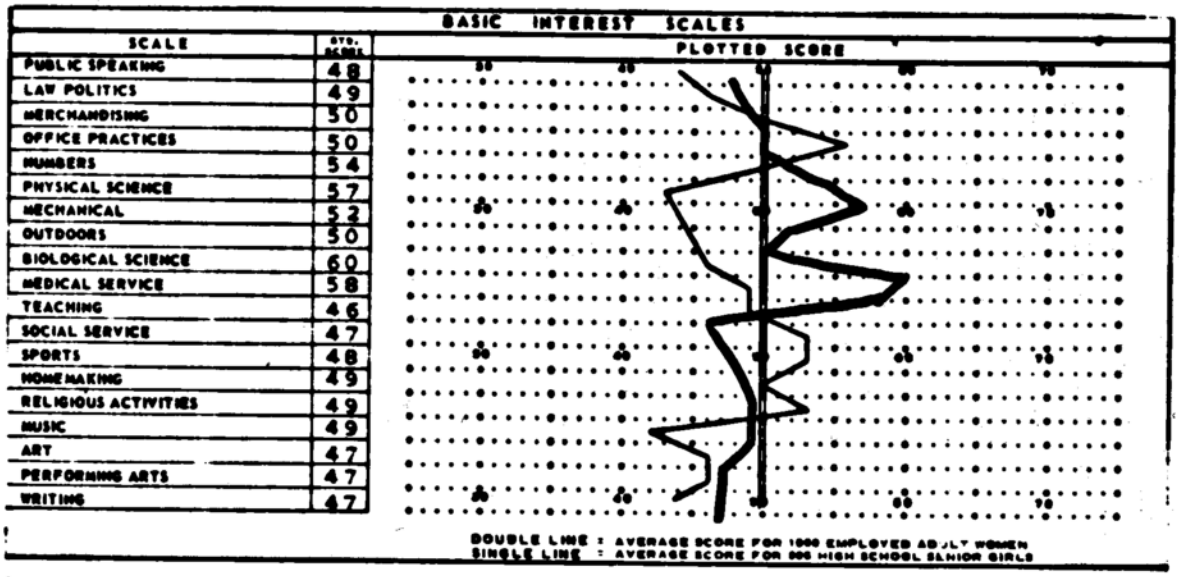
C B- B B+ A

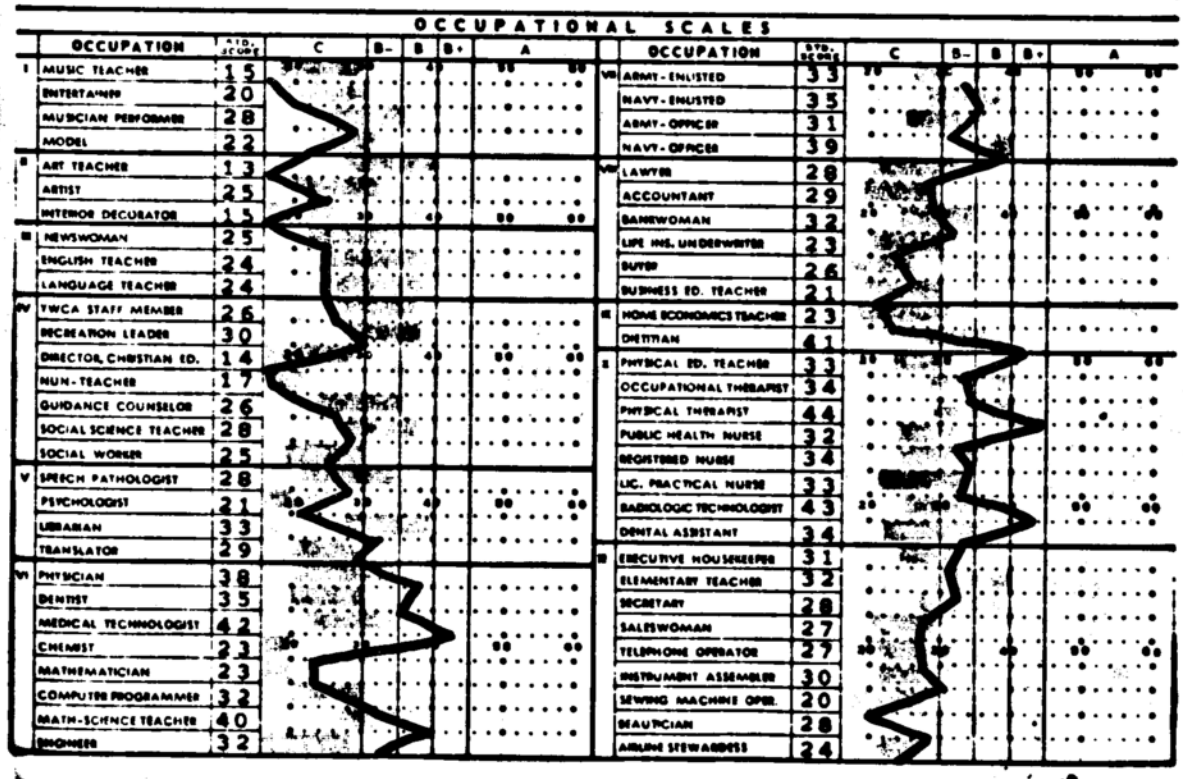
SVIB-W PROFILE 8-B

SVIB-W SCORES OF WOMEN PHARMACISTS BASED ON NUMBER OF YEARS AS A PHARMACIST

Women Pharmacists With 20 to 29 Years as a Pharmacist

N = 209



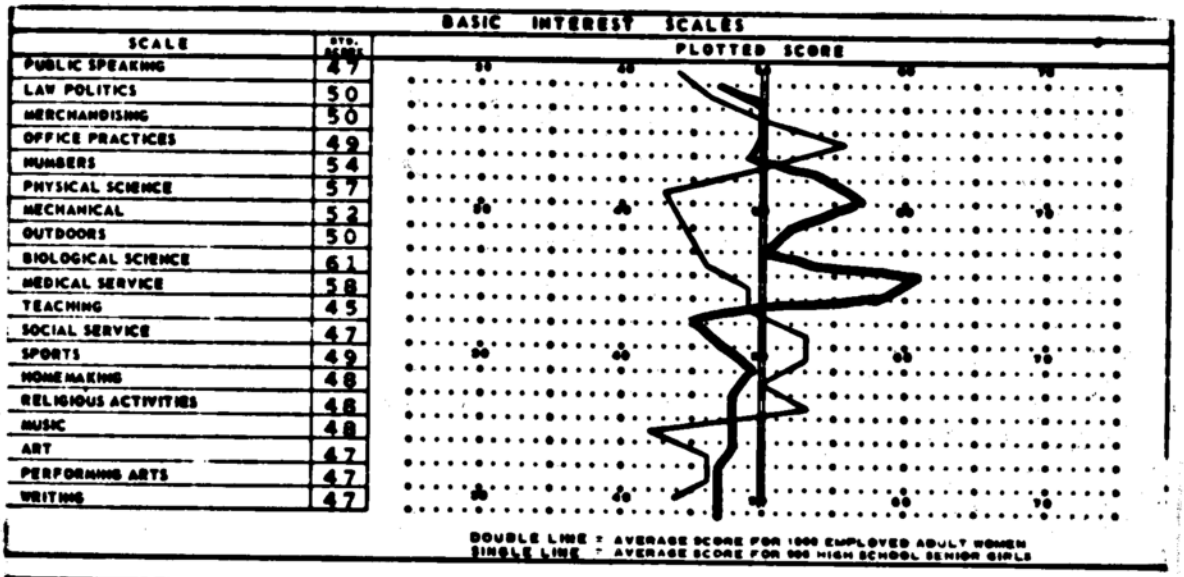


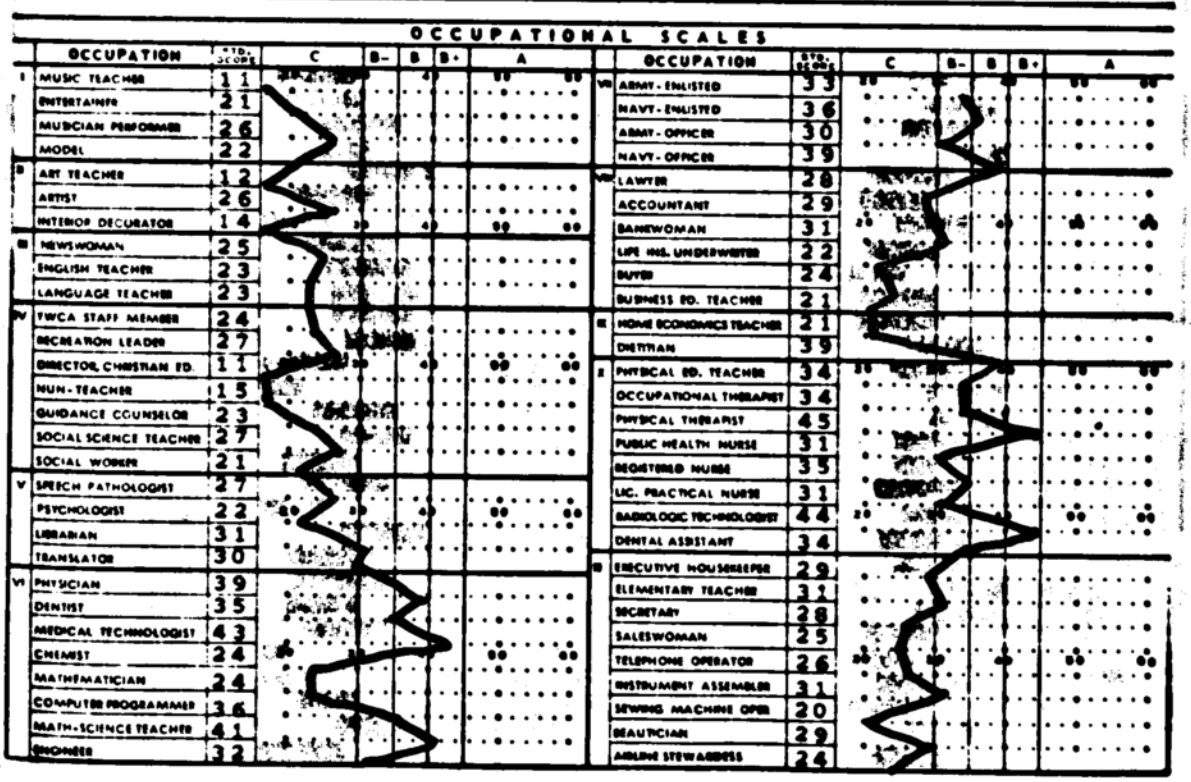
SVIB-W PROFILE 8-C

SVIB-W SCORES OF WOMEN PHARMACISTS BASED ON NUMBER OF YEARS AS A PHARMACIST

Women Pharmacists With 10 to 19 Years as a Pharmacist

N = 289



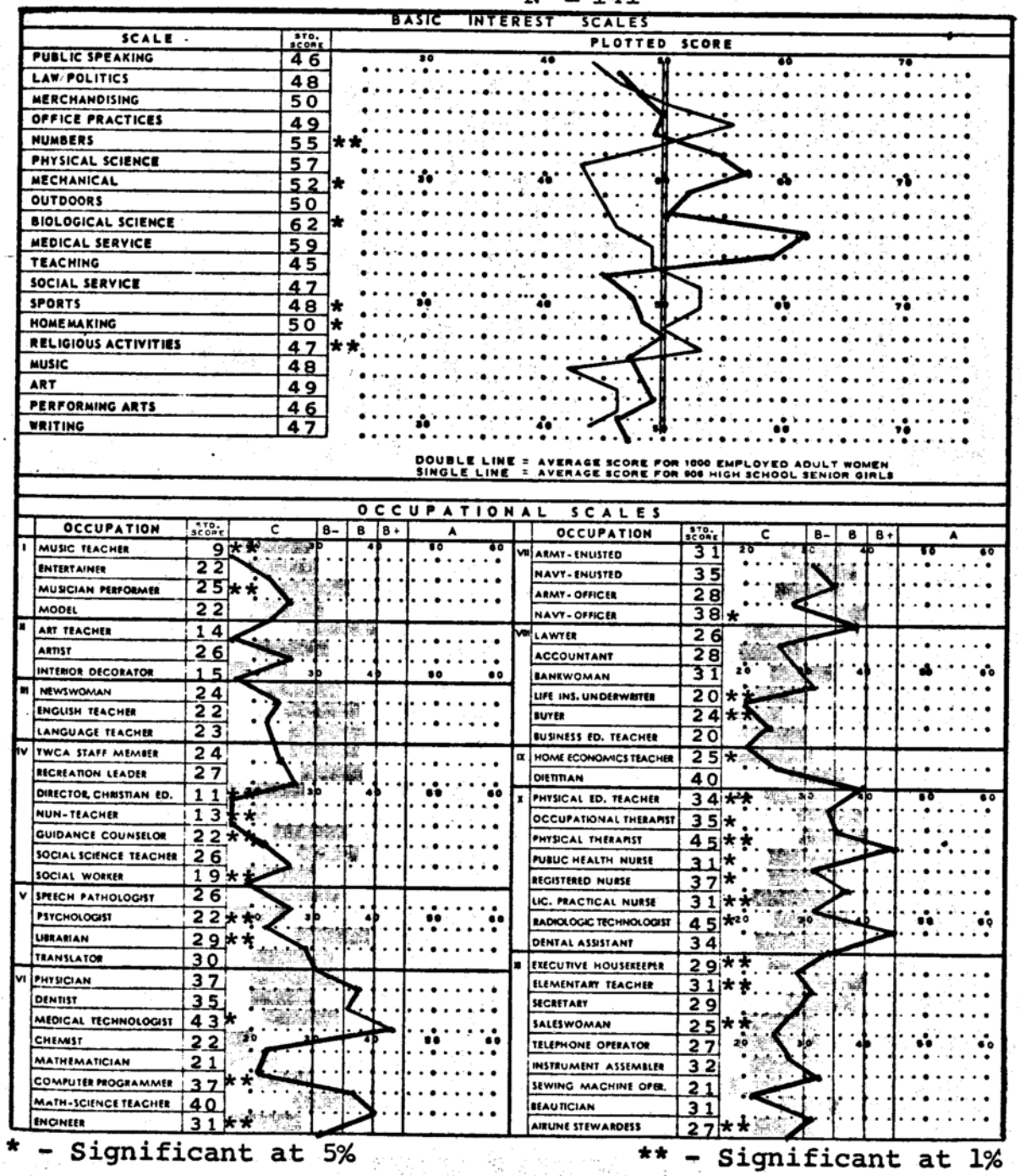


SVIB-W PROFILE 8-D

SVIB-W SCORES OF WOMEN PHARMACISTS BASED ON NUMBER OF YEARS AS A PHARMACIST

Women Pharmacists With Less Than 10 Years as a Pharmacist

N = 141



* - Significant at 5% ** - Significant at 1%

the five-point difference rule revealed no differences. An important finding is that the women in each of the four categories scored "high" (58 and above) in Biological Science and Medical Service. As has been pointed out earlier, interests in both of these items are important for a person practicing pharmacy. The fact that women in all four categories have strong interests in these two areas indicates that in general, women with similar interests are choosing pharmacy now as have chosen it in the past.

Statistically significant differences were noted in 26 of the 58 Occupational Scales. Using the five-point difference rule, there were differences in 11 occupations. The women who had been pharmacists for 30 years or more scored statistically significantly higher in four of the seven occupations in the Social Service Group (Group IV), and scored statistically significantly lower in five of the eight occupations in the Health-Related Services Group (Group X). Although most of these differences were less than five points, they do indicate that older women pharmacists possibly have different interests than do younger women pharmacists. It is probable that women pharmacists with 30 or more years as a pharmacist should be excluded when developing a Pharmacists Scale for the SVIB-W.

Interest Profiles for Women Pharmacists Practicing Full-Time and Part-Time

The SVIB-W scores for women pharmacists practicing less than 20 hours per week are shown in SVIB-W Profile 9-A, scores for those practicing between 20 and 39 hours per week are shown in SVIB-W Profile 9-B, and scores for women practicing 40 hours per week or more are shown in SVIB-W Profile 9-C. An earlier analysis showed there were few differences between women pharmacists who were practicing pharmacy and those who were not practicing. One would expect to find similar interest patterns between women practicing full-time and those practicing part-time.

As in earlier findings, all three categories of practicing pharmacists scored "high" (58 or above) on the Biological Science and Medical Service parts of the Basic Interest Scales. The four items for which there was a statistically significant difference were still quite similar and no differences of more than two points were noted on these 19 items.

Statistically significant differences were noted in four of the eight occupations in the Scientific Group (Group VI), in all four occupations in the Military-Managerial Group (Group VII), and in three of the six occupations in the Business Group (Group VIII). However,

SVIB-W PROFILE 9-A

SVIB-W SCORES OF WOMEN PHARMACISTS PRACTICING FULL-TIME OR PART-TIME

Women Pharmacists Practicing Less Than 20 Hours Per Week

N = 256

BASIC INTEREST SCALES

SCALE	STD. SCORE
PUBLIC SPEAKING	46
LAW POLITICS	48
MERCHANDISING	50
OFFICE PRACTICES	49
NUMBERS	53
PHYSICAL SCIENCE	56
MECHANICAL	51
OUTDOORS	50
BIOLOGICAL SCIENCE	60
MEDICAL SERVICE	59
TEACHING	46
SOCIAL SERVICE	47
SPORTS	49
HOMEMAKING	49
RELIGIOUS ACTIVITIES	48
MUSIC	48
ART	48
PERFORMING ARTS	47
WRITING	47

PLOTTED SCORE

DOUBLE LINE : AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE : AVERAGE SCORE FOR 800 HIGH SCHOOL SENIOR GIRLS

OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE
I	MUSIC TEACHER	12
	ENTERTAINER	20
	MUSICIAN PERFORMER	27
	MODEL	22
II	ART TEACHER	13
	ARTIST	25
	INTERIOR DECORATOR	14
III	NEWSWOMAN	24
	ENGLISH TEACHER	23
	LANGUAGE TEACHER	23
IV	YWCA STAFF MEMBER	24
	RECREATION LEADER	28
	DIRECTOR, CHRISTIAN ED.	13
	NUN - TEACHER	16
	GUIDANCE COUNSELOR	23
	SOCIAL SCIENCE TEACHER	27
	SOCIAL WORKER	22
V	SPEECH PATHOLOGIST	26
	PSYCHOLOGIST	19
	LIBRARIAN	30
	TRANSLATOR	29
VI	PHYSICIAN	36
	DENTIST	34
	MEDICAL TECHNOLOGIST	41
	CHEMIST	21
	MATHEMATICIAN	21
	COMPUTER PROGRAMMER	34
	MATH-SCIENCE TEACHER	40
	[illegible]	30

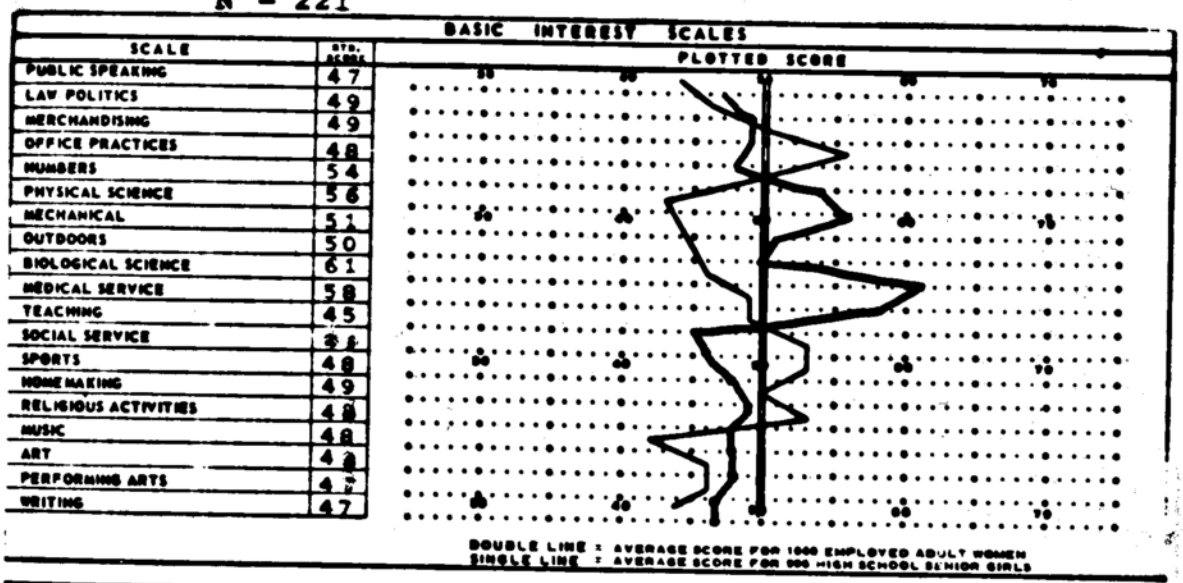
	OCCUPATION	STD. SCORE
VII	ARMY - ENLISTED	31
	NAVY - ENLISTED	34
	ARMY - OFFICER	27
	NAVY - OFFICER	37
VIII	LAWYER	26
	ACCOUNTANT	27
	BANKWOMAN	31
	LIFE INS. UNDERWRITER	22
	BUYER	24
	BUSINESS ED. TEACHER	21
IX	HOME ECONOMICS TEACHER	24
	DIETITIAN	39
X	PHYSICAL ED. TEACHER	33
	OCCUPATIONAL THERAPIST	34
	PHYSICAL THERAPIST	45
	PUBLIC HEALTH NURSE	33
	REGISTERED NURSE	37
	LIC. PRACTICAL NURSE	33
	RADIOLOGIC TECHNOLOGIST	44
	DENTAL ASSISTANT	35
XI	EXECUTIVE HOUSEKEEPER	30
	ELEMENTARY TEACHER	32
	SECRETARY	29
	SALESWOMAN	27
	TELEPHONE OPERATOR	28
	INSTRUMENT ASSEMBLER	31
	SEWING MACHINE OPER.	22
	BEAUTICIAN	30
	AIRLINE STEWARDESS	24

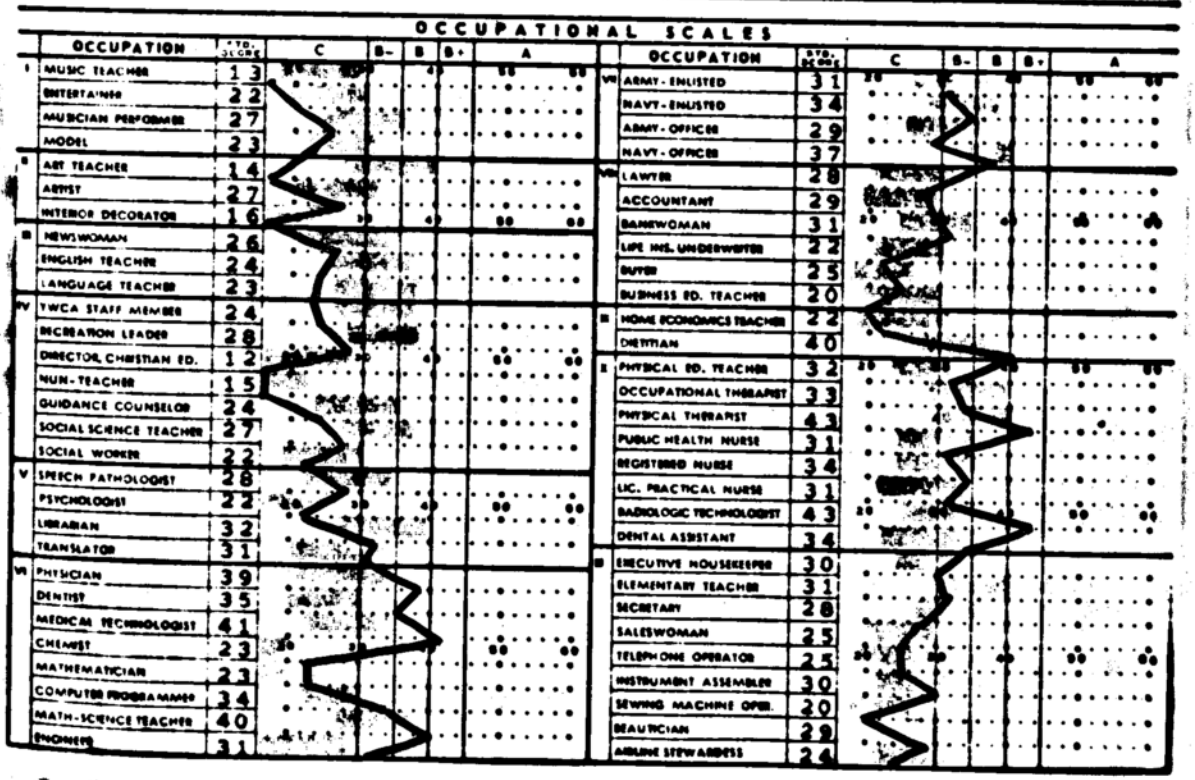
SVIB-W PROFILE 9-B

SVIB-W SCORES OF WOMEN PHARMACISTS PRACTICING FULL-TIME OR PART-TIME

Women Pharmacists Practicing 20 to 39 Hours Per Week

N = 221

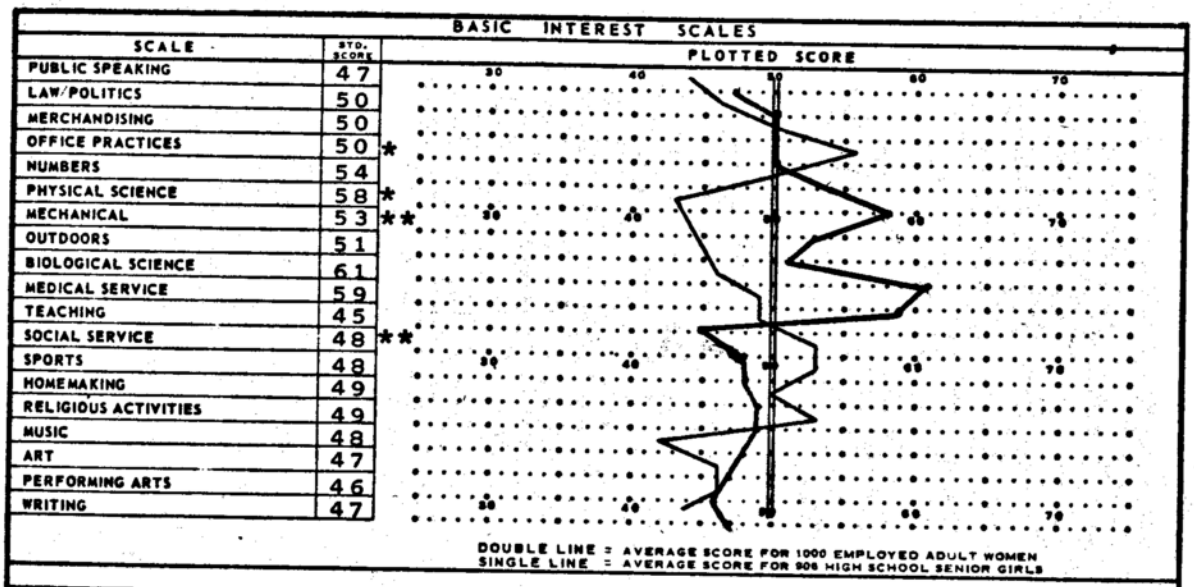


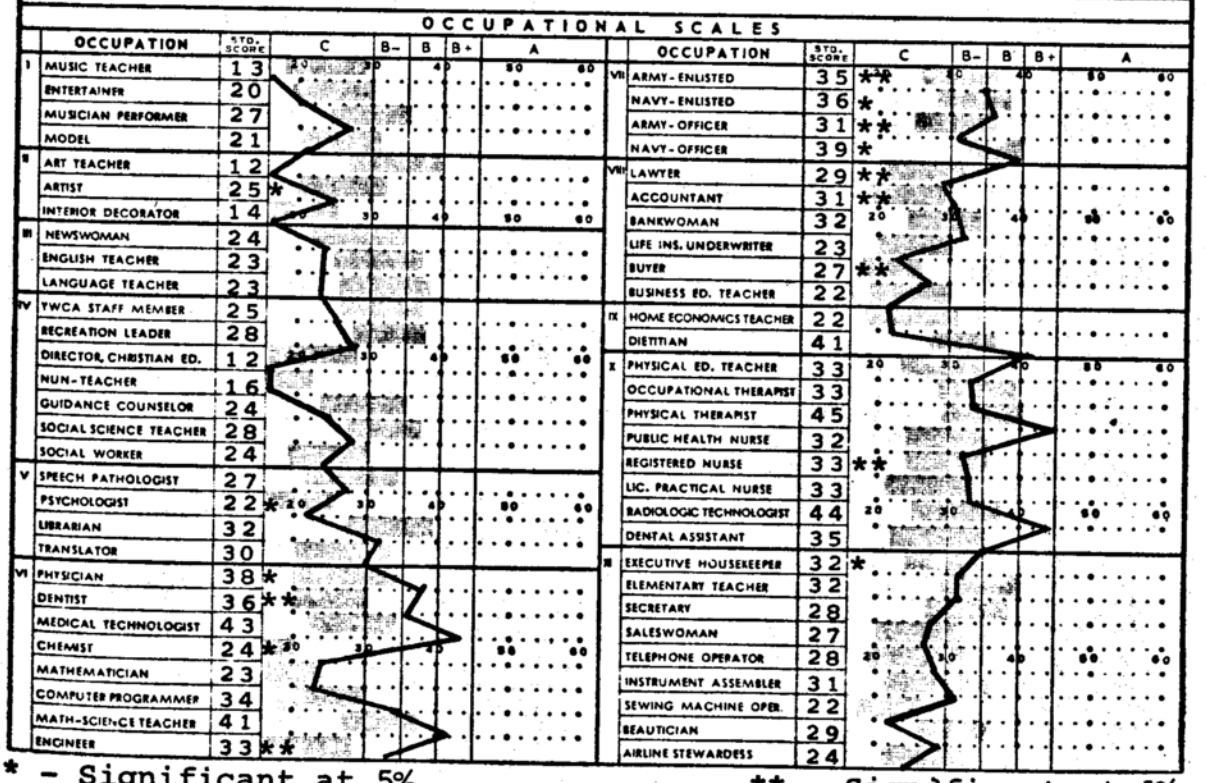


SVIB-W PROFILE 9-C

SVIB-W SCORES OF WOMEN PHARMACISTS PRACTICING FULL-TIME OR PART-TIME

Women Pharmacists Practicing 40 or More Hours Per Week
N = 283





* - Significant at 5%

** - Significant at 1%

using the five-point difference rule, no differences were noted in any of the 58 occupations.

Thus, the interest profiles for women pharmacists in full-time and those in part-time practice were very similar. Decisions on working full-time or part-time appear to be based on situations in the women's lives, not on different interests. Although a Pharmacist Scale might help counselors in advising women students about a pharmacy career, such a scale would not be helpful in predicting which women would work full-time or part-time.

CHAPTER TEN

FEASIBILITY OF DEVELOPING A PHARMACIST SCALE ON THE STRONG VOCATIONAL INTEREST BLANK FOR WOMEN

The objective of this study was to obtain SVIB-W scores from a sample of at least 300 practicing women pharmacists. These scores were to be evaluated to see if it was feasible to submit the results to the SVIB-W Center in Minneapolis, Minnesota for consideration toward developing a Pharmacist scale. The actual scale development was not part of this study.

Criteria for Occupational Scale Development

Before a sample of people in a particular occupation, referred to as a criterion group, can be considered for developing an occupational scale on the SVIB, it must meet specific criteria. There are four standards which must be met: (1) the person must be between 25 and 55 years old; (2) she must have been employed in the occupation for three years or more; (3) she must indicate she likes her work; and (4) she must have met some minimum level of proficiency, such as licensing.[1]

The first standard could not be measured directly, since the women were not asked to report their age or

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1. Campbell, 1971, op. cit., p. 29.

birthdate. However, they were asked to report the year in which they first became a registered pharmacist. An assumption was made that a high majority of women in the 1930's were 21 years old when they became pharmacists. This age was selected because most pharmacy schools had a four-year requirement for graduation.[2] It also was thought most women would have started college the year immediately following graduation from high school. A woman who became registered in 1937 at the age of 21 would have been 55 years old in 1971. Thus, all women who had been registered prior to 1937 were eliminated from the criterion group. Also eliminated were women who did not report the year in which they first became registered. A total of 61 women were eliminated because either they were registered prior to 1937 or they did not report the year in which they first became registered. Since the computer tape used to obtain the mailing sample for this study was made in 1968, no one younger than 25 years could have been included in the sample.

The women were asked to report the percentage of their pharmacy career they had spent practicing, both

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2. In 1936, the pharmacy curriculum in most schools was four years, although standardization of the four-year course was a major problem. See: Christensen, H. C., "Report of the Secretary," Proceedings of the 33rd Annual Convention of the National Association of Boards of Pharmacy, August 24-25, 1936, p. 25.

full-time and part-time. This total percentage for each woman was multiplied by the number of years she had been registered to obtain her years of experience. Some women who did report the year in which they first became registered did not report the percentage of their career they had spent in practice, so they were eliminated from the criterion group. A total of 32 women were eliminated because either they had less than three years experience in pharmacy or they did not report the amount of their pharmacy experience.

The women were asked to rate their satisfaction with pharmacy on a five-choice scale. A total of 21 women, who completed the SVIB-W, reported they were indifferent to, disliked, or hated pharmacy. These women were eliminated from the criterion group.

All of the women met a minimum level of proficiency by the fact that they had passed a state board examination to become pharmacists. Thus, no women were eliminated for not meeting this standard.

The 24 women who were members of a religious order were eliminated from the criterion group because their interest profiles were shown to be different from those of other practicing women pharmacists (see SVIB-W Profile 3). Another six women were not included in the criterion group because their SVIB-W answer sheets were either damaged or

lost after they were returned from the SVIB-W Scoring Center in Minnesota.

Of the 966 women pharmacists who completed the SVIB-W, 320 were not included in the criterion group, leaving a final sample of 646 women pharmacists. Table 112 shows a summary of how this sample was obtained.

TABLE 112

WOMEN PHARMACISTS INCLUDED IN SVIB-W CRITERION GROUP

Women Pharmacists Who Completed the SVIB-W		966
Women Not Included in Criterion Group:		
Not Currently Practicing Pharmacy	176	
Members of a Religious Order	24	
More than 34 Years As a Pharmacist, or Number of Years Not Reported	61	
Less than Three Years Experience, or Amount of Experience Not Reported	32	
Not Satisfied With Pharmacy	21	
Answer Sheets Damaged or Lost	6	
Total Women Not Included		320
Women Pharmacists In Criterion Group		646

In developing an occupational scale for the SVIB, samples of 400 are preferable, samples of 300 are sufficient, and samples of 200 are adequate.[3] Thus, the sample of 646

3. Campbell, 1971, op. cit., p. 30.

women pharmacists was more than large enough for use as a criterion group to develop a Pharmacist scale on the SVIB-W.

Item Analysis of SVIB-W Scores

The criterion group of women pharmacists was divided into two sub-groups, one containing two-thirds of the sample (431) and the other containing the remaining one-third of the sample (215). The division was made by taking every third answer sheet from the stack of 646 sheets. The answer sheets were not in any specific order when the division was made. The purpose of dividing the criterion group was to be able to cross-validate the results of the item analysis and standardization of scores. This technique is similar to that used by Abrahams in his study of SVIB key lengths.[4]

Campbell has said that one disadvantage of splitting the sample is that it reduces the sample size too much.[5] Upon noting the sample sizes used to develop many of the occupational scales on the SVIB-W, it is evident that Campbell had a valid reason for not always performing a cross-validation with a criterion group.[6] However, a

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4. Abrahams, Norman M., "SVIB Key Length: Dissident Data," Journal of Applied Psychology (51:3) March 1967, p. 268.

5. Campbell, 1971, op. cit., p. 47.

6. Ibid., pp. 390-393.

cross-validation was made on the criterion group of women pharmacists because the sample size was large enough. This cross-validation made the analysis more statistically sound and improved the credibility of the findings.

An item analysis consists of determining the percentage of the sample that responded "Like," the percentage responding "Indifferent," and the percentage responding "Dislike" to each of the 398 items on the SVIB-W. The response to each item is compared to the Women-In-General response to determine what items differentiated women pharmacists from women in other occupations.[7,8]

If the difference between the percentage response of the women pharmacists and of the Women-In-General group was 15 points or more, the specific item was identified. If a higher percentage of women pharmacists responded "Like" to an item than did the Women-In-General group, the item was given a weight of "+" in the "Like" column and "-" in the "Dislike" column. "Indifferent" response comparisons were made only for those items weighted in the "Like" and "Dislike" columns. If the differences between the "Indifferent" responses was ten percentage points or more,

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7. See Appendix T for an explanation of the Women-In-General group.

8. For a listing of the item responses of the Women-In-General group, see Campbell, 1971, op. cit., p. 403.

the "Indifferent" column was weighted appropriately.[9]

It is imperative for reliability that there be a minimum of 40 "weighted" items on each scale, and for validity, scoring must be done only for items with 14 percentage point differences or larger.[10] A total of 67 items were found to be different by 15 percentage points or more in this study, so the sample was differentiated from the Women-In-General group sufficiently to be considered for an occupational scale on the SVIB-W.[11]

Establishment of Standard Scores

Once the items had been selected and weighted, norms were developed. The distribution of the raw scores for the women pharmacists was converted to a distribution of standard scores with a mean of 50 and a standard deviation of 10. This determination of standard scores was made using the following formula:[12,13]

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9. See Appendix U for examples of how the item weighting was done.

10. Campbell, 1971, op. cit., pp. 33-34.

11. See Appendix V for a listing of the 67 items and the weights given to each item.

12. The calculation of raw scores and standard scores was made using the computer facilities of the Wisconsin State Testing Office in Madison, Wisconsin.

13. See Appendix W for a copy of the results of the item analysis group of women pharmacists and the resulting "Pharmacist scale" scores for each respondent. See Appendix X for a copy of the results of the cross-validation group of women pharmacists and the resulting "Pharmacist scale" scores for each respondent.

$$\text{Standard Score} = \left(\frac{(X - Mc)}{SD_c}\right) 10 + 50$$

where,

X = an individual's raw score

Mc = criterion group's raw score mean

SD_c = criterion group's raw score standard deviation.

There are two primary advantages of this system of standardizing scores: (1) it is possible to determine quickly where any individual score falls within the criterion group distribution; and (2) the standard scores can be compared across scales, since all scales are scored this way.[14]

The raw score for an individual woman pharmacist was determined by her response to the 67 weighted items on the SVIB-W. If she responded "Like" to one of the items for which the "Like" column was weighted "+," she got a score of "+1." If she responded "Dislike" to one of the items for which the "Dislike" column was weighted "+," she also received a score of "+1." If she responded "Indifferent" to one of the items for which the "Indifferent" column was weighted "+," she got a score of "+1." In short, a respondent received whatever weight was assigned to the

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14. Campbell, 1971, op. cit., p. 35.

response she gave for each of the 67 items. When all 67 items had been scored, the total points were added. Thus, the range of possible raw scores for the women pharmacists was -67 to +67.[15]

Cross-Validation Results

The item analysis was made only for the two-thirds sample. The remaining one-third were scored using the items weighted by the responses of the two-thirds sample. The mean raw score for the item analysis sample was 15.48 and the standard deviation was 13.74. The mean raw score for the cross-validation group was 13.77. The mean standard for the item analysis sample was 50. Using the formula to calculate standard scores, the mean standard score for the cross-validation group was 48.8, or 49, since standard scores are always rounded off to the nearest whole number. Thus, the difference between the two mean standard scores was only one point, which shows the results to be valid.

$$\text{Standard Score} = \left(\frac{13.77 - 15.48}{13.74}\right) 10 + 50$$

$$\text{Standard Score} = 49$$

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15. See Appendix Y for a sample calculation of an individual raw score.

Submission of SVIB-W Scores To SVIB Center

The answer sheets for the 646 women pharmacists in the criterion group and the item analysis data for the 431 women pharmacists were sent to Dr. David P. Campbell at the University of Minnesota. He was requested to analyze the scores and indicate if he was interested in using them to develop a Pharmacist scale on the SVIB-W.

On April 28, 1972, a letter was received from Dr. David P. Campbell, Professor of Psychology and Director at the University of Minnesota, stating he had received the SVIB-W data.[16] He also stated he will use the scores to develop a Female Pharmacist scale on a new Strong form currently being developed. Thus, it appears that within a year, a Pharmacist scale will be available to guidance counselors in assisting women students. Hopefully, this scale will allow counselors to offer more services for women who are interested in the health sciences.

Development of New Interest Inventory

At the conclusion of this study, it was learned that Campbell had developed the Strong-Campbell Interest Inventory (SCII) which was to be available for use in about six months. The SCII utilized fewer items than the SVIB-W

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16. See Appendix Z for a copy of the letter received from Dr. Campbell.

and SVIB-M, and separate inventories were not developed for males and females. The SVIB-W and SVIB-M will continue to be used, so counselors will have the choice of whether to use the SVIB or SCII.

Although the same SCII form is completed by both males and females, separate interest profiles will be developed for the sexes. Thus, the scores of male students will still be compared to scores for the male occupational groups, and the female students' scores will be compared to scores of female occupational groups.

More details on the use of the SCII will become known when it is made available for use. Hopefully, this new interest inventory will include an occupational scale for women pharmacists, and this scale will be helpful in the counseling of young women planning careers in all health-related areas.

CHAPTER ELEVEN

SUMMARY AND CONCLUSIONS

The percentage of women pharmacy students has nearly doubled in the last ten years and currently is 24 percent. If present trends continue, women will dominate the enrollments of pharmacy schools by the end of the century.

With more and more women choosing pharmacy for a career, it becomes important that these people receive accurate information regarding the role of women in pharmacy prior to enrolling in pharmacy school. The counseling of women students has been criticized greatly. Lack of useful psychological tests have hindered guidance counselors in properly serving women students.

One type of psychological test used in counseling is the interest inventory. The Strong Vocational Interest Blank (SVIB) is one of the most widely used instruments in vocational counseling and has the longest history of any current widely used psychological inventory. The primary function of the SVIB is to help a student understand how his or her preferences compare with those of people employed in various occupations.

There is a separate SVIB form for women. However, the occupation of pharmacist is not represented on this interest inventory. Inclusion of a Pharmacist scale on the SVIB-W could serve to: (1) make counselors more aware that women are practicing pharmacy; and (2) help counselors advise women students interested in a health-related career. A Pharmacist scale, when combined with other counseling instruments, would help women students make more rational decisions regarding their potential as pharmacists.

In addition to the need for helping women students become familiar with pharmacy, there is a great need to know more about the practice patterns of women pharmacists. As the percentage of women pharmacists increases, the amount of time these women will spend in the practice of pharmacy becomes important for determining manpower needs. Insufficient knowledge at the present time makes it impossible to predict the manpower consequences of more and more women entering the pharmacy profession.

A nationwide study of women pharmacists was undertaken in the summer of 1971 to collect data to: (1) better understand the demographic characteristics and attitudes toward pharmacy of women pharmacists in the United States; (2) determine the practice patterns of women pharmacists; and (3) improve the counseling

material available for women interested in a pharmacy career.

Copies of a pretested questionnaire were mailed to 3,176 women pharmacists, most of whom were known to be registered in the United States between 1965 and 1968. Names were provided by the National Association of Boards of Pharmacy and the American Pharmaceutical Association. The final sample of 1,341 was geographically representative of practicing women pharmacists in the country.

Test materials for the Strong Vocational Interest Blank for Women were sent to women who reported in the questionnaire they were willing to complete this interest inventory. A total of 966 women pharmacists completed the SVIB-W.

Of the 1,341 women pharmacists in the sample, 1,072 were currently practicing pharmacy. Just over 40 percent of the active women pharmacists were working full-time, defined throughout the study as at least 40 hours per week. About two-thirds of the practicing women were community pharmacists, and just over one-quarter of them were hospital pharmacists.

There was a significant difference in the number of hours worked per week between community and hospital pharmacists. More than one-half of the hospital

pharmacists were working full-time compared to just over one-third of the community pharmacists. More community pharmacists were working less than 20 hours per week than there were working 40 hours per week or more.

More than three-quarters of the sample were married and living with their husbands. More than one-quarter of these women were married to pharmacists. The majority of women pharmacists married men in upper levels of socioeconomic strata, as more than 60 percent of the husbands were in professional or technical occupations.

The mean number of children for the married women pharmacists was 2.2. Comparisons between active and inactive pharmacists showed that both the decision to practice pharmacy and whether to practice full-time appeared to be influenced by the number of children had by the respondents. The more children a woman had, the less chance there was of her working full-time. Ages of children did not appear to influence a woman's decision to practice pharmacy. However, women with younger children tended to practice part-time more than women with older children.

The women pharmacists' current hours working per week were converted to full-time equivalents. This arithmetic conversion showed that the sample of women pharmacists were currently practicing the equivalent of

55.7 percent of their full-time potential. The womens' career practice patterns showed: (1) 51.3 percent of their careers were spent in full-time practice; (2) 26.8 percent of their careers were spent in part-time practice; and (3) 21.9 percent of their time since becoming pharmacists was spent not practicing pharmacy.

Less than 20 percent of the respondents had been practicing full-time in pharmacy for 100 percent of their career, and just over one-half of the women had practiced full-time 50 percent or more of their career. More than 20 percent of the women had practiced full-time less than 20 percent of their career.

The hospital and community pharmacists both had spent about 85 percent of their careers in either full or part-time practice. However, a higher percentage of the time spent in practice by hospital pharmacists was in full-time practice. This career information, combined with the current practice data, showed that women in hospital pharmacy had a tendency to practice full-time, while more community pharmacists worked on a part-time basis.

Just over ten percent of the responding women pharmacists reported they did not plan to practice pharmacy during the next five years. More than one-quarter of the women said they planned to practice full-time during the next five years. About one-half

of the women who were not practicing pharmacy at the time of the study reported they planned to practice either full or part-time during the next five years.

More than 80 percent of both active and inactive women pharmacists reported there was a need for special continuing education programs for inactive women pharmacists. There was little difference in the response of younger and older women, age being inferred from the number of years they had been pharmacists. This positive reaction indicated a potential area of interest which continuing education program developers should recognize.

About one-half of the respondents were in favor of mandatory continuing education for the relicensure of pharmacists. There was no significant difference between the opinions of active and inactive women pharmacists regarding this issue. A significantly higher percentage of hospital pharmacists favored mandatory continuing education than did community pharmacists. The percentage favoring this concept decreased as the number of years as a pharmacist increased.

More than one-half of the women pharmacists reported they had not attended any continuing education programs during the last two years. Just over 10 percent of the women had attended four or more programs in the last two years. About 80 percent of the inactive women

pharmacists had not attended any programs in the last two years, showing there is a need to reach the woman pharmacist who is temporarily not practicing pharmacy. Women in hospital pharmacy were much more active in attending continuing education programs than were the community pharmacists. It is possible that much of the continuing education programs for hospital pharmacists are offered in the hospital, making it easier for them to attend. It also is possible the hospital pharmacists recognized the need for continuing education more than the community pharmacists.

About three-quarters of the active women pharmacists were opposed to the unionization of pharmacists, compared to about two-thirds of the inactive respondents. About three-quarters of both community and hospital pharmacists were opposed to unionization. Similar opposition to the unionization of pharmacists was expressed by members of APhA, ASHP, and NARD. Apparently the women were satisfied with their status as pharmacists, or possibly they viewed unions as being inconsistent with professional standards of pharmacy.

The opinions of active and inactive women pharmacists regarding the need for pharmacy technicians were quite even between favoring and opposing the concept. However, more women in both groups opposed the need than favored

it. Nearly opposite opinions were expressed by community and hospital pharmacists. Only about 30 percent of the community pharmacists favored the need for technicians, compared to about 70 percent of the hospital pharmacists. Just over 70 percent of ASHP members favored the need for technicians, compared to nearly one-third of the NARD members and about one-half of the APhA members. When the ASHP members were excluded from the APhA members, a majority of the remaining APhA members opposed the need for technicians. Since some form of technician assistance is available in many hospitals, perhaps the hospital pharmacists better understood the role these people would play in pharmacy practice. Apparently, the community pharmacists did not perceive the need for technicians in their type of practice.

Nearly two-thirds of both active and inactive women pharmacists were opposed to repeal of the antisubstitution laws. About two-thirds of the community pharmacists opposed this issue, compared to just over one-half of the hospital pharmacists. About 70 percent of the NARD members opposed the repeal of the antisubstitution laws, compared to one-half of the ASHP members, and just over one-half of the APhA members. Apparently, the women pharmacists had some reservations about assuming the responsibility of product selection and perceived this role as primarily being that of the physician.

Just under one-half of the active women pharmacists were opposed to the need for a national drug formulary, while nearly one-half of the inactive women pharmacists favored the concept. The need for such a formulary was opposed by both community and hospital pharmacists. Similar opinions were expressed by APhA, ASHP, and NARD members, with the NARD members being more opposed than members of the other two organizations. Since approximately 20 percent of the respondents replied either "Yes/No" or "No Opinion," it is probable that many women did not understand what a national drug formulary would mean to the practice of pharmacy.

Nearly 40 percent of the respondents reported they thought there were no advantages that women pharmacists had over male pharmacists. Nearly one-quarter of the women thought that an advantage of women pharmacists was that the work was more suitable for women and that women were better pharmacists. Close to 20 percent of the respondents thought women pharmacists were more understanding and had more empathy for a patient.

Nearly one-quarter of the respondents thought a disadvantage of women pharmacists was they were not accepted by the public. About 20 percent thought there were no disadvantages, while about 15 percent reported women were paid less than male pharmacists.

Nearly three-quarters of the respondents did not think sex discrimination was a serious problem in pharmacy. Similar opinions were expressed by both community and hospital pharmacists. This information combined with responses to advantages and disadvantages of women pharmacists over male pharmacists showed that in general, the women were satisfied with their role as pharmacists and that there need be little concern for lack of equality for women pharmacists.

The reason given most frequently for why women are now choosing pharmacy for a career was economic security or money, as more than one-quarter of the women pharmacist respondents gave this reason. The only other reason which was mentioned by more than 10 percent of the women was the need or demand for pharmacists. Failure to define clearly what type of response to the question was desired resulted in many women giving reasons which were not classified.

More than 90 percent of both community and hospital pharmacists reported they would recommend a pharmacy career to an interested female high school or college student. More than one-third of the women who said they would recommend a pharmacy career to a girl said they would do so because of the economic security of being a pharmacist. Nearly one-third said they would do so

because pharmacy was challenging and/or rewarding work. About one-quarter said they would do so because of the need or demand for pharmacists.

Nearly one-third of the few women pharmacists who said they would not recommend a pharmacy career reported they would do so because pharmacy is not challenging or worth five years of education. Just over one-quarter of these women said they would do so because of the bad working conditions in pharmacy.

The mean hourly salary for the responding women pharmacists was $5.75. There was no significant difference in the mean salaries received by women working various hours per week, with full-time pharmacists being compared with four categories of part-time pharmacists.

There was a significant difference between the salaries received by the women in different AACP Districts. The range was a mean hourly salary of $5.11 for women in AACP District 1 (Eastern United States) to $6.58 for women in AACP District 8 (Western United States).

Women practicing in smaller communities tended to receive a smaller hourly salary than did women in larger communities. Women practicing in communities with a population of less than 5,000 people had a mean hourly salary of $5.44. Women practicing in communities with a

population of 500,000 people or more had a mean hourly salary of $5.98.

The mean hourly salary for community pharmacists was $5.60, compared to $6.07 for hospital pharmacists. This difference in salaries between community and hospital pharmacists was noted for both full-time and part-time practitioners. A comparison of salaries for community and hospital pharmacists showed that salaries in both types of practice did not increase for the women who had more experience as a pharmacist. This lack of salary increase with years of experience might indicate some discrimination in the salaries received by women pharmacists. It also is possible that the lack of career continuity by the women accounted for their salaries remaining relatively constant over time.

A comparison of SVIB-W interest profiles between active and inactive women pharmacists showed much similarity. This finding indicates the SVIB-W is not useful in measuring a woman's potential for making an occupation a full-time career. Both groups of women showed high interest scores in the biological science and medical service areas which are important interests for pharmacists to have.

The interest profiles of community and hospital pharmacists showed considerable similarity. Thus, it is

evident that vocational interests do not play a role in whether a woman chooses to enter community or hospital pharmacy. This finding demonstrates the impracticality of developing separate occupational scales on the SVIB-W for community and hospital pharmacists.

The interest profiles of women in different geographic locations in the United States showed much similarity, with women in all areas scoring high in the biological science and medical service areas. It appears from these findings that developing an occupational scale for the SVIB-W using a sample of women from a particular geographic area in the United States should give results that can be used for women in other geographic areas.

The interest profiles of women based on their number of years as pharmacists again showed much similarity, with women in each category scoring high in biological science and medical service areas. Differences noted in certain occupational scale scores indicated that possibly older women pharmacists had different interests in some areas than did younger pharmacists.

The interest profiles of women working full-time and those working part-time showed considerable similarity. Thus, decisions on working full-time or part-time appeared to be based on situations in the women's lives, not on different interests. Although a Pharmacist scale

on the SVIB-W would help counselors advise women students about a pharmacy career, such a scale would not be useful in predicting if women will practice full-time or part-time.

The SVIB-W data were shown to be worthy of consideration for developing a Pharmacist scale. The SVIB-W scores were submitted to the SVIB Center at the University of Minnesota for such consideration. The women pharmacists included in the criterion group met certain prescribed standards: (1) they all were currently practicing pharmacy; (2) they were between 25 and 55 years of age, with age being inferred from the number of years the women had been pharmacists; (3) they indicated satisfaction with their work; and (4) they each had at least three years experience as a practicing pharmacist. Also excluded from the criterion group were the nuns, whose interest profiles were markedly different from those of all other women pharmacists. A total of 646 women pharmacists were included in the SVIB-W criterion group.

A letter was received from Dr. David P. Campbell at the University of Minnesota stating that the SVIB-W data will be used to develop a Pharmacist scale for women. Hopefully, this scale will allow counselors to offer more services for women who are interested in the health sciences.

APPENDIX A

MEETING IN PHILADELPHIA LEADING TO INITIATION OF STUDY OF WOMEN PHARMACISTS

On March 22, 1971, a meeting was held with three women pharmacists: (1) Mary Louise Andersen, past-Speaker of the House of Delegates for the American Pharmaceutical Association and a community pharmacists in Wilmington, Delaware; (2) Gloria Sabatini, Director of Pharmacy Affairs for Smith Kline and French Laboratories; and (3) Kathleen McGee, Executive Director of the Delaware Pharmaceutical Association.

These three women were instrumental in organizing and presenting the Women and Pharmacy symposium in Philadelphia in February of 1970. This symposium recognized the growing importance of women in pharmacy, and demonstrated the need to have more information about women pharmacists.

The proposed study of women pharmacists was explained to these three women, all of whom offered constructive suggestions on topics to be included in the questionnaire. Some financial support was given toward the study and work began soon after to formulate the methodology for the study.

APPENDIX B

COPY OF QUESTIONNAIRE

- QUESTIONNAIRE FOR WOMEN PHARMACISTS -

1. WE ARE INTERESTED IN YOUR COMPLETING THIS QUESTIONNAIRE EVEN IF YOU ARE NOT CURRENTLY PRACTICING PHARMACY OR IF YOU ARE NO LONGER A REGISTERED PHARMACIST. THANK YOU.

Are you currently a registered pharmacist? _____ YES _____ NO

If NO, please proceed to QUESTION 2.

If YES, are you currently practicing pharmacy? _____ YES _____ NO

If NO, why not? _____

If YES, are you practicing an average of:

_____ 40 hours/week or more
_____ 30-39 hours/week
_____ 20-29 hours/week
_____ 10-19 hours/week
_____ Less than 10 hours/week

In what type of practice:

_____ Community Pharmacy
_____ Hospital Pharmacy
_____ Industrial Pharmacy
_____ Other Type of Practice (Please specify)

_____

What is your present salary on a per hour basis? If not paid on a per hours basis, please estimate what your average salary is per hour?

$ _____ PER HOUR

4. Marital Status: _____ Single

_____ Married, and living with husband

_____ Married, but separated or divorced

_____ Married, but husband is deceased

If married, how many children do you have and what are their ages?

Number of children: _____ Ages: (please circle their ages below)

Under 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 Over 17

If married, and living with husband, what is your husband's occupation? (Please be specific. Example: Write "life insurance salesman" rather than just "salesman.")

_____

5. AN IMPORTANT PORTION OF THIS STUDY CENTERS AROUND THE PRACTICE PATTERNS OF WOMEN PHARMACISTS. WE RECOGNIZE THAT IT MAY BE DIFFICULT FOR YOU TO RECALL THE EXACT HISTORY OF YOUR PHARMACY PRACTICE. HOWEVER, WE WOULD APPRECIATE YOUR ATTEMPTING TO ANSWER THE FOLLOWING QUESTIONS AS ACCURATELY AS POSSIBLE. THANK YOU.

Please approximate the proportion of your career that you have spent in full-time or part-time practice, or not practicing at all since first becoming a registered pharmacist.

Full-time (at least 40 hours/week)	_____ %
Part-time (less than 40 hours/week)	_____ %
Not Practicing Pharmacy	_____ %
	100 %

IF YOU HAVE EVER PRACTICED PHARMACY, please approximate the proportion of your full-time practice and the proportion of your part-time practice you have spent in the following types of pharmacy since first becoming a registered pharmacist.

	Full-time	Part-time
Community Pharmacy	_____ %	_____ %
Hospital Pharmacy	_____ %	_____ %
Industrial Pharmacy	_____ %	_____ %
Other	_____ %	_____ %
	100 %	100 %

Please explain if you placed any time in the "Other" category.

_____

How many times have you left practice for more than one month since becoming a registered pharmacist? _____ Times

What were the reasons why you left practice? _____

_____

_____

IF YOU HAVE EVER PRACTICED PART-TIME, why did you chose to do so rather than practice full-time? _____

_____

Do you favor repeal of the antisubstitution laws which would give pharmacists the legal right to substitute one brand of a drug for the brand prescribed by the physician, if more than one brand of the drug is available?

_____ YES _____ NO _____ NO OPINION

Are you in favor of the establishment of a national drug formulary from which physicians would select their drugs to prescribe?

_____ YES _____ NO _____ NO OPINION

Do you think the participation in continuing education programs should become mandatory for the relicensure of pharmacists?

APPENDIX C

COPY OF INTRODUCTORY POSTCARD

APPENDIX C

COPY OF INTRODUCTORY POSTCARD

COPY OF INTRODUCTORY POSTCARD

June 1971

Dear Fellow Pharmacist:

You have been selected as part of a nationwide sample of women pharmacists who will soon be receiving a questionnaire regarding your practice patterns and views about pharmacy.

This extensive study has been endorsed by Kappa Epsilon and Lambda Kappa Sigma and is partially funded by an active group of women pharmacists who arranged a "Women and Pharmacy" symposium last year in Philadelphia which was attended by pharmacy leaders from all over the country.

You should receive your questionnaire within one to two weeks. Your participation will be appreciated greatly.

Sincerely,

Kenneth W. Kirk, R.Ph.
Graduate Student
University of Wisconsin

Kenneth W. Kirk
School of Pharmacy
425 N. Charter St.
Madison, WI 53706

- STAMP -

Please return if
not deliverable

APPENDIX D

COPY OF COVER LETTER

THE UNIVERSITY OF WISCONSIN
MADISON 53706

SCHOOL OF PHARMACY
Pharmacy Building
425 North Charter Street

June 1971

Dear Fellow Pharmacist:

The increasing number of women enrolled in pharmacy schools is a major change within pharmacy in the United States. In the last two years there has been a national increase of 686 women pharmacy students while the corresponding number of men students has decreased by 113. Currently 22 percent of all pharmacy students are women. Ten years ago, only 12 percent of all pharmacy students were women. Women's influence on pharmacy practice will become greater as more of them graduate and become pharmacists.

Little information has been published about women pharmacists despite their dramatic increase in number. You have been selected as part of a national sample of women pharmacists in the United States to help us fill this void. Your cooperation in completing the enclosed questionnaire will assist us in gathering data which will be significant to our profession in assisting women pharmacists. It should take about 30 minutes to complete.

It is vital for women in high school and college to receive proper counseling about possible careers in pharmacy. The Strong Vocational Interest Blank (SVIB) is a frequently used vocational counseling instrument. Interest in pharmacy currently cannot be measured on the SVIB for Women. We plan to develop a "Pharmacist Scale" for this womens' interest inventory. To do so we need a large sample of women pharmacists to complete the SVIB for Women. Such a scale would give counselors an objective way of determining if a woman student might be satisfied with a pharmacy career. A further explanation of this interest inventory is given in more detail on the back of this letter.

In addition to completing the questionnaire, please indicate in the space provided on the last page of the questionnaire if you are willing to complete the SVIB for Women so a "Pharmacist Scale" can be developed. We will send you your scores with an explanation of how to interpret them if you are willing to complete the SVIB for Women. You then will be able to compare your interest profile with the other women pharmacists who also participated.

Be assured that your responses will remain confidential. Please return the questionnaire by July 15, 1971, in the enclosed, self-addressed, stamped envelope. Thank you very much for your cooperation.

Sincerely,

Kenneth W. Kirk

Kenneth W. Kirk, R.Ph.
Graduate Student
Pharmacy Administration
University of Wisconsin

Sincerely,

Richard A. Ohvall

Richard A. Ohvall, Dean
School of Pharmacy
Ferris State College
Big Rapids, Michigan

THE STRONG VOCATIONAL INTEREST BLANK FOR WOMEN

The following explanation of the SVIB-W consists mainly of statements found in the Manual for Strong Vocational Interest Blanks by Edward K. Strong, Jr. and revised by David P. Campbell, Stanford University Press, 1966.

The SVIB-W is used to identify differences among occupations that female college students usually enter. This vocational interest determinant provides an index of the similarity between a student's interests and those of women in each of a wide range of occupations. At the present time, pharmacy is not an occupation represented on the SVIB-W.

The Strong Blank is designed to help guide students and employees into occupations where they are apt to find the greatest job satisfaction. It is emphatically not a measure of general or specific abilities, including intelligence. In most selection techniques too much attention is given to efficiency, and too little to satisfaction and enjoyment.

The SVIB-W is a series of 400 items to which the respondent answers with one of three choices: Like, Dislike, or Indifferent. Most people take about 35 to 40 minutes to complete the SVIB-W. It is important that respondents complete the SVIB-W as quickly as possible, as first impressions produce more valid likes and dislikes.

Your participation in this study will be a contribution to the future of women in pharmacy. We appreciate your help with this project.

APPENDIX E

COPY OF SVIB-W EXPLANATION

THE STRONG VOCATIONAL INTEREST BLANK FOR WOMEN

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MADISON 53706

SCHOOL OF PHARMACY
Pharmacy Building
425 North Charter Street

June 1971

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Be assured that your responses will remain confidential. Please return the questionnaire by July 15, 1971, in the enclosed, self-addressed, stamped envelope. Thank you very much for your cooperation.

Sincerely,

Kenneth W. Kirk

Kenneth W. Kirk, R.Ph.
Graduate Student
Pharmacy Administration
University of Wisconsin

Sincerely,

Richard A. Ohvall

Richard A. Ohvall, Dean
School of Pharmacy
Ferris State College
Big Rapids, Michigan

APPENDIX F

COPIES OF LETTERS OF ENDORSEMENT

Kappa Epsilon Fraternity

PROFESSIONAL FRATERNITY FOR WOMEN IN PHARMACY

PRESIDENT
METTA LOU HENDERSON

VICE PRESIDENT-ALUMNAE
DONNA MYERS

VICE PRESIDENT-COLLEGIATE
MARION R. CROWELL

VICE PRESIDENT-PROVINCE
LOLA V. HOPKINS

SECRETARY
JUDITH M. OZBUN

TREASURER
ROSALEE RICHMOND

EDITOR
CHARLA LEIBENGUTH

ADVISORS
BLOSSOM JACOBSEN
JEAN H. BARSHAY

Dear Fellow Pharmacist:

Kappa Epsilon endorses this study of woman pharmacists which is being conducted by Kenneth W. Kirk.

In this time of increased involvement of women in pharmacy and the increased interest of young girls to study pharmacy, this survey should provide very useful and informative statistics.

Please take the small amount of time necessary to complete the questionnaire. Your answers are important!

Sincerely,

Metta Lou Henderson

Metta Lou Henderson
President

LAMBDA KAPPA SIGMA
INTERNATIONAL PROFESSIONAL
FRATERNITY FOR WOMEN IN PHARMACY
GRAND COUNCIL

4509 Regent Street, Philadelphia, Pa. 19143

June, 1971

Greetings to Women in Pharmacy:

In the United States, more women than ever are studying pharmacy to prepare themselves for careers in serving others as part of the health team. However, in recruiting students and in counseling women concerning the various options available to them following graduation, there is very little factual information on a national basis available. I urge you to complete and return the accompanying questionnaire. The data obtained in this survey will be of inestimable value in encouraging more women to enter or return to the profession of pharmacy.

Lambda Kappa Sigma supports the purposes of this project and anticipates a successful outcome.

Frances F. Curran
Grand Secretary

LAMBDA KAPPA SIGMA
INTERNATIONAL PROFESSIONAL
FRATERNITY FOR WOMEN IN PHARMACY
GRAND COUNCIL

4509 Regent Street, Philadelphia, Pa. 19143

June, 1971

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In the United States, more women than ever are studying pharmacy to prepare themselves for careers in serving others as part of the health team. However, in recruiting students and in counseling women concerning the various options available to them following graduation, there is very little factual information on a national basis available. I urge you to complete and return the accompanying questionnaire. The data obtained in this survey will be of inestimable value in encouraging more women to enter or return to the profession of pharmacy.

Lambda Kappa Sigma supports the purposes of this project and anticipates a successful outcome.

Frances F. Curran

Frances F. Curran
Grand Secretary

APPENDIX G

WEEKLY TABULATION OF QUESTIONNAIRE RETURNS

The questionnaires were mailed to 2,952 women pharmacists on Wednesday, June 30, 1971. The women probably received the questionnaires that Friday. Tabulations were made on the Friday of each week following the week the questionnaires were mailed.

Questionnaires were mailed to 224 women pharmacists on Tuesday, July 13, 1971. These returns were not tabulated separately. Thus, the returns during the first two weeks represent returns only from the 2,952 women, while returns after that represent returns from the total sample.

Week Following Mailing of the Questionnaires	Returns for the Week	Total Returns To Date
1	491	491
2	534	1,025
3	228	1,253
4	93	1,346
5	61	1,407
6	23	1,430
7	12	1,442
8	9	1,451
9	8	1,459

APPENDIX H

SAMPLE OF WOMEN PHARMACISTS BY STATE AND BY AACP DISTRICT

AACP District 1:	
Connecticut	38
Maine (*)	6
Massachusetts	46
New Hampshire (*)	7
Rhode Island	12
Vermont (*)	2
Total	111

AACP District 2:	
Delaware (*)	2
Dist. Columbia	8
Maryland	25
New Jersey	47
New York	103
Pennsylvania	91
Virginia	13
West Virginia	5
Total	294

AACP District 3:	
Alabama	19
Florida	39
Georgia	30
Mississippi	9
North Carolina	17
South Carolina	10
Tennessee	22
Total	146

AACP District 4:	
Illinois	72
Indiana	48
Kentucky	10
Michigan	51
Ohio	97
Wisconsin	18
Total	296

AACP District 5:	
Iowa	21
Minnesota	27
Nebraska	13
North Dakota	5
South Dakota	10
Total	76

AACP District 6:	
Arkansas	5
Kansas	13
Louisiana	20
Missouri	21
Oklahoma	20
Texas	72
Total	151

AACP District 7:	
Alaska (*)	2
Idaho	12
Montana	11
Oregon	26
Washington	28
Wyoming	6
Total	85

AACP District 8:	
Arizona	12
California	114
Colorado	28
Hawaii (*)	2
Nevada (*)	0
New Mexico	10
Utah	10
Total	176

Those States that are followed by (*) were placed in the appropriate AACP District based on geographic location since these States do not have an AACP accredited School or College of Pharmacy located in it.

APPENDIX I

COPY OF SVIB-W TEST BOOKLET

APPENDIX J

COPY OF SVIB-W ANSWER SHEET

NCS Answer Sheet for—STRONG VOCATIONAL INTEREST BLANK—WOMEN

PRINT YOUR NAME BELOW

Print your name in the boxes below. Print your last name first. Skip a box, then print as much of your first name as possible. Blacken the circle below each box that has the same letter as box. Blacken the blank circle for spaces.

Age

IMPORTANT
Show here which form you are using (See front of booklet)
— FORM —
W ○ Tw398 ○

DIRECTIONS: The answer spaces below are numbered the same as the items in the booklet. Fill in one space for each item. Read the instructions in the booklet carefully.

If you **like** the item mark the "L" ——— ● Ⓘ Ⓓ
If you are **indifferent** to the item mark the "I" ——— Ⓛ ● Ⓓ
If you **dislike** the item mark the "D" ——— Ⓛ Ⓘ ●

Use a soft lead pencil (#2 or 2½).
Answer each item.
Blacken circle completely
If you make a mistake, erase completely.

PART 1

1 Ⓛ Ⓘ Ⓓ	21 Ⓛ Ⓘ Ⓓ	41 Ⓛ Ⓘ Ⓓ	61 Ⓛ Ⓘ Ⓓ	81 Ⓛ Ⓘ Ⓓ	101 Ⓛ Ⓘ Ⓓ	121 Ⓛ Ⓘ Ⓓ	141 Ⓛ Ⓘ Ⓓ	161 Ⓛ Ⓘ
2 Ⓛ Ⓘ Ⓓ	22 Ⓛ Ⓘ Ⓓ	42 Ⓛ Ⓘ Ⓓ	62 Ⓛ Ⓘ Ⓓ	82 Ⓛ Ⓘ Ⓓ	102 Ⓛ Ⓘ Ⓓ	122 Ⓛ Ⓘ Ⓓ	142 Ⓛ Ⓘ Ⓓ	162 Ⓛ Ⓘ
3 Ⓛ Ⓘ Ⓓ	23 Ⓛ Ⓘ Ⓓ	43 Ⓛ Ⓘ Ⓓ	63 Ⓛ Ⓘ Ⓓ	83 Ⓛ Ⓘ Ⓓ	103 Ⓛ Ⓘ Ⓓ	123 Ⓛ Ⓘ Ⓓ	143 Ⓛ Ⓘ Ⓓ	163 Ⓛ Ⓘ
4 Ⓛ Ⓘ Ⓓ	24 Ⓛ Ⓘ Ⓓ	44 Ⓛ Ⓘ Ⓓ	64 Ⓛ Ⓘ Ⓓ	84 Ⓛ Ⓘ Ⓓ	104 Ⓛ Ⓘ Ⓓ	124 Ⓛ Ⓘ Ⓓ	144 Ⓛ Ⓘ Ⓓ	164 Ⓛ Ⓘ
5 Ⓛ Ⓘ Ⓓ	25 Ⓛ Ⓘ Ⓓ	45 Ⓛ Ⓘ Ⓓ	65 Ⓛ Ⓘ Ⓓ	85 Ⓛ Ⓘ Ⓓ	105 Ⓛ Ⓘ Ⓓ	125 Ⓛ Ⓘ Ⓓ	145 Ⓛ Ⓘ Ⓓ	165 Ⓛ Ⓘ
6 Ⓛ Ⓘ Ⓓ	26 Ⓛ Ⓘ Ⓓ	46 Ⓛ Ⓘ Ⓓ	66 Ⓛ Ⓘ Ⓓ	86 Ⓛ Ⓘ Ⓓ	106 Ⓛ Ⓘ Ⓓ	126 Ⓛ Ⓘ Ⓓ	146 Ⓛ Ⓘ Ⓓ	166 Ⓛ Ⓘ
7 Ⓛ Ⓘ Ⓓ	27 Ⓛ Ⓘ Ⓓ	47 Ⓛ Ⓘ Ⓓ	67 Ⓛ Ⓘ Ⓓ	87 Ⓛ Ⓘ Ⓓ	107 Ⓛ Ⓘ Ⓓ	127 Ⓛ Ⓘ Ⓓ	147 Ⓛ Ⓘ Ⓓ	167 Ⓛ Ⓘ
8 Ⓛ Ⓘ Ⓓ	28 Ⓛ Ⓘ Ⓓ	48 Ⓛ Ⓘ Ⓓ	68 Ⓛ Ⓘ Ⓓ	88 Ⓛ Ⓘ Ⓓ	108 Ⓛ Ⓘ Ⓓ	128 Ⓛ Ⓘ Ⓓ	148 Ⓛ Ⓘ Ⓓ	168 Ⓛ Ⓘ
9 Ⓛ Ⓘ Ⓓ	29 Ⓛ Ⓘ Ⓓ	49 Ⓛ Ⓘ Ⓓ	69 Ⓛ Ⓘ Ⓓ	89 Ⓛ Ⓘ Ⓓ	109 Ⓛ Ⓘ Ⓓ	**PART 2** 129 Ⓛ Ⓘ Ⓓ	149 Ⓛ Ⓘ Ⓓ	169 Ⓛ Ⓘ
10 Ⓛ Ⓘ Ⓓ	30 Ⓛ Ⓘ Ⓓ	50 Ⓛ Ⓘ Ⓓ	70 Ⓛ Ⓘ Ⓓ	90 Ⓛ Ⓘ Ⓓ	110 Ⓛ Ⓘ Ⓓ	130 Ⓛ Ⓘ Ⓓ	150 Ⓛ Ⓘ Ⓓ	170 Ⓛ Ⓘ
11 Ⓛ Ⓘ Ⓓ	31 Ⓛ Ⓘ Ⓓ	51 Ⓛ Ⓘ Ⓓ	71 Ⓛ Ⓘ Ⓓ	91 Ⓛ Ⓘ Ⓓ	111 Ⓛ Ⓘ Ⓓ	131 Ⓛ Ⓘ Ⓓ	151 Ⓛ Ⓘ Ⓓ	**PART** 171 Ⓛ Ⓘ
12 Ⓛ Ⓘ Ⓓ	32 Ⓛ Ⓘ Ⓓ	52 Ⓛ Ⓘ Ⓓ	72 Ⓛ Ⓘ Ⓓ	92 Ⓛ Ⓘ Ⓓ	112 Ⓛ Ⓘ Ⓓ	132 Ⓛ Ⓘ Ⓓ	152 Ⓛ Ⓘ Ⓓ	172 Ⓛ Ⓘ
13 Ⓛ Ⓘ Ⓓ	33 Ⓛ Ⓘ Ⓓ	53 Ⓛ Ⓘ Ⓓ	73 Ⓛ Ⓘ Ⓓ	93 Ⓛ Ⓘ Ⓓ	113 Ⓛ Ⓘ Ⓓ	133 Ⓛ Ⓘ Ⓓ	153 Ⓛ Ⓘ Ⓓ	173 Ⓛ Ⓘ
14 Ⓛ Ⓘ Ⓓ	34 Ⓛ Ⓘ Ⓓ	54 Ⓛ Ⓘ Ⓓ	74 Ⓛ Ⓘ Ⓓ	94 Ⓛ Ⓘ Ⓓ	114 Ⓛ Ⓘ Ⓓ	134 Ⓛ Ⓘ Ⓓ	154 Ⓛ Ⓘ Ⓓ	174 Ⓛ Ⓘ
15 Ⓛ Ⓘ Ⓓ	35 Ⓛ Ⓘ Ⓓ	55 Ⓛ Ⓘ Ⓓ	75 Ⓛ Ⓘ Ⓓ	95 Ⓛ Ⓘ Ⓓ	115 Ⓛ Ⓘ Ⓓ	135 Ⓛ Ⓘ Ⓓ	155 Ⓛ Ⓘ Ⓓ	175 Ⓛ Ⓘ
16 Ⓛ Ⓘ Ⓓ	36 Ⓛ Ⓘ Ⓓ	56 Ⓛ Ⓘ Ⓓ	76 Ⓛ Ⓘ Ⓓ	96 Ⓛ Ⓘ Ⓓ	116 Ⓛ Ⓘ Ⓓ	136 Ⓛ Ⓘ Ⓓ	156 Ⓛ Ⓘ Ⓓ	176 Ⓛ Ⓘ
17 Ⓛ Ⓘ Ⓓ	37 Ⓛ Ⓘ Ⓓ	57 Ⓛ Ⓘ Ⓓ	77 Ⓛ Ⓘ Ⓓ	97 Ⓛ Ⓘ Ⓓ	117 Ⓛ Ⓘ Ⓓ	137 Ⓛ Ⓘ Ⓓ	157 Ⓛ Ⓘ Ⓓ	177 Ⓛ Ⓘ
18 Ⓛ Ⓘ Ⓓ	38 Ⓛ Ⓘ Ⓓ	58 Ⓛ Ⓘ Ⓓ	78 Ⓛ Ⓘ Ⓓ	98 Ⓛ Ⓘ Ⓓ	118 Ⓛ Ⓘ Ⓓ	138 Ⓛ Ⓘ Ⓓ	158 Ⓛ Ⓘ Ⓓ	178 Ⓛ Ⓘ
19 Ⓛ Ⓘ Ⓓ	39 Ⓛ Ⓘ Ⓓ	59 Ⓛ Ⓘ Ⓓ	79 Ⓛ Ⓘ Ⓓ	99 Ⓛ Ⓘ Ⓓ	119 Ⓛ Ⓘ Ⓓ	139 Ⓛ Ⓘ Ⓓ	159 Ⓛ Ⓘ Ⓓ	179 Ⓛ Ⓘ
20 Ⓛ Ⓘ Ⓓ	40 Ⓛ Ⓘ Ⓓ	60 Ⓛ Ⓘ Ⓓ	80 Ⓛ Ⓘ Ⓓ	100 Ⓛ Ⓘ Ⓓ	120 Ⓛ Ⓘ Ⓓ	140 Ⓛ Ⓘ Ⓓ	160 Ⓛ Ⓘ Ⓓ	180 Ⓛ Ⓘ

NCS—PR - 1

APPENDIX K

COPY OF SVIB-W COVER LETTER

THE UNIVERSITY OF WISCONSIN
MADISON 53706

SCHOOL OF PHARMACY
Pharmacy Building
425 North Charter Street

Summer 1971

Dear Fellow Pharmacist:

Thank you for your willingness to complete the Strong Vocational Interest Blank for Women. Also, we appreciate your cooperation in returning your questionnaire so we can analyze the practice patterns and general characteristics of women pharmacists. The results are sure to be interesting and informative.

Enclosed is an SVIB-W Booklet and Answer Sheet for you to use. A number has been placed on your answer sheet so we can combine your scores with certain pieces of information in your questionnaire. Also, your name has been written on the answer sheet so it can be identified when it is scored at the SVIB Scoring Center. You can be assured your responses will remain anonymous when we report our findings.

Before completing the SVIB-W, please read the directions on the front of the booklet carefully. It is most important that you do the following: (1) Answer every one of the 398 questions with just one mark; (2) Pay particularly close attention to the directions for Part V; and (3) Use a soft lead pencil and mark your answers clearly. Please do not write in the SVIB-W Booklet. It will be reused by other women pharmacists after you return it to us. Remember to return both the booklet and answer sheet in the enclosed self-addressed, stamped envelope.

The key to taking the SVIB-W most effectively is to work as quickly as possible. Your first impressions will reflect your true interest pattern the best. Most people take between 35 and 40 minutes to complete this interest inventory.

Thank you again for your time and cooperation in making this study of women pharmacists possible. Please complete and return the SVIB-W Booklet and Answer Sheet no later than two weeks after you receive them in the mail. We will mail your scores to you when they arrive from the Scoring Center.

Sincerely,

Kenneth W. Kirk

Kenneth W. Kirk, R.Ph.
Graduate Student

APPENDIX L

COPY OF FIRST REMINDER POSTCARD

COPY OF FIRST REMINDER POSTCARD

Dear Fellow Pharmacist:

We mailed an SVIB-W Booklet and Answer Sheet to you a few weeks ago for you to complete. Our records indicate you have not returned these yet. Because we have a limited supply of SVIB-W Booklets and nearly 900 women pharmacists have expressed a willingness to complete this interest inventory, we would appreciate greatly your returning the booklet and completed answer sheet to us in the stamped, self-addressed envelope as soon as possible. We can then send your booklet to another woman pharmacist. Thank you for your cooperation.

Sincerely,

Kenneth W. Kirk

APPENDIX M

COPY OF FINAL REMINDER POSTCARD

COPY OF FINAL REMINDER POSTCARD

Dear Fellow Pharmacist:

The deadline for returning the SVIB-W booklet and answer sheet is fast approaching. The answer sheets will be sent in to be scored on NOVEMBER 1, 1971. Any sheets received after that date will not be included in our study.

I can understand how you possibly may not have the time to complete this interest inventory, as it does require at least 30 minutes to complete usually. If you cannot complete the SVIB-W by November 1, PLEASE RETURN THE BOOKLET AND ANSWER SHEET TO ME ANYWAY, using the self-addressed, stamped envelope which accompanied the SVIB-W material sent to you. These materials are not ours and we must pay for everything that is not returned. Thank you for your cooperation in returning the SVIB-W booklet and answer sheet to me, either completed or not completed.

Sincerely,

Kenneth W. Kirk, R.Ph.
Graduate Student

APPENDIX N

EXPLANATION OF THE CHI-SQUARE TEST OF SIGNIFICANCE

Two sets of frequencies, observed (actual) and expected (theoretical), are compared by computing the statistic "chi-square," which depends upon the differences between the observed frequencies and the corresponding theoretical frequencies. The computer value of chi-square is compared with the known theoretical distribution of chi-square to determine whether the chi-square is significantly different from zero.

The formula for calculating chi-square values is given below.

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

where: f_o = observed frequency

f_e = expected frequency

A sample calculation of a chi-square value is made below using the data from the following table.

Favor Mandatory Cont. Education	Women Pharmacists Active R.Ph.	Inactive R.Ph.	Total
Yes	542	121	663
No	403	108	511
No Opinion or Yes/No	110	34	144
Total	1055	263	1318

The null hypothesis is there will be no difference in the responses of the two groups of women pharmacists.

A total of 80.0 percent of the sample is active pharmacists (1055/1318), so one would hypothesize that 80.0 percent of the 663 "Yes" responses would be made by active pharmacists and 20.0 percent of the 663 "Yes" responses would have been made by inactive pharmacists. The same percentages are applied to the 511 "No" responses and the 144 "No Opinion or Yes/No" responses. The expected frequencies for this table are given below.

Favor Mandatory Cont. Education	Women Pharmacists Active R.Ph.	Inactive R.Ph.	Total
Yes	530	133	663
No	409	102	511
No Opinion or Yes/No	115	29	144

Using the chi-square formula, one gets the following fractions:

$$\chi^2 = \frac{(12)^2}{530} + \frac{(-6)^2}{409} + \frac{(-5)^2}{115} + \frac{(-12)^2}{133} + \frac{(6)^2}{102} + \frac{(5)^2}{29}$$

The calculated value of chi-square is thus,

$$\chi^2 = \frac{144}{530} + \frac{36}{409} + \frac{25}{115} + \frac{144}{133} + \frac{36}{102} + \frac{25}{29} = 2.86$$

There are (2 X 1) two degrees of freedom in this 3 X 2 table, and the chi-square value listed in a Chi-Square Distribution Table for 2 d.f. and 5 percent level of significance is 5.99. Since 2.86 is less than 5.99, the difference between the responses of the two groups of women pharmacists is not considered to be significant and is attributed to chance rather than to any real difference.

For additional information about chi-square analyses, see Richmond, Samuel B., Statistical Analysis, 2nd Edition, Donald Press Company, New York, 1964, pp. 290-303.

APPENDIX O

EXPLANATION OF THE F-TEST FOR SIGNIFICANT DIFFERENCES

The F-test is used to test the hypothesis that independent populations have equal expected values. In this study, the F-test was used to determine if different groups of women pharmacists had equal mean hourly salaries.

The formula for determining the F value is:

$$F = \frac{\text{Mean Square Between Groups}}{\text{Mean Square Within Groups}}$$

Individual observations in any sample will differ from each other, or show variability. These obtained differences among individuals can be due to two things. Some pairs of individuals are in different treatment groups, and their differences are due either to the different treatments, or to chance variation, or to both (between group differences). Individuals in the same treatment group can differ only because of chance variation, since each individual within the group receives exactly the same treatment (within group differences).

All F values in this study were calculated by a computer using the STATJOB NWAY1 Analysis of Variance program.

For further information about the F-test, see Hays, William L., Statistics, Holt, Rinehart, and Winston, New York, 1963, pp. 362-370.

APPENDIX P

COPY OF SVIB-W PROFILE SENT TO WOMEN PHARMACISTS

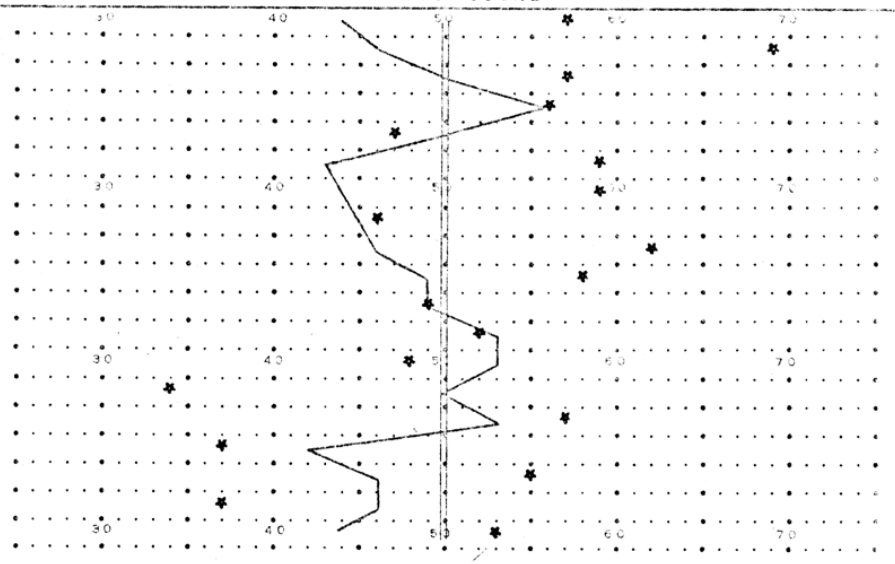
ADREON BEATRICE R 7129 F 12-15-71 149 030305 -
FORM T398

NCS PROFILE— STRONG VOCATIONAL INTEREST BLANK —FOR WOMEN

BASIC INTEREST SCALES

SCALE	STD. SCORE
PUBLIC SPEAKING	57
LAW POLITICS	69
MERCHANDISING	57
OFFICE PRACTICES	56
NUMBERS	47
PHYSICAL SCIENCE	59
MECHANICAL	59
OUTDOORS	46
BIOLOGICAL SCIENCE	62
MEDICAL SERVICE	58
TEACHING	49
SOCIAL SERVICE	52
SPORTS	48
HOMEMAKING	34
RELIGIOUS ACTIVITIES	57
MUSIC	37
ART	55
PERFORMING ARTS	37
WRITING	53

PLOTTED SCORE



DOUBLE LINE = AVERAGE SCORE FOR 1000 EMPLOYED ADULT WOMEN
SINGLE LINE = AVERAGE SCORE FOR 906 HIGH SCHOOL SENIOR GIRLS

OCCUPATIONAL SCALES

	OCCUPATION	STD. SCORE
I	MUSIC TEACHER	8
	ENTERTAINER	10
	MUSICIAN PERFORMER	18
	MODEL	14
II	ART TEACHER	28
	ARTIST	23
	INTERIOR DECORATOR	19
III	NEWSWOMAN	32
	ENGLISH TEACHER	32
	LANGUAGE TEACHER	23
IV	YWCA STAFF MEMBER	38
	RECREATION LEADER	33
	DIRECTOR, CHRISTIAN ED.	25
	NUN-TEACHER	18
	GUIDANCE COUNSELOR	36
	SOCIAL SCIENCE TEACHER	44
	SOCIAL WORKER	34
V	SPEECH PATHOLOGIST	46
	PSYCHOLOGIST	34
	LIBRARIAN	51
	TRANSLATOR	34
VI	PHYSICIAN	42
	DENTIST	35
	MEDICAL TECHNOLOGIST	40
	CHEMIST	34
	MATHEMATICIAN	28
	COMPUTER PROGRAMMER	35
	MATH-SCIENCE TEACHER	40
	ENGINEER	39
VII	ARMY-ENLISTED	43
	NAVY-ENLISTED	37
	ARMY-OFFICER	50
	NAVY-OFFICER	42
VIII	LAWYER	48
	ACCOUNTANT	32
	BANKWOMAN	31
	LIFE INS. UNDERWRITER	28
	BUYER	21
	BUSINESS ED. TEACHER	23
IX	HOME ECONOMICS TEACHER	11
	DIETITIAN	31
X	PHYSICAL ED. TEACHER	30
	OCCUPATIONAL THERAPIST	41
	PHYSICAL THERAPIST	43
	PUBLIC HEALTH NURSE	39
	REGISTERED NURSE	31
	LIC. PRACTICAL NURSE	29
	RADIOLOGIC TECHNOLOGIST	35
	DENTAL ASSISTANT	23
XI	EXECUTIVE HOUSEKEEPER	26
	ELEMENTARY TEACHER	33
	SECRETARY	23
	SALESWOMAN	24
	TELEPHONE OPERATOR	20
	INSTRUMENT ASSEMBLER	21
	SEWING MACHINE OPER.	13
	BEAUTICIAN	15
	AIRLINE STEWARDESS	16

NON-OCCUPATIONAL SCALES

AACH	DIV	FMII	OIE
61	56	49	47

ADMINISTRATIVE INDICES

TR	UNP	FC	LP	IP	DP
398	8	4	31	41	28

SCORED BY NATIONAL COMPUTER SYSTEMS, INC., 4401 WEST 76TH ST., MINNEAPOLIS, MINN.

APPENDIX Q

CALCULATION OF DATA IN TABLE 33

A computer program was written which calculated the mean percentages for time spent in community and hospital pharmacy practice, both full-time and part-time as well as total time. The following data were obtained:

	Full-Time (%)	Part-Time (%)	Total (%)
Community ...	66.1	54.1	57.5
Hospital	26.6	13.4	19.4
Total	92.7	67.5	76.9
	(1180)	(1179)	(1177)

The total column percentages were retained. The full-time and part-time percentages were adjusted by hand to eliminate the number who had never practiced full-time (N = 74) and those who had never practiced part-time (N = 378). The adjusted figures are below.

	Full-Time (%)	Part-Time (%)
Community	70.5	79.6
Hospital	28.4	19.7
Total	98.9	99.3
	(1106)	(801)

Theoretically, each of the two columns should have added to 100 percent, but rounding errors during the calculation resulted in this not being possible.

An earlier analysis had shown that the mean percentage spent in full-time practice for the entire sample of women pharmacists was 51.3 percent and the mean percentage in

part-time practice was 26.8 percent. These percentages were applied to the calculated percentages as follows:

Community Pharmacy:

Full-Time:	70.5%	X	51.3%	= 36.2 or	36%
Part-Time:	79.6%	X	26.8%	= 21.3 or	21%
					57%

Hospital Pharmacy:

Full-Time:	28.4%	X	51.3%	= 14.6 or	15%
Part-Time:	19.7%	X	26.8%	= 5.3 or	5%
					20%

The 57 percent and 20 percent figures compare favorably with the 57.5 percent and 19.4 percent figures calculated previously. Thus, the calculated percentages in Table 33 were considered to be valid enough to include in this study.

APPENDIX R

STATES WHERE WOMEN PHARMACISTS WERE FIRST REGISTERED AND NUMBER OF WOMEN WHO ARE NOW IN A DIFFERENT STATE

State	First Registered	In Different State Now
Alabama	24	10
Alaska	0	0
Arizona	0	0
Arkansas	3	0
California	69	6
Colorado	30	12
Connecticut	33	7
Delaware	2	2
Dist. of Columbia	11	8
Florida	16	4
Georgia	25	5
Hawaii	0	0
Idaho	10	4
Illinois	68	18
Indiana	56	20
Iowa	23	6
Kansas	17	8
Kentucky	11	4
Louisiana	25	10
Maine	2	0
Maryland	16	4
Massachusetts	49	13
Michigan	52	10
Minnesota	27	9
Mississippi	9	3
Missouri	24	6
Montana	14	9
Nebraska	17	8
Nevada	0	0
New Hampshire	4	1
New Jersey	25	7
New Mexico	4	2

State	First Registered	In Different State Now
New York	111	21
North Carolina	20	6
North Dakota	16	10
Ohio	107	25
Oklahoma	30	10
Oregon	22	8
Pennsylvania	124	46
Rhode Island	20	8
South Carolina	10	3
South Dakota	13	4
Tennessee	20	6
Texas	59	7
Utah	7	2
Vermont	2	1
Virginia	9	4
Washington	57	33
West Virginia	9	5
Wisconsin	27	13
Wyoming	6	2
Total	1335	410

APPENDIX S

COPY OF SVIB-W PROFILE EXPLANATION PRINTED ON BACK OF THE SVIB-W PROFILE

APPENDIX T

EXPLANATION OF THE SVIB WOMEN-IN-GENERAL GROUP

In 1946, the original Women-In-General group (WIG) was developed using a total of 7,819 women from various occupations. In 1968, the WIG sample was changed to include 1,000 women. This sample consisted of 20 women from each of 50 various occupations.

The purpose of the WIG is to serve as a "base" to which students can compare their scores. The 50 occupations in the WIG group are diversified such that the sample represents women with a variety of interests. Thus, as the name implies, the WIG group represents the interests of the average woman, or of women, in general.

For more information about the Women-In-General group, see Campbell, David P., Handbook for the Strong Vocational Interest Blank, Stanford University Press, Stanford, 1971, pp. 401-404.

APPENDIX U

EXAMPLES OF SVIB-W ITEM WEIGHTING

1. Item 1:

	L	I	D
Women Pharmacists	36	20	44
Women-In-General	41	27	33
	- 5		+11

The difference between either the "L" (Like) or "D" (Dislike) responses was not 15 points or more, so Item 1 was not weighted. The difference between the two "I" (Indifferent) responses does not matter since neither the "L" nor "D" responses were weighted.

2. Item 13:

	L	I	D
Women Pharmacists	73	17	9
Women-In-General	31	29	40
	+43	-12	-31

The difference between both the "L" and "D" responses is 15 points or more, so the "L" column is weighted "+" and the "D" column is weighted "-." The difference between the two "I" responses is 10 points or more, so it is weighted "-."

3. Item 33:

	L	I	D
Women Pharmacists	24	29	47
Women-In-General	37	33	30
	-13	- 4	+17

The difference between the "D" responses is 15 points or more, so the "D" column is weighted "+." The "L" column is weighted "-" irregardless of the difference between the two responses, which in this example, is less than 15 points. The difference between the two "I" responses is less than 10 points, so it is not weighted.

APPENDIX V

ITEMS ON SVIB-W WHICH DIFFERENTIATED THE WOMEN PHARMACISTS FROM THE WOMEN-IN-GENERAL GROUP

Listed below are the 67 items on the SVIB-W which differentiated the 431 women pharmacists from the Women-In-General group. Also listed are the weights given to each item. All differences were of 15 points or more. For specific identification of each item, see a copy of the SVIB-W test booklet in Appendix I.

Items 256 through 295 were not evaluated for this analysis. These items are four sets of 10 items where the respondent has to select three "Like," three "Dislike," and four "Indifferent" choices for each set. At the time of this study, elimination of these 40 items from the SVIB-W was being considered by some SVIB researchers.

Item No.	L	I	D	Item No.	L	I	D	Item No.	L	I	D
12	+		-	157	-	+	+	306	+		-
13	+	-	-	159	+		-	307	-		+
16	+	-	-	162	-	+	+	310	-	-	+
22	+	-	-	165	-		+	323	+	-	-
30	+		-	184	-		+	326	-		+
33	-		+	187	-		+	327	-	-	+
39	-		+	190	-		+	331	-	-	+
54	+		-	191	-		+	362	+		-
77	+	-	-	197	+		-	363	+		-
78	+	-	-	199	+	-	-	364	-		+
79	-		+	202	-		+	367	+	-	-
90	+		-	203	+		-	368	+		-
98	+		-	225	-		+	369	+	-	-
101	+		-	226	-	+	+	372	-		+
102	+		-	236	-		+	373	-		+
106	-		+	237	-	-	+	375	-		+
111	+		-	240	+	-	-	378	+		-
112	-		+	243	-		+	379	-		+
114	-		+	248	-		+	388	-		+
117	-		+	251	-	-	+	390	+		-
127	+		-	298	+		-	391	+	-	-
138	-		+	299	-		+	396	-	+	+
				300	-	-	+				

APPENDIX W

PRINT-OUT OF SVIB-W STANDARD SCORES FOR ITEM ANALYSIS GROUP OF WOMEN PHARMACISTS

The following pages list the cumulative and individual scores on the SVIB-W for the women pharmacists who were used to make the item analysis. Both raw scores and standard scores are listed. The code number assigned to each woman is listed, but the woman's name is not since each score was to remain confidential.

To interpret the standard scores correctly, a decimal point must be placed between the second and third digit. All scores then are rounded off to the nearest whole number. In other words, a listed standard score of 737 is interpreted as 74.

The reliability (KR-21) figure of 0.951 is a measure of internal consistency and is extremely high. This measurement is called the Kuder-Richardson Method which is a split-half method where two test parts are treated as parallel tests. The more homogeneous the items are, the greater the numerical value of KR-21 with the maximum value being 1.0.

For more information about the KR-21 method of measuring reliability, see Magnusson, David, Test Theory, Addison-Wesley Publishing Company, Stockholm, 1966, pp. 115-118.

ANALYSIS FOR MR. K. W. KIRK

STRONG VOCATIONAL INTEREST BLANK -- WOMEN

PHARMACEUTICAL PROFILE

LARGE CONTROL SAMPLE

SUMMARY OF TEST STATISTICS

NUMBER OF ITEMS	67
MEAN SCORE	15.48
MEDIAN SCORE	17.06
STANDARD DEVIATION	13.74
RELIABILITY (KR-21)	0.951
S.E. OF MEASUREMENT	3.04
POSSIBLE LOW SCORE	-67
POSSIBLE HIGH SCORE	67
OBTAINED LOW SCORE	-28
OBTAINED HIGH SCORE	48
NUMBER OF SCORES	431
BLANK SCORES	0
INVALID SCORES	0
VALID SCORES	431

ANALYSIS FOR MR. K. W. KIRK

STRONG VOCATIONAL INTEREST BLANK -- WOMEN

PHARMACEUTICAL PROFILE

LARGE CONTROL SAMPLE

TEST FREQUENCY DISTRIBUTION

RAW SCORE	STANDARD SCORE	PER CENTILE	PERCENT	FREQ	CUM FREQ	EACH * REPRESENTS 1 PERSON(S)
48	737	99	0.5	2	431	**
47	729	99	0.2	1	429	*
46	722	99	0.0	0	428	
45	715	99	0.0	0	428	
44	707	99	0.2	1	428	*
43	700	99	0.7	3	427	***
42	693	98	0.2	1	424	*
41	686	98	0.0	0	423	
40	678	98	0.2	1	423	*
39	671	98	0.7	3	422	***
38	664	97	0.2	1	419	*
37	657	97	1.4	6	418	******
36	649	96	1.2	5	412	*****
35	642	94	1.2	5	407	*****
34	635	93	1.2	5	402	*****
33	627	92	2.1	9	397	*********
32	620	90	1.9	8	388	********
31	613	88	1.6	7	380	*******
30	606	87	1.6	7	373	*******
29	598	85	2.1	9	366	*********
28	591	83	2.1	9	357	*********
27	584	81	2.1	9	348	*********

26	577	79	1.4	6	339	******
25	569	77	4.2	18	333	******************
24	562	73	3.7	16	315	*****************
23	555	69	2.6	11	299	**********
22	547	67	3.7	16	288	*****************
21	540	63	1.9	8	272	********
20	533	61	3.0	13	264	************
19	526	58	3.2	14	251	************
18	518	55	3.2	14	237	************
17	511	52	3.9	17	223	*****************
16	504	48	2.3	10	206	**********
15	496	45	2.8	12	196	**********
14	489	43	2.3	10	184	**********
13	482	40	1.9	8	174	********
12	475	39	3.2	14	166	************
11	467	35	1.2	5	152	*****
10	460	34	2.8	12	147	**********
9	453	31	2.8	12	135	**********
8	446	29	2.1	9	123	*********
7	438	26	1.4	6	114	******
6	431	25	1.9	8	108	********
5	424	23	2.1	9	100	*********
4	416	21	1.4	6	91	******
3	409	20	1.2	5	85	*****
2	402	19	1.2	5	80	*****
1	395	17	1.6	7	75	*******
0	387	16	0.9	4	68	****
-1	380	15	0.9	4	64	****
-2	373	14	1.4	6	60	******
-3	366	13	0.5	2	54	**
-4	358	12	1.9	8	52	********
-5	351	10	1.9	8	44	********
-6	344	8	1.2	5	36	*****
-7	336	7	1.6	7	31	*******
-8	329	6	0.7	3	24	***
-9	322	5	0.9	4	21	****

					17	**
-10	315	4	0.5	2	15	*****
-11	307	3	1.2	5	10	*
-12	300	2	0.2	1	9	*
-13	293	2	0.2	1	8	*
-14	285	2	0.2	1	7	
-15	278	2	0.0	0	7	**
-16	271	2	0.5	2	5	*
-17	264	1	0.2	1	4	
-18	256	1	0.0	0	4	
-19	249	1	0.0	0	4	**
-20	242	1	0.5	2	2	
-21	235	1	0.0	0	2	
-22	227	1	0.0	0	2	
-23	220	1	0.0	0	2	
-24	213	1	0.0	0	2	
-25	205	1	0.0	0	2	
-26	198	1	0.2	1	2	*
-27	191	1	0.2	1	1	*
-28	184	1				

	RAW	STAND	PCT
4005	19	526	58
4001	33	627	92
4002	19	526	58
4006	-7	336	7
4009	12	475	39
4010	20	533	61
4011	33	627	92
4014	21	540	63
4016	-6	344	8
4020	9	453	31
4021	29	598	85
4023	22	547	67
4024	14	489	43
4027	22	547	67
4029	-20	242	1
4030	16	504	48
4031	30	606	87
4032	23	555	69
4034	35	642	94
4036	20	533	61
4037	20	533	61
4042	15	496	45
4043	19	526	58
4046	5	424	23
4050	21	540	63
4051	28	591	83
4053	-28	184	1
4054	18	518	55
4055	20	533	61
4056	25	569	77
4059	14	489	43
4061	14	489	43
4063	5	424	23
4064	32	620	90
4065	10	460	34
4066	21	540	63
4067	16	504	48
4071	48	737	99
4072	3	409	20
4073	-17	264	1
4078	19	526	58
4079	23	555	69
4085	24	562	73
4087	20	533	61
4088	11	467	35
4093	12	475	39
4095	12	475	39
4096	25	569	77
4097	19	526	58
4101	28	591	83

4102	27	584	81
4103	22	547	67
4105	-20	242	1
4106	33	627	92
4108	15	496	45
4109	10	460	34
4110	-4	358	12
4112	12	475	39
4114	32	620	90
4115	17	511	52
4116	-4	358	12
4117	-5	351	10
4118	5	424	23
4119	33	627	92
4121	9	453	31
4123	27	584	81
4127	-4	358	12
4129	37	657	97
4135	17	511	52
4142	21	540	63
4143	0	387	16
4144	24	562	73
4148	18	518	55
4150	0	387	16
4151	33	627	92
4152	8	446	29
4157	42	693	98
4159	-2	373	14
4162	-8	329	6
4164	14	489	43
4165	8	446	29
4168	32	620	90
4172	0	387	16
4173	23	555	69
4179	17	511	52
4182	7	438	26
4186	24	562	73
4187	22	547	67
4189	-27	191	1
4191	23	555	69
4193	19	526	58
4194	24	562	73
4191	8	446	29
4191	13	482	40
4201	6	431	25
420	20	533	61
420	17	511	52
420	-13	293	2

4205	34	635	93
4206	29	598	85
4209	-5	351	10
4211	23	555	69
4212	18	518	55
4215	11	467	35
4216	10	460	34
4219	-12	300	2
4222	12	475	39
4224	1	395	17
4225	11	467	35
4227	29	598	85
4230	22	547	67
4231	10	460	34
4232	32	620	90
4236	28	591	83
4237	44	707	99
4239	24	562	73
4241	48	737	99
4243	15	496	45
4244	27	584	81
4246	28	591	83
4247	32	620	90
4248	26	577	79
4250	17	511	52
4251	29	598	85
4252	7	438	26
4253	29	598	85
4254	29	598	85
4255	33	627	92
4256	-4	358	12
4257	25	569	77
4259	36	649	96
4261	21	540	63
4262	1	395	17
4263	7	438	26
4264	6	431	25
4265	8	446	29
4266	25	569	77
4267	22	547	67
4268	2	402	19
4271	25	569	77
4273	14	489	43
4274	35	642	94
4275	16	504	48
4282	17	511	52
4283	24	562	73
4285	-6	344	8

4287	39	671	98
4289	22	547	67
4292	17	511	52
4296	27	584	81
4299	9	453	31
4301	8	446	29
4304	9	453	31
4305	35	642	94
4306	19	526	58
4309	13	482	40
4311	33	627	92
4312	24	562	73
4313	22	547	67
4317	31	613	88
4318	12	475	39
4322	-7	336	7
4323	25	569	77
4328	31	613	88
4330	8	446	29
4331	22	547	67
4332	-2	373	14
4333	25	569	77
4335	22	547	67
4341	13	482	40
4342	-10	315	4
4344	32	620	90
4347	13	482	40
4348	21	540	63
4349	-9	322	5
4351	11	467	35
4354	-2	373	14
4358	6	431	25
4360	-9	322	5
4361	39	671	98
4364	20	533	61
4365	-11	307	3
4366	-4	358	12
4367	16.	504	48
4368	-9	322	5
4371	-7	336	7
4372	13	482	40
4373	5	424	23
4377	36	649	96
4380	34	635	93
4382	30	606	87
4383	20	533	61
4384	-4	358	12
4387	2	402	19

4389	18	518	55
4391	13	482	40
4394	10	460	34
4397	17	511	52
4398	-3	366	13
4399	-6	344	8
4401	-5	351	10
4402	23	555	69
4403	17	511	52
4404	22	547	67
4406	-11	307	3
4407	7	438	26
4408	16	504	48
4409	3	409	20
4410	27	584	81
4413	1	395	17
4415	37	657	97
4417	39	671	98
4418	1	395	17
4421	6	431	25
4422	18	518	55
4423	15	496	45
4425	-2	373	14
4428	17	511	52
4431	-4	358	12
4439	23	555	69
4440	15	496	45
4441	13	482	40
4442	24	562	73
4448	10	460	34
4449	37	657	97
4451	25	569	77
4452	8	446	29
4454	24	562	73
4455	26	577	79
4456	14	489	43
4457	34	635	93
4458	25	569	77
4464	-1	380	15
4468	24	562	73
4470	31	613	88
4471	17	511	52
4472	47	729	99
4473	27	584	81
4475	15	496	45
4476	10	460	34
4477	22	547	67
4481	1	395	17

4483	27	584	81
4484	-7	336	7
4485	24	562	73
4488	18	518	55
4489	18	518	55
4490	20	533	61
4491	25	569	77
4492	-1	380	15
4496	24	562	73
4495	14	489	43
4496	19	526	58
4497	37	657	97
4503	17	511	52
4505	17	511	52
4509	-5	351	10
4515	22	547	67
4518	31	613	88
4520	36	649	96
4521	21	540	63
4522	23	555	69
4524	43	700	99
4528	15	496	45
4530	31	613	88
4533	25	569	77
4534	24	562	73
4536	9	453	31
4537	4	416	21
4539	21	540	63
4543	25	569	77
4544	19	526	58
4545	1	395	17
4546	5	424	23
4547	18	518	55
4549	1	395	17
4550	19	526	58
4552	-7	336	7
4554	25	569	77
4555	29	598	85
4557	10	460	34
4560	3	409	20
4561	25	569	77
4562	30	606	87
4563	9	453	31
4567	9	453	31
4569	17	511	52
4570	14	489	43
4571	16	504	48
4572	4	416	21

4573	-9	322	5
4574	5	424	23
4575	26	577	79
4577	34	635	93
4578	-7	336	7
4579	10	460	34
4580	37	657	97
4581	16	504	48
4583	33	627	92
4584	-2	373	14
4586	7	438	26
4587	12	475	39
4588	12	475	39
4589	20	533	61
4590	18	518	55
4593	0	387	16
4594	18	518	55
4595	9	453	31
4596	10	460	34
4597	12	475	39
4598	30	606	87
4599	14	489	43
4601	-3	366	13
4602	18	518	55
4603	31	613	88
4604	9	453	31
4605	15	496	45
4606	8	446	29
4607	9	453	31
4608	37	657	97
4612	-5	351	10
4613	3	409	20
4617	23	555	69
4619	5	424	23
4621	27	584	81
4624	-5	351	10
4625	-7	336	7
4627	28	591	83
4628	4	416	21
4629	27	584	81
4632	9	453	31
4635	24	562	73
4641	26	577	79
4644	28	591	83
4646	17	511	52
4647	15	496	45
4649	-4	358	12
4653	-8	329	6

4655	2	402	19
4658	20	533	61
4660	10	460	34
4665	29	598	85
4667	16	504	48
4671	4	416	21
4672	5	424	23
4678	-16	271	2
4679	28	591	83
4680	29	598	85
4682	19	526	58
4683	18	518	55
4684	26	577	79
4685	24	562	73
4688	6	431	25
4689	-8	329	6
4690	-6	344	8
4693	16	504	48
4694	12	475	39
4696	32	620	90
4697	12	475	39
4698	22	547	67
4699	11	467	35
4700	28	591	83
4701	18	518	55
4702	-5	351	10
4706	-16	271	2
4707	25	569	77
4709	25	569	77
4710	7	438	26
4711	4	416	21
4712	30	606	87
4713	15	496	45
4715	36	649	96
4716	6	431	25
4719	43	700	99
4721	6	431	25
4722	19	526	58
4725	22	547	67
4726	-11	307	3
4727	20	533	61
4730	14	489	43
4731	19	526	58
4732	26	577	79
4733	20	533	61
4734	25	569	77
4737	25	569	77
4738	-5	351	10

4740	12	475	39
4744	31	613	88
4745	15	496	45
4746	10	460	34
4747	19	526	58
4749	12	475	39
4750	6	431	25
4752	18	518	55
4756	28	591	83
4758	3	409	20
4759	5	424	23
4761	33	627	92
4764	-14	285	2
4765	32	620	90
4769	-10	315	4
4771	13	482	40
4774	-11	307	3
4775	-6	344	8
4776	16	504	48
4780	43	700	99
4781	30	606	87
4782	40	678	98
4783	36	649	96
4784	9	453	31
4785	-1	380	15
4786	2	402	19
4789	30	606	87
4794	-2	373	14
4796	35	642	94
4797	12	475	39
4800	2	402	19
4802	34	635	93
4803	17	511	52
4806	8	446	29
4808	35	642	94
4811	-1	380	15
4813	22	547	67
4815	15	496	45
4816	17	511	52
4817	23	555	69
4819	38	664	97
4821	4	416	21
4822	23	555	69
4823	-11	307	3
4824	24	562	73

APPENDIX X

PRINT-OUT OF SVIB-W STANDARD SCORES FOR CROSS-VALIDATION GROUP OF WOMEN PHARMACISTS

The following pages list the cumulative and individual scores on the SVIB-W for the women pharmacists who served as the cross-validation group. Both raw scores and standard scores are listed. The code number assigned to each woman is listed, but the woman's name is not since each score was to remain confidential.

To interpret the standard scores correctly, a decimal point must be placed between the second and third digit. All scores then are rounded off to the nearest whole number. In other words, a listed standard score of 726 is interpreted as 73.

The KR-21 value of 0.964 shows extremely high internal consistency in the scores. The KR-21 Method is explained in Appendix W.

ANALYSIS FOR MR. K. W. KIRK

STRONG VOCATIONAL INTEREST BLANK -- WOMEN

PHARMACEUTICAL PROFILE

SMALL TEST SAMPLE

SUMMARY OF TEST STATISTICS

NUMBER OF ITEMS	67
MEAN SCORE	13.77
MEDIAN SCORE	14.63
STANDARD DEVIATION	14.72
RELIABILITY (KR-21)	0.964
S.E. OF MEASUREMENT	2.80
POSSIBLE LOW SCORE	-67
POSSIBLE HIGH SCORE	67
OBTAINED LOW SCORE	-24
OBTAINED HIGH SCORE	47
NUMBER OF SCORES	215
BLANK SCORES	0
INVALID SCORES	0
VALID SCORES	215

ANALYSIS FOR MR. K. W. KIRK

STRONG VOCATIONAL INTEREST BLANK -- WOMEN

PHARMACEUTICAL PROFILE

SMALL TEST SAMPLE

TEST FREQUENCY DISTRIBUTION

RAW SCORE	STANDARD SCORE	PER CENTILE	PERCENT	FREQ	CUM FREQ	EACH * REPRESENTS 1 PERSON(S)
47	726	99	0.9	2	215	**
46	719	99	0.5	1	213	*
45	712	99	0.9	2	212	**
44	705	98	0.0	0	210	
43	699	98	0.5	1	210	*
42	692	97	0.9	2	209	**
41	685	96	0.5	1	207	*
40	678	96	0.0	0	206	
39	671	96	0.9	2	206	**
38	665	95	0.0	0	204	
37	658	95	0.9	2	204	**
36	651	94	0.9	2	202	**
35	644	93	0.5	1	200	*
34	637	93	0.9	2	199	**
33	631	92	0.9	2	197	**
32	624	91	1.4	3	195	***
31	617	89	1.9	4	192	****
30	610	87	1.4	3	188	***
29	603	86	2.3	5	185	*****
28	597	84	0.9	2	180	**
27	590	83	3.3	7	178	*******
26	583	80	1.4	3	171	***

25	576	78	1.4	3	168	***
24	570	77	3.3	7	165	*******
23	563	73	2.8	6	158	******
22	556	71	2.3	5	152	*****
21	549	68	0.9	2	147	**
20	542	67	3.7	8	145	********
19	536	64	6.5	14	137	**************
18	529	57	2.3	5	123	*****
17	522	55	1.4	3	118	***
16	515	53	1.9	4	115	****
15	508	52	1.9	4	111	****
14	502	50	1.4	3	107	***
13	495	48	1.9	4	104	****
12	488	47	1.4	3	100	***
11	481	45	2.3	5	97	*****
10	474	43	3.3	7	92	*******
9	468	40	1.9	4	85	****
8	461	38	1.4	3	81	***
7	454	36	2.3	5	78	*****
6	447	34	1.9	4	73	****
5	440	32	1.9	4	69	****
4	434	30	4.2	9	65	*********
3	427	26	3.7	8	56	********
2	420	22	0.5	1	48	*
1	413	22	1.9	4	47	****
0	406	20	2.8	6	43	******
-1	400	17	2.3	5	37	*****
-2	393	15	1.4	3	32	***
-3	386	13	0.9	2	29	**
-4	379	13	1.9	4	27	****
-5	373	11	0.9	2	23	**
-6	366	10	0.5	1	21	*
-7	359	9	1.4	3	20	***
-8	352	8	1.4	3	17	***
-9	345	7	1.4	3	14	***
-10	339	5	0.0	0	11	

-11	332	5	0.5	1	11	*
-12	325	5	0.5	1	10	*
-13	318	4	0.0	0	9	
-14	311	4	1.9	4	9	****
-15	305	2	0.9	2	5	**
-16	298	1	0.0	0	3	
-17	291	1	0.0	0	3	
-18	284	1	0.0	0	3	
-19	277	1	0.5	1	3	*
-20	271	1	0.5	1	2	*
-21	264	1	0.0	0	1	
-22	257	1	0.0	0	1	
-23	250	1	0.0	0	1	
-24	243	1	0.5	1	1	*

	RAW	STAND	PCT
4003	29	603	86
4007	29	603	86
4012	19	536	64
4013	45	712	99
4025	27	590	83
4026	31	617	89
4028	6	447	34
4039	26	583	80
4040	39	671	96
4044	3	427	26
4062	33	631	92
4068	31	617	89
4069	-15	305	2
4070	14	502	50
4074	-8	352	8
4075	7	454	36
4076	19	536	64
4077	27	590	83
4081	19	536	64
4082	22	556	71
4083	-4	379	13
4090	-8	352	8
4098	19	536	64
4099	0	406	20
4107	20	542	67
4111	42	692	97
4120	7	454	36
4122	23	563	73
4128	22	556	71
4130	41	685	96
4132	23	563	73
4133	5	440	32
4136	4	434	30
4137	18	529	57
4138	32	624	91
4140	19	536	64
4141	36	651	94
4154	20	542	67
4155	19	536	64
4158	0	406	20
4163	16	515	53
4167	10	474	43
4170	19	536	64
4171	16	515	53
4174	27	590	83
4175	35	644	93
4176	18	529	57
4178	17	522	55
4183	-9	345	7
4185	10	474	43

4188	30	610	87
4192	-8	352	8
4194	2	420	22
4195	-4	379	13
4197	28	597	84
4204	37	658	95
4218	9	468	40
4220	37	658	95
4221	11	481	45
4226	24	570	77
4228	11	481	45
4233	0	406	20
4234	3	427	26
4238	29	603	86
4242	13	495	48
4245	39	671	96
4258	26	583	80
4260	-24	243	1
4269	-4	379	13
4270	11	481	45
4272	47	726	99
4276	3	427	26
4277	9	468	40
4279	5	440	32
4280	4	434	30
4281	11	481	45
4284	19	536	64
4286	22	556	71
4291	43	699	98
4294	29	603	86
4295	3	427	26
4297	8	461	38
4300	32	624	91
4302	14	502	50
4307	10	474	43
4310	19	536	64
4315	10	474	43
4319	-11	332	5
4321	18	529	57
4324	18	529	57
4325	10	474	43
4326	7	454	36
4327	3	427	26
4329	20	542	67
4334	47	726	99
4336	19	536	64
4337	1	413	22
4338	17	522	55

4339	-1	400	17
4340	16	515	53
4345	24	570	77
4346	19	536	64
4350	26	583	80
4353	-7	359	9
4357	-5	373	11
4362	0	406	20
4374	20	542	67
4376	15	508	52
4378	5	440	32
4379	-1	400	17
4392	0	406	20
4395	20	542	67
4400	24	570	77
4405	4	434	30
4411	-1	400	17
4414	-19	277	1
4416	-14	311	4
4420	-7	359	9
4429	-6	366	10
4432	5	440	32
4434	34	637	93
4435	10	474	43
4436	11	481	45
4437	-2	393	15
4444	-1	400	17
4450	22	556	71
4461	15	508	52
4462	6	447	34
4466	21	549	68
4469	46	719	99
4474	24	570	77
4478	4	434	30
4480	24	570	77
4487	-1	400	17
4498	-9	345	7
4501	20	542	67
4502	27	590	83
4506	45	712	99
4507	-3	386	13
4508	31	617	89
4510	3	427	26
4511	15	508	52
4512	25	576	78
4513	-2	393	15
4516	22	556	71
4517	27	590	83

4523	6	447	34
4526	20	542	67
4529	33	631	92
4532	19	536	64
4538	14	502	50
4540	-14	311	4
4541	-9	345	7
4548	4	434	30
4553	32	624	91
4556	23	563	73
4558	3	427	26
4565	17	522	55
4568	23	563	73
4576	-4	379	13
4585	28	597	84
4600	-15	305	2
4614	12	488	47
4616	42	692	97
4618	4	434	30
4620	1	413	22
4626	13	495	48
4631	10	474	43
4634	23	563	73
4636	-5	373	11
4642	27	590	83
4643	3	427	26
4648	8	461	38
4654	16	515	53
4656	24	570	77
4661	9	468	40
4663	23	563	73
4666	15	508	52
4668	20	542	67
4669	-14	311	4
4673	13	495	48
4674	29	603	86
4687	30	610	87
4695	6	447	34
4705	0	406	20
4708	24	570	77
4717	1	413	22
4720	19	536	64
4728	19	536	64
4729	25	576	78
4741	-12	325	5
4742	21	549	68
4743	7	454	36
4753	12	488	47

4754	-2	393	15
4755	27	590	83
4763	34	637	93
4766	4	434	30
4770	4	434	30
4772	-14	311	4
4773	12	488	47
4778	25	576	78
4787	1	413	22
4788	18	529	57
4790	36	651	94
4793	13	495	48
4798	30	610	87
4799	-20	271	1
4804	-3	386	13
4805	4	434	30
4807	31	617	89
4809	-7	359	9
4810	8	461	38
4812	9	468	40
4814	7	454	36

APPENDIX Y

SAMPLE DETERMINATION OF AN INDIVIDUAL'S RAW SCORE ON THE SVIB-W

The following is a hypothetical example of how to calculate an individual's SVIB-W raw score. Only the 67 items which differentiated the responses of the women pharmacists from the Women-In-General group are scored. The weights assigned for each item also are listed in Appendix V. "L" means a response of "Like," "I" means a response of "Indifferent," and "D" means a response of "Dislike."

	Weights Assigned			Woman's	
Item No.	L	I	D	Response	Raw Score
12	+		-	L	+ 1
13	+	-	-	D	- 1
16	+	-	-	I	- 1
22	+	-	-	L	+ 1
30	+		-	I	0
33	-		+	D	+ 1
39	-		+	D	+ 1
54	+		-	L	+ 1
77	+	-	-	I	- 1
78	+	-	-	L	+ 1
79	-		+	D	+ 1
90	+		-	I	0
98	+		-	L	+ 1
101	+		-	D	- 1
102	+		-	L	+ 1
106	-		+	I	0
111	+		-	L	+ 1
112	-		+	L	- 1
114	-		+	I	0
117	-		+	D	+ 1
127	+		-	L	+ 1
138	-		+	L	- 1
157	-	+	+	I	+ 1
159	+		-	L	+ 1
162	-	+	+	I	+ 1
165	-		+	L	- 1
184	-		+	I	0
187	-		+	I	0
190	-		+	L	- 1
191	-		+	D	+ 1
197	+		-	L	+ 1
199	+	-	-	I	- 1

Item No.	Weights Assigned L	I	D	Woman's Response	Raw Score
202	-		+	D	+ 1
203	+		-	L	+ 1
225	-		+	I	0
226	-	+	+	I	+ 1
236	-		+	D	+ 1
237	-	-	+	I	- 1
240	+	-	-	I	- 1
243	-		+	D	+ 1
248	-		+	L	- 1
251	-	-	+	L	- 1
298	+		-	L	+ 1
299	-		+	I	0
300	-	-	+	I	- 1
306	+		-	D	- 1
307	-		+	D	+ 1
310	-	-	+	L	- 1
323	+	-	-	L	+ 1
326	-		+	I	0
327	-	-	+	I	- 1
331	-	-	+	D	+ 1
362	+		-	L	+ 1
363	+		-	D	- 1
364	-		+	I	0
367	+	-	-	L	+ 1
368	+		-	D	- 1
369	+	-	-	L	+ 1
372	-		+	I	0
373	-		+	D	+ 1
375	-		+	I	0
378	+		-	L	+ 1
379	-		+	D	+ 1
388	-		+	L	- 1
390	+		-	D	- 1
391	+	-	-	I	- 1
396	-	+	+	I	+ 1

Total Raw Score: (+33) + (-22) = +11

APPENDIX Z

COPY OF LETTER RECEIVED FROM DR. DAVID P. CAMPBELL

UNIVERSITY OF *Minnesota*

OFFICE OF THE DEAN OF STUDENTS • STUDENT COUNSELING BUREAU
CENTER FOR INTEREST MEASUREMENT RESEARCH
MINNEAPOLIS, MINNESOTA 55455

April 25, 1972

Mr. Kenneth W. Kirk
School of Pharmacy
University of Wisconsin
Madison, Wisconsin 53706

Dear Mr. Kirk:

I have received the answer sheets and the computer output for your sample of women pharmacists. This is a large and well-selected sample, and I am delighted to have this information.

We are working now to include the scoring scale on the new profile for the Strong that we are developing. In about a year, this scoring scale should appear on the form of the Strong that is being developed for use by both sexes.

This scale will probably never appear on the women's profile, because of this changeover to the new form. As you may know, we have been receiving a great deal of criticism from womens' groups because we have two forms, and we are trying to move toward one form as soon as possible.

This means, incidentally, that there will be a pharmacist scale for men and a pharmacist scale for women on the profile. They will appear side by side and every person scored, whether male or female, will receive scores on both scales.

Once again, thank you for the information and congratulations on an excellent job of data collection.

Sincerely,

David P. Campbell
Professor of Psychology
and Director

DPC:lfk

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