# A COMPARATIVE STUDY OF PHARMACIST MEMBERS AND NONMEMBERS OF THE WISCONSIN PHARMACEUTICAL ASSOCIATION

by

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# CHAPTER I

## INTRODUCTION

The Wisconsin Pharmaceutical Association is a professional association the majority of whose active members are pharmacists residing in Wisconsin.[1] Merton defined a professional association as "an organization of practitioners who have banded together to perform in their separate capacity as individuals."[2]

There were 2596 pharmacists registered and residing in Wisconsin on September 1, 1967.[3] One thousand six hundred fifty-eight of these were members of WPhA on this date.[4] This membership included community pharmacists, hospital pharmacists, clinic pharmacists, professional service representatives of pharmaceutical manufacturers,

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[1]The Wisconsin Pharmaceutical Association will be referred to as WPhA throughout this paper.

[2]Robert K. Merton, "The Functions of the Professional Association," American Journal of Nursing, 58:1, January, 1958, p. 50.

[3]Actual count of registered pharmacists in Wisconsin obtained from pharmacists' registration renewal cards on file at the Wisconsin State Board of Pharmacy office, Milwaukee.

[4]From the membership records, obtained from WPhA office, 202 Price Place, Madison, Wisconsin.

teachers of pharmacy, wholesale pharmacists, manufacturing pharmacists and some retired and unemployed pharmacists. Thus WPhA includes representatives from the major fields of pharmacy in Wisconsin. Hartshern stated that, "a professional pharmacy organization should provide unity in the voice of its membership in any matter which deals with the public health as it is affected by drugs."[5] It appears that WPhA represents pharmacy in Wisconsin and should be able to provide this unity. A requisite for WPhA, however, is maintaining and increasing its membership so as to remain a representative body of Wisconsin pharmacists.

The objectives of this study are to identify some socioeconomic and attitudinal characteristics of pharmacists registered and residing in Wisconsin who are or are not members of WPhA. These data then are used to formulate recommendations for ways to increase WPhA membership.

## Need for the Study

The bases for organizing a professional association "are formed from central interests, but contain numerous

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[5]Edward A. Hartshern, "The Individual's Rights," The Illinois Pharmacist, 32:4, April, 1968, p. 180.

segments with differential attachment to the symbols, mystiques and fronts of the profession."[6] Being a pharmacist is the central interest of WPhA members and nonmembers. Segments with differential attachment to the symbols, mystiques and fronts of the profession are evidenced by the different fields of pharmacy practice. These interests, symbols, mystiques and fronts likely exert relevant influences on the attitudes of a practitioner about his professional associations.

Possible reasons for WPhA nonmembership include costs of membership,[7] lack of time to participate in the association activities and disinterest in membership resulting primarily from lack of knowledge about WPhA. The perceived return on investment from dues may contribute to nonmembership. In a study of

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[6]Peter K. Manning, Occupational Types and Organized Medicine: Physicians' Attitudes Toward the AMA, (unpublished Ph.D. dissertation) Duke University, 1966, p. 15.

[7]Pharmacy owners pay $50 annually; nonowners pay $30 annually. Associate members, those that are not registered pharmacists, pay $30 annually. Retired pharmacists pay $20 annually.

physicians' attitudes toward the American Medical Association Manning stated, "the professional associations serve in the main, the economic interests of its members."[8] Are "economic" and other interests served by WPhA commensurate with dues paid by its members? A busy pharmacist may not join WPhA because he does not have or will not take the time to participate in the association's activities. Such a pharmacist may believe that if he cannot participate actively because of real or imagined time constraints he will not join.[9] Others may feel obligated to spend the time away from their practices with their families, hobbies, church or other nonprofessional activities. Disinterest in WPhA membership and its attendant potential activities may be a function of lack of information about the association. A campaign to increase WPhA membership should be

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[8] Manning, op. cit., p. 37.

[9] Proprietors practice 50-60 hours a week regardless of sales volume. See The Lilly Digest 1966, Eli Lilly & Co., Indianapolis, Indiana, 1967, p. 20. Another study reported that 78.5 per cent of the proprietors work 49 or more hours per week, while 36.1 per cent of the employees work 49 or more hours per week. See also Health Manpower Source Book Section 15, U.S. Dept. of Health, Education and Welfare, Washington, D.C., 1963, p. 23. Note that proprietors work more hours than employees and yet more proprietors than employees are WPhA members, see page 28.

designed to appeal to and modify these above types of attitudes if they are reasons for nonmembership.

The WPhA needs all pharmacists registered and residing in Wisconsin as members if it is to serve best the interests of Wisconsin pharmacy. The association's financial status would be aided by increased membership. The Illinois Pharmaceutical Association Executive Director stated, "The IPhA benefits and can better serve you and the profession with new and increased membership."[10]

Compulsory membership is a means of attaining total membership. The Supreme Court of Wisconsin ordered all attorneys admitted to practice to be organized as the State Bar of Wisconsin. Jack R. DeWitt, WPhA counsel, reported that, "since integration many able lawyers who had not previously seen fit to join the voluntary association have given generously of their talents to improve the profession." He further stated that, "The additional funds have permitted the hiring and maintaining of able permanent staff members and the hiring on a temporary basis of law professors and other lawyers particularly qualified to do research leading to improvement of professional service."[11] Compulsory membership

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[10]Richard S. Strommen, "Comment From The Executive Director," The Illinois Pharmacist, 31:12, December, 1967, p. 646.

[11]Jack R. DeWitt, "Is Compulsory Membership the Way?" The Wisconsin Pharmacist, 37:4, April, 1968, p. 123.

could improve the financial position of the WPhA. However, legislation to create this compulsion would tie state registration with WPhA membership. Increased membership would permit increased services from the WPhA for Wisconsin pharmacists. WPhA must have the support of Wisconsin pharmacists if it is to represent pharmacy in Wisconsin. "More members give an organization more weight with the industry or profession, with the public, with the press, and with the government. Conversely, if the association lacks members, it reduces the group's influence and effectiveness. The more members the better chance of putting across the organization's programs."[12] Therefore, all pharmacists should support their professional association. However, Kenneth Flenchum of the South Carolina State Pharmaceutical Association stated, "the number one problem is pharmacists' lack of interest in organizational work, and their failure to become better organized with their colleagues."[13]

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[12]Alfred B. LaGrasse and Walter L. Cook, Membership Promotion Manual, American Society of Association Executives, Washington, D.C., 1967, p. 7.

[13]"Pharmacists' Apathy Triggers Many Problems," American Professional Pharmacist, 31:12, December, 1965, pp. 35-36.

Reasons for WPhA nonmembership by Wisconsin pharmacists have not been investigated. Determination of these reasons likely could facilitate WPhA membership recruitment. The resulting increased membership would aid the financial status of the organization. Further, with increased membership and the concomitant increase in dues revenue, WPhA could provide more services for pharmacy in Wisconsin. These are reasons for conducting this study.

## Literature Survey

Previously completed studies of other professional associations provide useful secondary information about variables which influence association membership. From a pharmaceutical association study, as yet not published, in California, Dr. Jere K. Goyan stated, "We discovered that an association is an association....In other words, it matters little whether an association is composed of teamsters, or fruit growers, or pharmacists; they are all patterned along similar lines and have similar problems. We looked into associations representing all types of groups and found that they, for the most part, crave more members, suffer from transient memberships and face

internal apathy."[14] Similar problems were reported in a study of the Illinois State Medical Society.[15]

Members of voluntary associations have been differentiated from nonmembers by several characteristics. For example, Wright and Hyman report that, "There is an increase in the percentage of memberships in formal associations the higher the status of the respondents." Status of the individual referred to social status which was composed of five indices: income, education, level of living, occupation and home ownership.[16] Hausknecht also reported that, the rate of membership in voluntary associations increases as the level of income increases.[17] Such variables may differentiate WPhA nonmembers from members.

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[14] The Voice of The Pharmacist, 11:20, March 12, 1968, p. 1.

[15] An Appraisal of the Illinois State Medical Society by Its Membership, Opinion Research Corp., Princeton, New Jersey, 1966.

[16] Charles R. Wright and Herbert Hyman, "Voluntary Association Membership of American Adults: Evidence from a National Sample Survey," American Sociological Review, Vol. 23, June 1958, p. 288.

[17] Murry Hausknecht, The Joiners, Bedminister Press, New York, 1962, p. 31.

The length of time a pharmacist resides in a community, his age, his status as a home owner or renter are possible correlates with nonmembership. Freeman reported that these as well as "mobility" and "community attitudes" both are significantly associated with membership in voluntary associations.[18] Thus, it seems that a person is more likely to join a voluntary association if he is well integrated into his society. Hausknecht reported, "When age is treated as an independent variable, the youngest and oldest age groups have the lowest rates of membership, although the oldest group is higher.[19] In addition Hausknecht found that, although the effect of home ownership is independent of the effects of income and education on voluntary association membership, home owners have a higher rate of membership in voluntary associations than do renters.[20]

The WPhA could not create certain of the 'joiner' characteristics among nonmember Wisconsin pharmacists.

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[18]Howard Freeman, Edwin Novak and Lew Reader, "Correlates of Membership in Voluntary Associations," American Sociological Review, 22:10, October, 1957, pp. 528-533.

[19]Hausknecht op. cit., p. 32.

[20]Hausknecht op. cit., pp. 48-49

Rather, by being aware of the nonmembers' proclivities, the WPhA can appeal better to these pharmacists and more effectively solicit their membership.

Many different variables influence people to begin thinking about joining a voluntary association. Jacoby reported that, most people join voluntary associations because of other people. Impersonal media such as newspapers, printed announcements, mail solicitation and radio notices play a small role in influencing an individual to join a voluntary association.[21] In a study conducted at the University of Nebraska, members of voluntary associations reported personal sources of information more frequently than mass communicated sources as influential in their decision to join. The Nebraska study supported the belief that persons are likely to join voluntary associations because of personal influences. This does not mean that all types of organizations should recruit only through personal contacts.[22] The WPhA should use a personal approach as

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[21]Arthur P. Jacoby, "Personal Influences and Primary Relationships, Their Effect on Association Membership," Sociological Quarterly, Vol. 7, Winter, 1966, pp. 76-84.

[22]Walter Baeumba, Socialization Influences and Social Participation: A Study of Generational Continuity of Membership and Participation in Formal Voluntary Associations, (unpublished Ph.D. dissertation) University of Nebraska, 1965, p. 134.

well as approaches through impersonal media when attempting to increase membership.

New members continually are needed by voluntary associations to replace members lost by death, dropouts and retirements. To grow the organization must replace the lost members and continue to search for new members. Increasing WPhA membership involves many problems simply because membership solicitation involves working with and influencing people. Individual traits of different people are encountered and increasing WPhA membership is made more difficult because of these traits.

The literature suggests additional relevant variables which may influence WPhA membership. The work involved in membership campaigns is varied and complex. It touches on many different aspects such as: public relations, mail solicitation, analyzing programs and services to members, reselling the organization's benefits to the present members and writing membership literature.[23] Inherent in any membership campaign is the appeal to present members. They must be reinforced concerning the benefits their association offers them. Thus, both members and nonmembers must be made aware of benefits

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[23]Lagrasse and Cook, op. cit., p. 7.

that accrue to them from WPhA. New membership and stronger present membership both are necessary to maintain a state pharmaceutical association that is the leader and spokesman for pharmacy in Wisconsin.

# CHAPTER II

## METHODOLOGY

The personal interview technique was decided upon as the means of gathering data in this study. A structured, disguised questionnaire was designed for these personal interviews. The respondents were one-hundred fifty pharmacists registered and living in Wisconsin. They included randomly selected subsamples of seventy-five WPhA members and seventy-five nonmembers. See Appendix L for classification of respondents by their type of practice.

### Why Use Personal Interviews?

Personal interviews were used in this study for the following reasons. It was assumed a higher response rate would be attained from WPhA nonmembers when questioning them about their reasons for nonmembership. If some nonmembers are inimical toward the state association, more pertinent constructive remarks could be obtained with personal interviews. The personal interview technique also affords the interviewer an opportunity to observe the subject and the total interview situation. There are disadvantages to personal interviews. Some of the most obvious are, the increased cost and time requirements as

well as the introduction of interviewer bias.[1] However, Chadrijian stated, "this technique probably offers the most valid data of all those available to the market researcher."[2]

Questionnaire Design

The questionnaire used in the personal interviews was designed to determine reasons for nonmembership by the nonmember group of pharmacists.[3] In addition socioeconomic and attitudinal data were obtained to classify and compare the respondents. The questionnaire was structured and disguised to minimize the respondents' suspicion that the study was about WPhA membership.

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[1]For a more complete discussion of bias and other problems with interviews, see Mildred Parten, Surveys, Polls and Samples, Harper Brothers, New York, 1950, pp. 331-382 and Claire Selltiz, Marie Jahoda, Morton Dentsch, and Stuart W. Cook, Research Methods in Social Relations, Henry Holt and Co., Inc., New York, 1959, pp. 583-587.

[2]Michael Chadrijian, "Test Marketing," Pharmaceutical Marketing, Pharmaceutical Advertising Club, New York, n.d. (1957) p. 79.

[3]See Appendix A for a copy of the questionnaire.

A scaling device to quantify attitudes about WPhA was adapted from the Stapel Scale and was part of each interview.[4] The pharmacists' job satisfaction scales also were modified and used.[5] These scales were used to quantify attitudinal differences between the member and nonmember subsamples.

Sample Selection

It was decided to interview a sample of one-hundred fifty pharmacists registered and residing in Wisconsin. This sample consisted of two subsamples of seventy-five WPhA members and seventy-five nonmembers. The sample and subsample sizes were selected arbitrarily. They were believed to represent large enough samples from which to gather meaningful data and yet still remain manageable within cost and time constraints.

Each subgroup was divided into nine strata (Figure 1). Each stratum consisted of the area circumscribed by the

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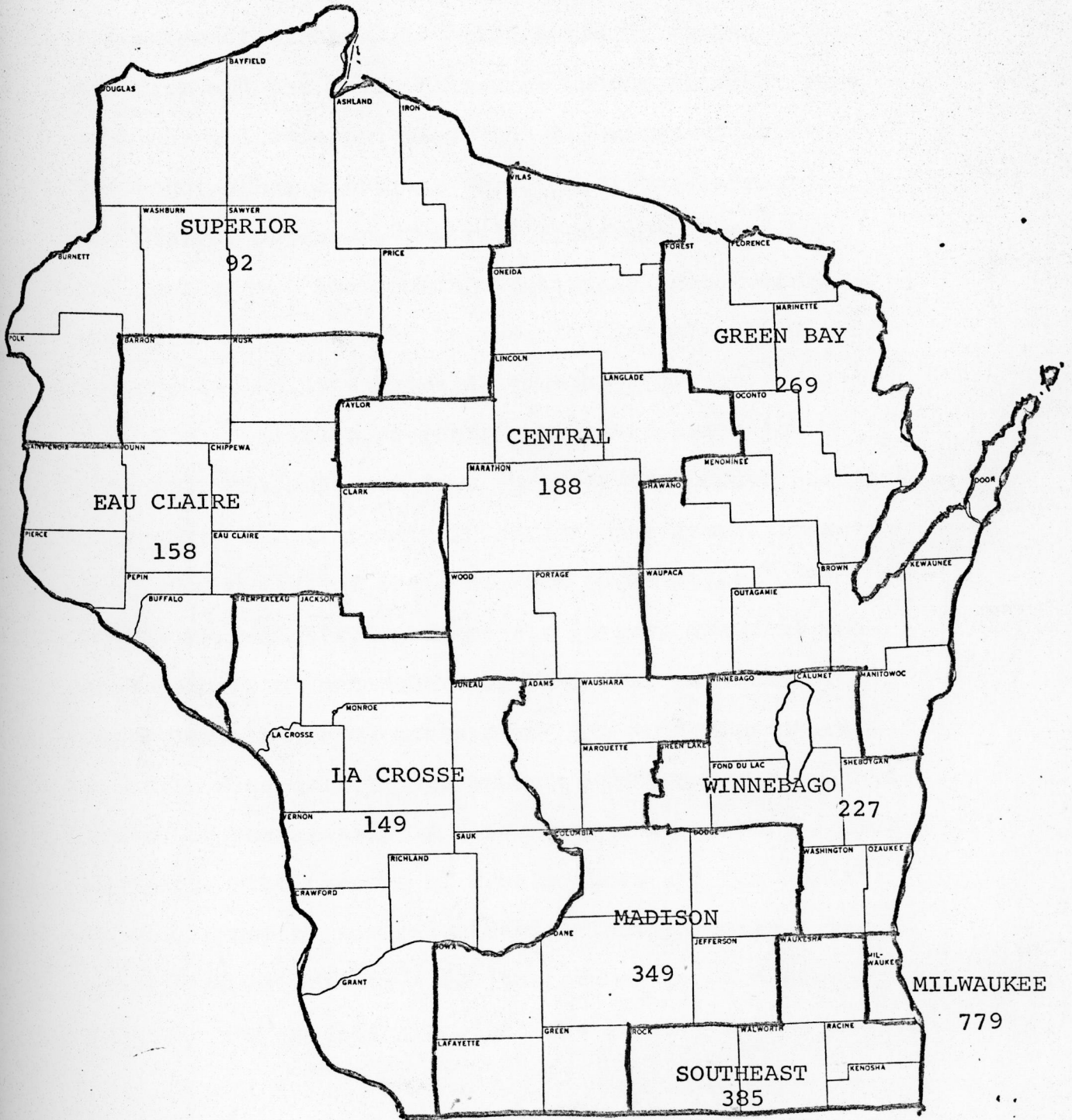
[4] Irving Crespi, "Testing a Scaling Technique," Journal of Marketing, July, 1961, 25:3, pp. 69-72.

[5] Milton Schwebel, The Interests of Pharmacists, King's Crown Press, Brooklyn, New York, 1951, p. 73.

FIGURE 1

Districts Used in Sample Selection[a]




[a]The numbers within each stratum represent the number of pharmacists residing in that stratum.

WPhA districts in Wisconsin with the exception of the Milwaukee districts. Both the North Milwaukee County district and the South Milwaukee County district were combined and referred to as the Milwaukee district. The eight other districts were: Madison, LaCrosse, Eau Claire, Superior, Central, Winnebago, Green Bay and Southeast. The common stratifying factor of geographical area was used because it conveniently divides the population into mutually exclusive groups.

The population of registered pharmacists in Wisconsin was obtained from the Wisconsin State Board of Pharmacy. The Wisconsin Pharmaceutical Association furnished a list of their members by counties.[6] The number of registered pharmacists in each district who were members or nonmembers of WPhA then was determined. There were 1658 WPhA members and 938 nonmember pharmacists in Wisconsin on September 1, 1967. The total number of pharmacists in Wisconsin on September 1, 1967 was 2596. The percent of WPhA members and nonmembers in each district was calculated. This percentage was multiplied by seventy-five (the number in each subgroup). The resulting product was rounded to the nearest

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[6]This list included only members who were pharmacists and excluded associate members.

whole number to obtain the number of pharmacists to be interviewed from each subgroup in the respective districts.

An illustration in the Superior district will clarify how the number of pharmacist respondents in each district was selected. There were twenty-nine WPhA nonmember pharmacists and sixty-three members in the Superior district. The twenty-nine nonmembers represent 3.09 percent of the total WPhA nonmembers in Wisconsin (29/938 = 3.09%). The sixty-three members represent 3.79 percent of the total WPhA membership in Wisconsin (63/1658 = 3.79%). Two nonmembers were selected from the Superior district because 3.09 percent of seventy-five is 2.31, rounding to the nearest whole number is two. Three members were selected from the Superior district because 3.79 percent of seventy-five is 2.84, rounded to the nearest whole number is three. The number of members and nonmembers selected in each district is shown in Table I.

Both the nonmember and member population were sorted randomly into their respective districts. Each was assigned a number. A random numbers table then was used to select the determined number of nonmember and member respondents for each district. In addition a

TABLE I

NUMBER OF SUBSAMPLE RESPONDENTS SELECTED BY DISTRICT

| District | Members | Nonmembers |
|---|---|---|
| Superior | 3 | 2 |
| Eau Claire | 5 | 4 |
| Central | 5 | 5 |
| Green Bay | 8 | 7 |
| LaCrosse | 5 | 4 |
| Madison | 10 | 10 |
| Southeast | 12 | 10 |
| Winnebago | 7 | 6 |
| Milwaukee | 20 | 27 |
| Total | 75 | 75 |

number of alternate sample members was chosen in each district in the same random manner.[7] Alternate sample members were preselected to anticipate nonrespondents in the sample. This enabled the interviewer to select a substitute respondent while in the field thereby minimizing expenditures of money and time required for call backs. Random preselection of alternate respondents also reduced the introduction of selection bias which exists with convenience selection in the field. During the interviews it was necessary to use seventeen alternates.[8] There were nine alternates, five nonmembers and four members, used in the Milwaukee district. Two nonmember alternates were used in the Green Bay district, two member alternates were used in the Winnebago district, one nonmember alternate was used in the LaCrosse district and three member alternates were used in the Southeast district.

Pretest

The questionnaire was pretested on eight pharmacists in the Madison area. This pretest sample was

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[7]The number of alternate sample members was one or one-third of the number of required respondents in each subsample per district.

[8]The alternate interviews were necessitated by the unavailability of the original members of the sample.

selected randomly. There were six WPhA nonmembers and two members in this sample. These interviews were conducted without prior contact with the respondent. Corrections and improvements on the questionnaire resulted from this pretest. A second pretest of four pharmacists similarly selected was conducted using an advance letter.[9] Two WPhA members and two nonmembers were included in the second pretest. The advance letter was successful in that the respondents were more receptive to the interviewer. The questionnaire appeared satisfactory during the second pretest and the interview routes then were devised.

The Main Study

Sample members, with the exception of those in Milwaukee and Madison, received a copy of the advance letter announcing that the interviewer would be in the area the following week. Personal visits and telephone calls were used in Madison and Milwaukee to arrange an interview time. The advance letters were mailed on Thursday of the week preceding the interview. The letter explained the

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[9]See Appendix B for a copy of the advance letter.

researcher was studying pharmacists' attitudes toward their profession and asked for the pharmacist's help. No mention of interest in association membership was made in the advance letter.

Six routes were used to complete the personal interviews in the most efficient manner. The routes were designed to minimize traveling time. The northwest route included the Superior, Eau Claire, Central and part of the LaCrosse district for a total of thirty-one interviews. The northeast route included the Green Bay district and part of the Winnebago district for a total of twenty-six interviews. The Milwaukee route consisted of fifty-one interviews, all in the Milwaukee district and two interviews each from the southeast and Winnebago districts. The Madison route included fifteen interviews from within the Madison district. The southeast route had twenty interviews all from the Southeast district. The southwest route had seven interviews, five from the Madison district and two from the LaCrosse district. The order in which these routes were taken was: Madison, southwest, northwest, northeast, Milwaukee and southeast.

All interviews, with the exception of six, took place in the respondent's pharmacy. Most respondents in

both subgroups were cooperative. The interviews ranged from ten to sixty minutes in length. The longer interviews were the result of the respondent being distracted a number of times during the interview or by his overt friendliness toward the interviewer.

Limitations

Limitations are experienced in any research project. Although all respondents were selected randomly, the original one-hundred fifty respondents were not used. Seventeen alternate respondents were used. Whenever sampling other than strict probability sampling is used a different response may have been obtained from the nonrespondents. Therefore, the data, conclusions and statistical inferences drawn from this study are limited to the responding pharmacists.[10]

Recommendations of the study also must be limited to the WPhA because questions and inferences about membership dealt primarily with the WPhA. Similarity to other groups' membership problems and activity may occur randomly but no direct comparisons may be made.

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[10]See Claire Selltiz, Marie Jahoda, Morton Deutsch and Stuart W. Cook, Research Methods in Social Relations, Henry Holt and Co., Inc., New York, 1959, pp. 315-342, 552-574 and 583-587 for further limitations. Limitations in studies are discussed more fully in Mildred Parten, Surveys, Polls and Samples, Harper Brothers, New York, 1950, pp. 403-424.

# CHAPTER III

## DISCUSSION OF RESPONSES TO THE QUESTIONNAIRE

The responses obtained in the personal interviews are presented and discussed in this chapter. Differences in these responses between the WPhA member and nonmember subsamples are emphasized. Statistical analysis of selected data will be presented in Chapter IV.

It was believed more valid reasons for nonmembership in WPhA could be obtained if the respondents did not know the purpose of the study. This belief influenced the design of the disguised, structured questionnaire. Respondents were told in an advance letter or personal conversation that the author was conducting a study of Wisconsin pharmacists' attitudes. This theme was reiterated during introductory remarks prior to each interview. Thus, the questions asked focused the respondents' attention on their practices and their attitudes about pharmaceutical associations. Only one of the 150 pharmacists interviewed asked if the study was being conducted for the WPhA.

The opening and closing sections of the questionnaire contained questions pertaining to socioeconomic and attitudinal data. It was hoped to differentiate the

WPhA member from the nonmember with these data. As noted in Chapter I, income, education and home ownership can have an influence on membership in voluntary associations.[1] Hausknecht reported that, the rate of membership in voluntary associations increases as the level of income increases.[2] Integration into the community, age and home ownership were mentioned as possible correlates with membership in voluntary associations by Freeman.[3] Similar types of data were collected to attempt to differentiate WPhA members from nonmembers.

Education, Registration and Environment

Most members (76.0%) and nonmembers (58.6%) received their baccalaureate degree in pharmacy at the University of Wisconsin, (Table II). Over twice as many nonmembers (28.0%) as members (12.3%) received less than a baccalaureate degree. The larger proportion of

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[1]Wright and Hyman, op. cit., p. 288.

[2]Hausknecht, op. cit., p. 31.

[3]Freeman, Novak and Reader, op. cit., pp. 528-533.

TABLE II

NUMBER AND PERCENT OF RESPONDENTS

BY EDUCATION

| Institution Granting BS Degree | Members | | Nonmembers | |
|---|---|---|---|---|
| | N | Percent | N | Percent |
| University of Wisconsin | 57 | 76.0 | 44 | 58.6 |
| University of North Dakota State | 2 | 2.7 | 1 | 1.3 |
| Creighton University | 2 | 2.7 | 1 | 1.3 |
| Other[c] | 5[a] | 6.7 | 8[b] | 10.7 |

[a]This includes one each from Idaho State University, University of Wyoming, Ferris Institute, University of North Dakota and the University of Colorado.

[b]This includes one each from the University of Washington, University of South Dakota State, University of Minnesota, University of Colorado, St. Louis College of Pharmacy, Ohio State University, Philadelphia College of Pharmacy and Science, and the University of Illinois.

[c]There were nine (12.3%) members and twenty-one (28.0%) nonmembers who received less than a baccalaureate degree from a variety of schools.

nonmembers receiving less than a baccalaureate degree appears to be the major difference between members' and nonmembers' education.

The pharmacists interviewed became registered to practice pharmacy in Wisconsin from 1910 until 1967.[4] There appear to be no consistent differences between members and nonmembers as to year of registration.

Continual practice in Wisconsin since their registration illustrates the lack of interstate mobility of the respondents. Sixty-three members and sixty-two nonmembers had practiced continually in Wisconsin since becoming registered in Wisconsin. Eleven members and thirteen nonmembers had practiced in states other than Wisconsin, in which they were registered. Fourteen members and fifteen nonmembers were registered in states other than Wisconsin.[5] From these data, little or no difference is apparent between members' and nonmembers' practice or registration in other states.

Ninety-five respondents practiced in only one pharmacy during the past five years while thirty-one

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[4]See Appendix C for a tabulation of the number and percent of respondents by the year in which they were registered.

[5]See Appendix D for a tabulation of the number and percent of respondents and the states in which they were registered.

practiced in two pharmacies during the past five years. See Table III for a comparison between members and nonmembers.

Lack of mobility by the sample again is illustrated when examining responses to the question, how long have you lived in the community in which you now reside? Sixty-five members (86.7%) said they had lived in the present community for over five years. Sixty nonmembers (80.0%) have resided in their present community for over five years (Table IV).

The respondents were asked if they were pharmacy owners. Fifty of the seventy-five members interviewed were pharmacy owners and twenty-five were employees. The reverse was found with the seventy-five nonmembers. Twenty-five were owners and fifty were employees of a pharmacy. The respondents who owned pharmacies owned them a mean of 14.5 years. The member owners had a mean of 14.7 years and nonmember owners had a mean of 14.3 years. Little or no difference between members and nonmembers is evident from these data.

The WPhA members devote more hours per week to pharmacy than the mean number of hours of practice per week by nonmembers. This probably is a reflection of pharmacy ownership as the members are predominantly owners. The

TABLE III

NUMBER AND PERCENT OF RESPONDENTS
BY THE NUMBER OF PHARMACIES IN WHICH
THEY PRACTICED DURING THE PAST FIVE YEARS

| | Members | | Nonmembers | |
|---|---|---|---|---|
| Number of Pharmacies | N | Percent | N | Percent |
| one | 44 | 58.6 | 51 | 68.0 |
| two | 19 | 25.3 | 12 | 16.0 |
| three | 4 | 5.3 | 9 | 12.0 |
| four | 6 | 8.0 | 1 | 1.3 |
| five | 1 | 1.3 | 0 | 0.0 |
| over five | 1 | 1.3 | 2 | 2.7 |
| Total | 75 | 99.8 | 75 | 100.0 |

TABLE IV

NUMBER AND PERCENT OF RESPONDENTS
BY YEARS OF RESIDENCE IN THEIR COMMUNITY

| | Members | | Nonmembers | |
|---|---|---|---|---|
| Years | N | Percent | N | Percent |
| 1 | 2 | 2.7 | 6 | 8.0 |
| 2 | 2 | 2.7 | 1 | 1.3 |
| 3 | 3 | 4.0 | 3 | 4.0 |
| 4 | 1 | 1.3 | 2 | 2.7 |
| 5 | 2 | 2.7 | 3 | 4.0 |
| 6- 9 | 7 | 9.3 | 5 | 6.6 |
| 10-15 | 15 | 20.0 | 11 | 14.7 |
| 16-25 | 10 | 13.3 | 15 | 20.0 |
| 26-50 | 25 | 33.3 | 17 | 22.6 |
| over 50 | 8 | 10.7 | 12 | 16.0 |
| Total | 75 | 100.0 | 75 | 99.9 |

modal and median hours per week practiced for member owners was 60-64 hours while the modal and median for nonmember owners was 65-70 hours per week. The employees, both members and nonmembers, worked less hours per week than the owners of pharmacies. The modal hours per week practiced by member employees was 40-44, while the median was 45-49 hours per week. The nonmember employees had a mode and median of 45-49 hours worked per week.[6]

It was noted in Chapter I (p. 4) that a busy pharmacist may not join WPhA because of real or imagined time constraints. However, most of the owners (66.7%) were WPhA members. The owners work more hours per week than do employees. The time constraint, if it is a reason for nonmembership, is more likely imagined than real.

Pharmaceutical Associations

A question about major contributions of the respondents' local pharmaceutical association was asked to introduce the subject of associations. These replies varied widely from area to area. Some local associations

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[6]See Appendix E for a tabulation of the number and percent of respondents by their hours of practice per week.

are active whereas others are relatively inactive or exist only on paper. However, analysis of replies to this question was not meaningful and therefore not presented. This question served primarily to direct the interview to the subject of pharmaceutical associations' activities and membership.

More WPhA members reported they belonged to their local pharmaceutical associations than did the nonmembers. Fifty-four (72.0%) of the seventy-five WPhA members interviewed also were members of their local pharmaceutical associations. This is contrasted with thirty-one of the seventy-five (41.3%) nonmembers interviewed. There is a difference in members' frequency in joining local associations compared to nonmembers.

Local association members were asked if they thought the dues they paid to the local pharmaceutical association were a measure of the benefits they received. Nonmembers were asked why they had not joined the local association. Meaningful replies were not obtained from these two questions. These questions did, however, serve to direct the respondents' thoughts toward aspects of pharmaceutical associations.

Before being asked if they were WPhA members, the respondents were asked what they believed were the major

activities of the WPhA. These responses are tabulated in Table V. Thirty-two (42.6%) of the nonmembers reported "nothing" or "don't know," while twenty-four (32%) of the member responses were "nothing" or "don't know." The comparatively high number of respondents replying "nothing" or "don't know" displayed a lack of knowledge about the WPhA activities by nonmembers as well as members. Included in the "legislative" category were activities such as "lobbying by WPhA" and "keeping pharmacists aware of new legal developments." Classified as "Improve Pharmacy" were replies such as "WPhA looks after the interests of pharmacists," "the WPhA is responsible for presenting a better image of pharmacy to the public" and "promoting good relations with doctors." "Pharmacists' Role in Medicare," "Education," "Publish The Wisconsin Pharmacist" and "Social Only" are self-explanatory.

When asked what activities the WPhA should undertake, both member and nonmember respondents gave replies grouped into five categories. These categories included legislative activity, general improvement of the professional environment, more continuing education, no suggestion at all and don't know (Table VI). Classified as "legislative" were suggestions such as: "Protect

TABLE V

NUMBER AND PERCENT OF RESPONDENTS

BY REPORTED MAJOR ACTIVITIES OF WPhA

| | Members | | Nonmembers | |
|---|---|---|---|---|
| Activity | N | Percent[a] | N | Percent[a] |
| Legislative | 30 | 40.0 | 25 | 33.3 |
| Pharmacists' Role in Medicare | 12 | 16.0 | 8 | 10.7 |
| Improve Pharmacy | 23 | 30.6 | 10 | 13.3 |
| Education | 12 | 16.0 | 8 | 10.7 |
| Publish Wisconsin Pharmacist | 6 | 8.0 | 6 | 8.0 |
| Social Only | 0 | 0.0 | 2 | 2.7 |
| NOTHING | 9 | 12.0 | 13 | 17.3 |
| DON'T KNOW | 15 | 20.0 | 19 | 25.3 |

[a]The percent base is seventy-five. Because of multiple replies the percent total is in excess of 100 percent.

TABLE VI

NUMBER AND PERCENT OF RESPONDENTS
BY ACTIVITIES SUGGESTED FOR WPhA

| | Members | | Nonmembers | |
|---|---|---|---|---|
| Activity | N | Percent[a] | N | Percent[a] |
| Legislative | 10 | 13.3 | 16 | 21.3 |
| Improve Professional Environment | 36 | 48.0 | 23 | 30.6 |
| More Continuing Education | 7 | 9.3 | 5 | 6.6 |
| Don't Know | 17 | 22.6 | 20 | 26.6 |
| Nothing | 9 | 12.0 | 13 | 17.3 |

[a]The percent base is seventy-five. Because of multiple replies the percent total is in excess of 100 percent.

pharmacy from the discounters;" "The WPhA should work more closely with the state legislature;" "Fair trade laws should be enforced" and "Dispensing physicians should be outlawed." These types of replies were categorized as "legislative" because they either specifically referred to legislative activity or mentioned it as a way to accomplish a suggested objective. Improving the professional environment consisted of suggestions such as: "Improve working conditions of pharmacists;" "Ethics of pharmacists and pharmacy students should be improved;" "Work to improve the internship program" and "The public's opinion of pharmacists should be upgraded by the state association." These statements all refer to a better professional environment in which to practice pharmacy and implied improvement of the profession by the profession. Therefore these replies were categorized under "Improve the professional environment." The more continuing education, "don't know" and "nothing" categories are self-explanatory.

The suggested activities which should be undertaken by the WPhA imply some lack of knowledge among the respondents. As shown in Table VI thirty-seven (24.6%) were not suggestions but merely futile comments expressing no ideas. Some of the respondents said, "I don't know

what they are doing so how can I recommend activities for them;" "Why ask me what they should do? Don't they know what to do?"

Reasons for nonmembership in the WPhA were found to be in four major categories: lack of knowledge about the WPhA, dues are too expensive, lack of time for WPhA activities and personal reasons. Classified in the "lack of knowledge" category were responses such as: "WPhA does not do anything for nonowners;" "I don't know what the WPhA does;" and "WPhA is just a wing of the American Pharmaceutical Association." These and other similar reasons were placed in the "lack of knowledge" category because the statements were not true or would be refuted in the respondent's mind had he been well informed about the WPhA. Personal reasons were defined as reasons unique to the individual pharmacist answering the question. These reasons consisted of replies such as: "I'm just not a joiner;" "My store has just been sold a short time ago;" and "It's none of your business." It is likely that some of these personal reasons were superficial expressions by the respondents to avoid giving professionally unacceptable answers which may have been

classified as "lack of knowledge." Dues being too expensive and lack of time to spend on WPhA activities are self-explanatory.

The nonmembers' lack of knowledge about the WPhA is the predominant reason for their nonmembership. About three out of five (61.3%) reasons for nonmembership are in this category (Table VII).

The large number of responses classified as "lack of knowledge" suggests that nonmembers should be informed about WPhA activities. The association should stress the benefits it affords the pharmacists of Wisconsin. These benefits also must be stressed to the membership to reinforce their confidence in the state association. This leads one to believe that education of nonmembers about the activities and functions of the WPhA should form the basis for gaining new members.

Half of the respondents were asked to give reasons for nonmembership. The other half, the WPhA members, were asked when they joined the WPhA. Regardless of the current age of these respondents, most had joined WPhA shortly after graduation. These respondents were asked when they joined the WPhA to facilitate a check on membership, if the respondent's answer was not in accord with the interviewer's records.

TABLE VII

NUMBER AND PERCENT OF WPhA NONMEMBERS BY THEIR REASONS FOR NONMEMBERSHIP

| | N | Percent[a] |
|---|---|---|
| Lack of Knowledge | 46 | 61.3 |
| Too Expensive | 18 | 24.0 |
| Lack of Time | 6 | 8.0 |
| Personal Reasons | 21 | 28.0 |

[a]The percent base is seventy-five. Because of multiple replies the percent total is in excess of 100 percent.

After the WPhA nonmembers gave their reasons for nonmembership, they were asked if they had ever been a WPhA member, when were they last a member and why they did not continue their membership. The number of nonmembers reporting previous WPhA membership was only eight. The small number of replies to these questions made use of these data not meaningful.

The affiliation of the WPhA with the American Pharmaceutical Association was thought to be a possible reason for nonmembership. Although it cannot be said that affiliation is a hindrance to membership, some interesting answers to a question about affiliation were obtained. Twenty-eight of seventy-five (37.33%) members answered that the WPhA does not benefit from its affiliation with the American Pharmaceutical Association and thirteen of the seventy-five (17.33%) answered that they did not know if it was beneficial to the WPhA. Thirty-four of the seventy-five (45.33%) nonmembers said the WPhA did not benefit from the affiliation while thirteen of the seventy-five (17.33%) said they did not know if the affiliation was beneficial.

Sixty-two of the one-hundred fifty (41.3%) respondents said the WPhA did not benefit from the affiliation; while twenty-six of the one-hundred fifty (17.3%) answered that they did not know if the affiliation was beneficial to the WPhA. Sixty-two respondents said WPhA did benefit from affiliation. To say the WPhA's affiliation with the American Pharmaceutical Association is a reason for nonmembership in the WPhA would not necessarily be true. However, a substantial proportion of both members and nonmembers said the WPhA does not benefit from its affiliation with the American Pharmaceutical Association. This suggests that WPhA members and nonmember pharmacists have not been made aware of advantages and benefits to the WPhA and the pharmacists of Wisconsin which result from affiliation with the American Pharmaceutical Association.

"The use of scaling techniques in sample surveys provides a way of introducing a qualitative dimension."[7] A semantic differential was considered for use in the study to define further differences between members and nonmembers. The Stapel scale also was studied.[8] A

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[7]Irving Crespi, "Use of a Scaling Technique," Journal of Marketing, 25:3, July, 1961, p. 69.

[8]Ibid., p. 69.

scaling technique based on the Stapel scale was devised and used. This scale is referred to as the modified Stapel scale.[9]

The adjectives to be used in constructing the modified Stapel scale were decided upon after discussing possible descriptive words with respondents during the first pretest and with other Wisconsin pharmacists not in the sample. Some ideas were obtained from the Richmond study.[10] Discussions with W. Allen Daniels, the Executive Director of the WPhA and Irving Crespi, an official of the Gallup Poll organization, also were beneficial in deciding upon the adjectives to be used.

During the interview the respondent was given a card with an adjective list on it. He then was told:

> On this card is a list of ten words that could be used to describe the Wisconsin Pharmaceutical Association. The numbers in the line following each word are to be used to show how well you believe the words describe the Association. Please circle a plus number for the words that you think describe the Association accurately. The more accurately you think the word describes the Association, the larger the plus number you would circle. Please circle a

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[9]See Appendix A for a copy of the questionnaire which includes the modified Stapel scale.

[10]Darrell Blaine Lucas and S. H. Britt, Measuring Advertising Effectiveness, McGraw-Hill Inc., New York, 1963, p. 337.

> minus number for words you think do not describe the Wisconsin Pharmaceutical Association accurately. The less accurately you think a word describes it, the larger the minus number you would circle. Therefore, you can select any number from +5 for words that you think are very accurate descriptions, all the way to -5 for words that you think are very inaccurate descriptions. Think of the Wisconsin Pharmaceutical Association as an organization and not in terms of any specific members or officers when selecting the descriptive accuracy of the ten words. Please be candid in your replies.

The respondents chose a number from +5 to -5 for each word. This eliminated the necessity of forced choices in which the respondents decide whether or not a word describes the WPhA. The respondent was able to state the degree to which the word either did or did not describe the WPhA. Thus the scale allowed for quantitative measures of a word association test.

The member and nonmember scores for each word were totaled. The possible range of word totals was -375 to +375. These scores then were divided by seventy-five to obtain the mean score for each word for both members and nonmembers. The possible range of word mean scores was +5 to -5. These mean word scores then were weighted on a scale of from one to one hundred as

illustrated below.[11] The weighted mean scores are presented in Table VIII.

| +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
|---|---|---|---|---|---|---|---|---|---|
| 100 91 | 90 81 | 80 71 | 70 61 | 60 51 | 50 41 | 40 31 | 30 21 | 20 11 | 10 1 |

An example, using the above diagram, will help illustrate the weighting procedure. A mean score such as +2.81, the nonmember mean score for "Desirable" was weighted to a value of 69.1. The +2.0 places the score at the 61 level of the above weighting scheme and .81 of the distance from 61-70 inclusive. This is 8.1, hence the weighted score 69.1. This was computed for each word as reported by the WPhA members and nonmembers (Table VIII).

The adjectives used in the scale can be divided into two groups. One group, the words: good, helpful, friendly, active and desirable, connote a positive attitude toward the WPhA. The other group of words: weak, dull, worthless, expensive and snobbish, connote a negative attitude toward the WPhA. It was believed that member scores would be higher than nonmember scores for the first group or the "positive" adjectives;

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[11] Weighting procedure recommended by Dr. Irving Crespi during personal telephone conversation October 13, 1967.

TABLE VIII

SCORES ON THE MODIFIED STAPEL SCALE

| Scale Adjective | Member Scores | Nonmember Scores |
|---|---|---|
| GOOD | 74.6 | 65.5 |
| WEAK | 31.7 | 50.5 |
| HELPFUL | 78.0 | 59.1 |
| DULL | 33.0 | 44.4 |
| FRIENDLY | 79.0 | 64.2 |
| WORTHLESS | 10.8 | 20.9 |
| ACTIVE | 73.4 | 56.7 |
| EXPENSIVE | 42.4 | 59.9 |
| DESIRABLE | 82.7 | 69.1 |
| SNOBBISH | 13.6 | 24.2 |

member scores, however, would be lower for the "negative" adjectives, the second group. A statistical comparison of mean scores will be presented in Chapter IV.

Respondents were asked if the national pharmaceutical associations are effective in improving conditions of practice (Table IX). Forty-six of the seventy-five (61.3%) WPhA members said "yes," twenty-six (34.7%) said "no" and three (4.0%) said they "did not know" if conditions of practice were improved by national pharmaceutical associations. Thirty-seven of the seventy-five (49.3%) nonmembers said "yes" thirty-one (41.3%) said "no" and seven (9.4%) answered they did not know if national pharmaceutical associations were effective in improving conditions of practice. As might be expected, WPhA members seem to have a more positive attitude about the effectiveness of national organizations improving conditions of practice. This likely, however, is due to these respondents' higher frequency of membership in national associations.

There is a difference between the WPhA members and nonmembers in the number of their memberships in national pharmaceutical associations (Table X). The WPhA members had ninety-six national pharmaceutical association memberships and only twelve of the seventy-five (16.0%) held no membership in national pharmaceutical organizations.

TABLE IX

NUMBER AND PERCENT OF RESPONDENTS REPORTING EFFECTIVENESS OF NATIONAL PHARMACEUTICAL ASSOCIATIONS

| | Members | | Nonmembers | |
|---|---|---|---|---|
| | N | Percent | N | Percent |
| Yes | 46 | 61.3 | 37 | 49.3 |
| No | 26 | 34.7 | 31 | 41.3 |
| Don't Know | 3 | 4.0 | 7 | 9.4 |
| Total | 75 | 100.0 | 75 | 100.0 |

TABLE X

NUMBER AND PERCENT OF MEMBERSHIP IN NATIONAL ASSOCIATION

| | Members | | Nonmembers | |
|---|---|---|---|---|
| | N[a] | Percent[b] | N[a] | Percent[b] |
| NARD | 39 | 52.0 | 18 | 24.0 |
| APhA | 50 | 66.7 | 12 | 16.0 |
| ASHP | 5 | 6.7 | 7 | 9.3 |
| Other | 2 | 2.7 | 0 | 0.0 |
| Total Memberships | 96 | | 37 | |
| None | 12 | 16.0 | 42 | 56.0 |

[a]N is the number of memberships.

[b]The percent base is seventy-five. Because of multiple replies the percent total is in excess of 100 percent.

Comparing this with the nonmembers interviewed, only thirty-seven memberships were held in national pharmaceutical associations and forty-two of the seventy-five (56.0%) held no membership in any national pharmaceutical association. This is evidence of a 'joiner tendency' among WPhA members. This tendency to join pharmaceutical associations was displayed previously when the respondents were questioned about local pharmaceutical association membership.

The Job Satisfaction Scales

The job satisfaction scales were used in the study to quantify attitudes of the respondents about their practice of pharmacy. The job satisfaction scales, A and B, were modified from Hoppock's Job Satisfaction Scale.[12] The respondents were presented with job satisfaction scale A and job satisfaction scale B on 5" x 7" cards and asked to check the statement which best described their own attitudes. When presented with the first card, job satisfaction scale A, the respondent was asked to check the statement which best describes

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[12]Milton Schwebel, The Interests of Pharmacists, King's Crown Press, Brooklyn, New York, 1951, p. 73.

how he liked being a pharmacist. Presented with the second card, scale B, the pharmacist was asked to check the statement which best described how he felt about changing his line of work either within pharmacy or out of pharmacy practice. When evaluating satisfaction, "self-estimates, with all their limitations, seem to require less questionable assumptions than any of the other available criteria."[13]

There were ten categories listed on each card.[14] The responses were assigned a value from one to ten, one being the least satisfied and the statement at the top of the list and ten being the most satisfied, the statement at the bottom of the list. A respondent with two tens or two checks at the bottom of the lists would be most satisfied, as measured by these scales. A respondent with two ones or two checks at the top of the lists would be most dissatisfied as measured by these scales. Six WPhA members responded with tens on both job satisfaction scales. Only three nonmember respondents, however, answered with two tens on the scales. Thus,

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[13]Robert Hoppock, Job Satisfaction, Harper Brothers, New York, 1935, p. 151.

[14]See Appendix A for a copy of the questionnaire which contains the job satisfaction scales.

a total of nine pharmacists of the one-hundred fifty pharmacists interviewed were most satisfied with their work. None of the respondents can be considered most dissatisfied as previously defined, as none of them checked ones on both scales. The lowest combination checked was a two on job satisfaction scale A and a one on job satisfaction scale B. This response was given by a nonmember. The average scores on the job satisfaction scales of both member and nonmember respondents are presented in Table XI. A statistical evaluation of the two job satisfaction scales will be presented in Chapter IV.

Additional Attitudinal and Socioeconomic Data

Most of the respondents, one-hundred twenty-two of the one-hundred fifty (81.3%) were home owners. Sixty-three (84.0%) of the members were home owners, while fifty-nine (78.7%) of the nonmembers owned homes.

All but fourteen of the pharmacists interviewed were married. The mean number of children in the WPhA members' families was 2.59, the median was three and the mode was two. The nonmembers' families had a mean of 2.35 children, the median and mode were two.

Earlier it was stated that nonmembers of the WPhA join with less frequency local and national pharmaceutical associations. Was there a difference in the tendency

TABLE XI

MEAN, MEDIAN AND MODE OF JOB SATISFACTION SCALE SCORES

| | Members | | | Nonmembers | | |
|---|---|---|---|---|---|---|
| | Mean | Median | Mode | Mean | Median | Mode |
| Scale A | 7.66 | 8 | 8 | 7.04 | 7 | 8 |
| Scale B | 7.54 | 8 | 10 | 6.59 | 7 | 7 |

of WPhA members to join community organizations compared to the nonmember? Forty-nine (65.4%) of the seventy-five WPhA members interviewed were members of community organizations. The nonmembers, however, who were members of community organizations numbered twenty-eight (37.3%). Community organizations were clarified by the interviewer for the respondent in each interview. The example of "service clubs or fraternal groups" was used. It can be seen again that nonmembers of the WPhA are members of community organizations less frequently. This further illustrates the lack of a "joining tendency" among nonmembers compared to WPhA members. What about the joining tendencies of pharmacists' wives? Wives of WPhA members join or are members of community organizations in larger numbers than wives of nonmembers. When asked if their wives were members of any community organization, the same frame of reference was used. The WPhA members answered "yes" fifty-two of sixty-nine times (73.9%). Nonmembers answered "yes" only twenty-six of sixty-seven times (38.8%). There is a difference in the frequency with which WPhA members and their wives and nonmembers and their wives join organizations.

The respondents were asked if they would recommend a career in pharmacy for their children and if they had

it to do over again would they become a pharmacist. These questions were asked to gain further insight into the attitudes of the respondents. The WPhA members and nonmembers did not differ appreciably in their replies to these questions. Forty-six members (61.3%) would recommend a career in pharmacy for their children, while eighteen (24.0%) would not. Forty of the nonmembers (53.3%) would recommend a career in pharmacy for their children while sixteen (21.3%) would not, with five (6.7%) answering they did not know. Fifty-six (74.7%) of the members would become a pharmacist again if they could do it over, fifteen (30.0%) would not and four (5.3%) were undecided. Fifty (66.7%) of the nonmembers reported they would become a pharmacist again, seventeen (22.7%) would not and eight (10.7%) were undecided. As a group, one-hundred six pharmacists (70.7%) reported they would become pharmacists again if given the opportunity to repeat their careers. Negligible differences are apparent between members and nonmembers.

The pharmacists were asked if they had any relatives within an hour's drive of their home. The proximity of relatives to the respondents may influence their tendency to join a voluntary association.[15] Sixty-five members

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[15]Freeman, Novak and Reader, op. cit. pp. 528-533. Membership in voluntary associations increased when no relatives lived within a short distance.

and sixty-three nonmembers had relatives within one hour's drive of their homes. No difference between members and nonmembers is apparent.

Respondents were asked what form of government they had in their community. Knowledge of the type of local government perhaps reflects integration into the community and could influence membership in voluntary associations. In this study, however, all but six respondents, three WPhA members and three nonmembers answered the question correctly.

The age groups of the member and nonmember respondents are presented in Table XII. The mean age of the member respondents was 44.77 years, while the mean age of the nonmembers was 44.53 years. This shows very little variance as to age. The median age of the members was 44, while the nonmembers' median age was 43 years. This too shows homogeniety.

Income categories were arranged to obtain a general gauge of the respondents' income and elicit a maximum response. The respondents were handed a card at the conclusion of the interview and asked to circle their income category. Only eight, four members and four nonmembers, of the one-hundred fifty respondents refused to circle an income category. The modal income response

TABLE XII

NUMBER AND PERCENT OF RESPONDENTS BY AGE GROUP

| | Members | | Nonmembers | |
|---|---|---|---|---|
| Age Group | N | Percent | N | Percent |
| under 25 | 0 | | 0 | |
| 25-29 | 6 | 8.0 | 8 | 10.7 |
| 30-34 | 12 | 16.0 | 15 | 20.0 |
| 35-39 | 8 | 10.7 | 9 | 12.0 |
| 40-44 | 14 | 18.7 | 7 | 9.3 |
| 45-49 | 10 | 13.3 | 7 | 9.3 |
| 50-54 | 6 | 8.0 | 6 | 8.0 |
| 55-59 | 8 | 10.7 | 7 | 9.3 |
| 60-64 | 7 | 9.3 | 10 | 13.3 |
| 65 and over | 4 | 5.3 | 6 | 8.0 |
| Total | 75 | 100.0 | 75 | 99.9 |

was the category $10,000-$14,999. However, a greater number of WPhA members selected the $15,000-$20,000 and over $20,000 categories. Twenty members circled $15,000-$20,000, and ten circled over $20,000, while thirty-six circled $10,000-$14,999. Only five members circled under $10,000. The nonmembers circled category $15,000-$20,000 seven times, the category over $20,000 twice and the category under $10,000 sixteen times, while circling category $10,000-$14,999 forty-six times. This suggests a higher income rate for WPhA members than nonmembers.

The responses to the questionnaire illustrated differences between members and nonmembers. Twice as many WPhA members as nonmembers interviewed were owners of pharmacies. Over twice as many nonmembers as members received less than a baccalaureate degree. More members than nonmembers belonged to local pharmaceutical associations. A similar situation is evident when members and nonmembers were questioned about national pharmaceutical association membership. The belief that WPhA nonmembers joined organizations with less frequency than members was substantiated further by their lack of membership in community organizations. This was not the case for WPhA members. A greater number of WPhA members selected the two highest

income categories than nonmembers while there were a greater number of nonmembers who selected the lowest income category.

# CHAPTER IV

## SELECTED STATISTICAL ANALYSES

Some statistical procedures were decided upon to quantify differences between WPhA members and nonmembers. Scores on each job satisfaction scale were correlated with incomes and ages of WPhA members and nonmembers. Inferred differences in variances were computed to illustrate differences between members and nonmembers. Differences in replies to the job satisfaction scale by the two subsamples were compared as were mean scores on the modified Stapel scale.

### Correlation Procedures

There were two job satisfaction scales adopted and modified from the Hoppock job satisfaction scale as used by Schwebel.[1] They are called job satisfaction scale A and B and appear in the questionnaire as questions twenty-eight and twenty-nine, respectively. A score from one to ten was possible on each of these scales. Job satisfaction scale A was designed to quantify the respondent's like or dislike for being a pharmacist. Job

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[1]Schwebel, op. cit., p. 73.

satisfaction scale B was designed to determine how the respondent felt about changing his line of work. Scores on each scale were correlated with incomes and ages of WPhA members and nonmembers.

Selection of variables to be used in any correlation study must be quantifiable variables. Those mentioned above meet this qualification. It was hypothesized that WPhA members and nonmembers do not have significantly different (at the 95% level) correlation coefficients between their scores on job satisfaction scale A and B and their incomes and ages. A transformation to approximate normality for the correlation coefficients must be used to test this hypothesis. This is necessary because the distribution of "r", the correlation coefficient, is not symmetric.[2]

Scores on the job satisfaction scales were correlated with age and income for both WPhA members and nonmembers. A total of eight correlation coefficients were computed.[3] Income and age were plotted on the Y axis and scores on the job satisfaction scales were plotted on the X axis. For example, an estimated correlation coefficient of

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[2]Edward Bryant, Statistical Analysis, McGraw-Hill Inc., New York, 1966, p. 140. See Appendix F for an explanation of this procedure.

[3]See Appendix G for computation of a correlation coefficient.

$r = 0.77$ was computed between nonmembers' scores on job satisfaction scale B and their incomes. This estimation of the correlation coefficient means only about $(0.77)^2$, or 59.6 percent of the variation between job satisfaction as measured on scale B and nonmembers' incomes can be explained by means of a computed regression line. The remaining forty percent of the variation is attributed to factors other than income. Hypothesizing that WPhA members and nonmembers have the same correlation coefficients means the same amount of variation between the two correlated variables can be explained by the regression line.

The significance of the difference between correlation coefficients of two samples may be tested by the following.[4]

$$Z = \frac{Z_1 - Z_2}{\sqrt{\sigma Z_1^2 + \sigma Z_2^2}}$$

The following calculation tests the significance of difference between the correlation coefficient of nonmembers ($r = .77$) and members ($r = .33$). This is job satisfaction scale B versus income.

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[4]Bryant, op. cit., p. 142.

$$Z = \frac{1.02 - .34}{\sqrt{(.122)^2 + (.122)^2}}$$

$$Z = \frac{.68}{\sqrt{.015 + .015}}$$

$$Z = \frac{.68}{\sqrt{.03}}$$

$$Z = \frac{.68}{.17}$$

$$Z = 4.0$$

A Z value of 1.96 or more is significant at the 95 percent confidence level. Thus, there is a significant difference between WPhA members and nonmembers when comparing the correlation coefficients of job satisfaction scores on scale B and incomes. Comparisons of correlation coefficients and the significance of their differences at the ninety-five percent confidence level appear in Table XIII. The differences between members and nonmembers were significant in three of the four cases tested. Only the job satisfaction scale A and income correlation coefficients were not significant at the ninety-five percent level of confidence. These data suggest that members' job

TABLE XIII

SELECTED CORRELATION COEFFICIENTS

OF MEMBERS AND NONMEMBERS

| | Members | Nonmembers | Significant at 95 percent level |
|---|---|---|---|
| Job satisfaction scale A vs. age | .14 | .41 | Yes |
| Job satisfaction scale A vs. income | .33 | .30 | No |
| Job satisfaction scale B vs. age | .11 | .35 | Yes |
| Job satisfaction scale B vs. income | .33 | .77 | Yes |

satisfaction likely is less a function of their age and income than is nonmembers'. Perhaps WPhA members derive more of their job satisfaction from their practices and professional associations.

Differences in Variance on the Job Satisfaction Scales

Another statistical procedure was used to illustrate differences between WPhA members and nonmembers. This procedure is an inference about the variance. It was hypothesized that the variance for the WPhA members' scores on job satisfaction scales A and B were not significantly different at the 90 percent level of confidence from the variance for the WPhA nonmembers on the scales. This means that there was only a one in ten chance that acceptance or rejection of the hypothesis was false.

The variance of members' and nonmembers' scores on job satisfaction scale A and B were computed.[5] Four variances were computed. The F test was used in making inferences about the variance.[6] A sample calculation

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[5]See Appendix H for an explanation and presentation of these computations.

[6]See Appendix I for an explanation of the F test.

will clarify this procedure. A computed F value was compared to a value appearing in an F table appropriate to the desired confidence level. For the purpose of this analysis a ninety percent level of confidence was used. Hence the five percent F table was used because it is a two tailed test. The F value was computed from a ratio of the variances. The hypothesis will be rejected if the computed F value is greater than the F value appearing in the five percent F table. The variance of scores on job satisfaction scale B will be used as an example.

$$F = \frac{s_1^2}{s_2^2}$$

$$F = \frac{2.08}{.48}$$

$$F = 4.33$$

The region of rejection found in a five percent F table for seventy-four degrees of freedom for each variance is F = 1.51.[7] Thus, the hypothesis was rejected. Difference between variance on job satisfaction

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[7]Bryant, op. cit., p. 132.

scale A was not significant at the ninety percent level, the hypothesis was accepted.

Differences in Means on the Job Satisfaction Scales

The mean score of WPhA members on job satisfaction scale A was 7.66 and the median and modal scores were eight. Nonmembers had a mean score of 7.04, a median of seven, and a mode of eight on job satisfaction scale A. The mean score on job satisfaction scale B by the member respondents was 7.54, the mode was ten and the median was eight. The nonmembers' mean score was 6.59, the mode and median scores were seven.

The mean scores for both WPhA members and nonmembers on job satisfaction scales A and B were compared statistically. The t test was used to make this comparison.[8] A sample calculation comparing the mean scores on job satisfaction scale A for WPhA members and nonmembers follows.

$$t = \frac{(\bar{Y}_1 - \bar{Y}_2)}{Sp\sqrt{(1/N_1) - (1/N_2)}}$$

$$t = \frac{7.66 - 7.04}{.84\sqrt{(1/75) - (1/75)}}$$

$$t = \frac{.62}{.13}$$

[8] See Appendix J for a further explanation of this procedure.

$t = 4.77$

The region of rejection in the t table for seventy-four degrees of freedom is t = 2.0. Thus the hypothesis of equality between the means of members and nonmembers on job satisfaction scale B is rejected. The means of scores for WPhA members and nonmembers on job satisfaction scale A are also significantly different at the 95 percent confidence level.

Thus, members of the WPhA appeared slightly more satisfied in their work than nonmembers as measured by job satisfaction scale A. Job satisfaction scale B showed the WPhA members to be more satisfied with their jobs than nonmembers also. See Tables XV and XVI for the frequency distribution on both scales for members and nonmembers.

One must remember that job satisfaction was evaluated by the respondents' own estimation. If one assumes that statements such as "On the whole I don't like it" and "I am very enthusiastic about it" or "I would quit pharmacy at once if I could get anything else" and "I would not change pharmacy for any other line of work" express job satisfaction, then the members of the WPhA were indeed more satisfied in their work than were nonmembers.

TABLE XIV

FREQUENCY OF SCORES ON JOB SATISFACTION SCALE A FOR MEMBERS AND NONMEMBERS

| | Frequency | |
|---|---|---|
| Scale Score | Members | Nonmembers |
| 1 | 0 | 0 |
| 2 | 0 | 1 |
| 3 | 2 | 0 |
| 4 | 1 | 5 |
| 5 | 6 | 9 |
| 6 | 11 | 14 |
| 7 | 10 | 11 |
| 8 | 18 | 19 |
| 9 | 15 | 12 |
| 10 | 12 | 4 |

TABLE XV

FREQUENCY OF SCORES ON JOB SATISFACTION SCALE B FOR MEMBERS AND NONMEMBERS

| | Frequency | |
|---|---|---|
| Scale Score | Members | Nonmembers |
| 1 | 1 | 1 |
| 2 | 0 | 0 |
| 3 | 0 | 3 |
| 4 | 11 | 14 |
| 5 | 7 | 8 |
| 6 | 3 | 7 |
| 7 | 11 | 15 |
| 8 | 7 | 11 |
| 9 | 15 | 7 |
| 10 | 20 | 9 |
| | 75 | 75 |

Stapel Scale Differences

The modified Stapel scale also was subjected to statistical analysis. A statistical comparison of mean scores for each word reported on the modified Stapel scale illustrates further differences between members and nonmembers. It was hypothesized that mean scores for WPhA members and nonmembers as recorded for each word in the modified Stapel scale are not significantly different at the ninety-five percent level. The members' and nonmembers' scores and a notation of their significant differences are presented in Table XVI. A sample calculation with the mean scores for the adjective GOOD is presented below.[9]

$$t = \frac{(\bar{Y}_1 - \bar{Y}_2)}{Sp\sqrt{(1/N_1) - (1/N_2)}}$$

$$t = \frac{3.36 - 2.45}{2.64\sqrt{(1/75) - (1/74)}}$$

$$t = \frac{(.91)^2}{2.64\sqrt{(.013 - .014)}}$$

$$t = \frac{.83}{.066}$$

$$t = 12.46$$

---

[9]See Appendix J for a further explanation of the procedure.

TABLE XVI

SCORES ON THE MODIFIED STAPEL SCALE

FOR MEMBERS AND NONMEMBERS

| Scale Adjective | Weighted Scores | | Significant at the 95 per cent level |
|---|---|---|---|
| | Members | Nonmembers | |
| GOOD | 74.6 | 65.5 | Yes |
| WEAK | 31.7 | 50.5 | Yes |
| HELPFUL | 78.0 | 59.1 | Yes |
| DULL | 33.0 | 44.4 | Yes |
| FRIENDLY | 79.0 | 64.2 | Yes |
| WORTHLESS | 10.8 | 20.9 | Yes |
| ACTIVE | 73.4 | 56.7 | Yes |
| EXPENSIVE | 42.4 | 59.9 | Yes |
| DESIRABLE | 82.7 | 69.1 | Yes |
| SNOBBISH | 13.6 | 24.2 | Yes |

A "t value" of less than 1.96 would mean acceptance of the hypothesis. The hypothesis that member and nonmember mean scores for the word GOOD are not significantly different is rejected. The same results were found for each word on the modified Stapel scale. Thus, the hypothesis that the scores for WPhA members and nonmembers for each word on the modified Stapel scale are not significantly different is rejected.

The Stapel scale helps illustrate further differences between WPhA members and nonmembers. Pairs of contrasting words are not used on the scale as is done with the semantic differential. On the modified Stapel scale the respondents were asked to report the degree to which a word was descriptive of the WPhA. A respondent could judge each word as it applied to the WPhA to illustrate his perception of the association.[10] The members' perceptions of WPhA differ significantly from those of the nonmembers as measured on the modified Stapel scale.

Summary

Throughout this chapter differences between WPhA members and nonmembers have been illustrated. Statistics have been applied to quantify these differences.

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[10]Crespi, op. cit., p. 72.

The statistical comparison of correlation coefficients displayed differences between WPhA members and nonmembers. Three of the four correlation coefficients compared were significantly different. The hypothesis that members and nonmembers are alike as to variation between the two mean responses correlated was rejected. The variables used were scores on the two job satisfaction scales by the respondents. The variance displayed by each group was significantly different for the variances tested.

The modified Stapel scale showed a difference between WPhA members and nonmembers. For each word tested there was a significant difference between the mean replies of the members and the nonmembers. An individual joining an organization and maintaining membership in it more likely will socially accept the organization than will nonmembers. This generalization can be applied to WPhA members and nonmembers to explain partially the differences in replies of the two subsamples to the modified Stapel scale. The differences in the social perception of the WPhA by members and nonmembers illustrates dissimilarity between the two groups, a dissimilarity that probably could be corrected.

# CHAPTER V

## RECOMMENDATIONS AND SUMMARY

The recommendations to be made in this study are meant solely for the Wisconsin Pharmaceutical Association. The respondents suggested activities for the WPhA. These suggestions together with additional findings formed the basis for these recommendations. Improvement of the WPhA for Wisconsin pharmacists is their intent.

### RECOMMENDATION NUMBER 1

> The Wisconsin Pharmaceutical Association should publicize more of its activities in The Wisconsin Pharmacist.

Annotated minutes of the Board of Directors' meetings, legislative hearings of interest to pharmacists and a yearly review of the WPhA's financial status are some activities that should be publicized. Such increased utilization of The Wisconsin Pharmacist would not significantly increase the financial or personnel demands to publish the Journal. In this way not only will the members be more informed of the work the state association is doing, but nonmembers would be more informed as well. This would be accomplished by discussion and pass-along

readership of The Wisconsin Pharmacist. All pharmacists' increased knowledge of WPhA activities beneficial to pharmacy will help maintain and expand membership. As more non-member pharmacists become informed about the WPhA, the idea of WPhA membership should be more appealing to them.

RECOMMENDATION NUMBER 2

> The Wisconsin Pharmaceutical Association should encourage and provide the opportunity for more pharmacists to participate in its activities.

Participation by more Wisconsin pharmacists in WPhA activities will create a stronger allegiance toward the WPhA. One activity that could benefit the association would be a membership campaign in which WPhA members encouraged nonmember friends to join the association. This also would provide opportunity for more pharmacists to participate directly in association activities. This serves the dual purpose of participation by the membership and increasing the number of WPhA members. A certain degree of apathy toward the WPhA was noted among respondents. Encouragement by the state association to participate directly in its activities would tend to lessen this apathy.

More pharmacists should be encouraged to seek offices in the WPhA. Many of the pharmacists interviewed

believed they could not become officers in the WPhA. More pharmacists would be convinced of the worth of the state association if they were encouraged to seek offices or serve on the association's committees.

Arguments against more member participation are common. They usually include objections such as, "pharmacists are too busy to participate," "they have to spend too many hours at their pharmacies because no relief pharmacists are available." Have pharmacists of Wisconsin been offered the opportunity to participate? More participation opportunity may initiate greater interest which may in turn make the state association more successful.

RECOMMENDATION NUMBER 3

> The Wisconsin Pharmaceutical Association should hire a field secretary to provide representation throughout the state.

A field secretary of the WPhA would be beneficial to pharmacists of Wisconsin. This would enable greater rapport to be established with pharmacists of Wisconsin and the WPhA. The secretary's duties would be concerned

primarily with membership solicitation and services for the membership. The presence of a WPhA representative in the field would enhance greatly the image of the state association to the members and the nonmembers. The field secretary would be a source of knowledge about the WPhA. Then "lack of knowledge" about the WPhA should be reduced as a reason for nonmembership.

Arguments against a field secretary are usually of expense. The wages paid a field secretary would have to be obtained from increased membership and continuation of present membership. Thus, the primary work of the field secretary would be new membership solicitation. His presence in the field as the WPhA representative also should maintain continuation of present membership. Thus, the expenses incurred could be offset by increased dues revenue from new members if the secretary was successful.

RECOMMENDATION NUMBER 4

> The Wisconsin Pharmaceutical Association should sponsor more continuing education programs.

Sponsorship of more continuing education programs for Wisconsin pharmacists by the WPhA will improve the image of the state association with all pharmacists. The WPhA

member respondents expressed a desire for their state association to provide more continuing education. Many of these same member respondents were unaware of the existing programs sponsored by the WPhA. Therefore, not only should the WPhA sponsor more educational programs, but they should make the pharmacists aware of the programs they are sponsoring.

There is a need for continuing education of the practitioners after they have finished their formal education. The WPhA should take more initiative in helping fill the educational gap. The WPhA should be aware of the educational needs of Wisconsin's pharmacists. Many of the respondents seem to believe that fulfilling these needs is a responsibility of the WPhA.

Many WPhA nonmembers may benefit from the educational activities sponsored by the association. This could initiate thinking about WPhA membership.

RECOMMENDATION NUMBER 5

> The WPhA should inform all pharmacists of pending and present legislation concerning pharmacy.

"Government relations" was a program valued most by association members as reported in a national study by the United States Chamber of Commerce.[1] Information about

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[1] Membership Promotion Manual, American Society of Association Executives, Washington, D. C., 1966, p. 4.

legislation is increasingly important in current pharmacy practice. Medicare payments, new drugs on the drug abuse control amendment list as well as upcoming legislation make information about government activity necessary.

Pharmacists interviewed expressed the desire for the WPhA to increase legislative activity. The image of the WPhA should be improved by informing all pharmacists of pending and present legislation.

The recommendations stress increased membership. However, rapport between the pharmacists of Wisconsin and the Wisconsin Pharmaceutical Association is important and it also is embodied within some of the recommendations. Pharmacists of Wisconsin are not fully aware of the activities of the Wisconsin Pharmaceutical Association and often times look upon the state association as a group or organization apart from their practice of pharmacy. This should not be true and should be corrected. The pharmacists practicing throughout the state must be the focal point of the state association and more important, the pharmacists of the state must be made to realize that they are the focal point of the WPhA.

Increased WPhA membership can be accomplished by greater dissemination of knowledge to all pharmacists of

the state. Merely flooding the state pharmacists with knowledge about the WPhA will not necessarily make them all members. The effectiveness of knowledge and information about the WPhA in promoting membership will be influenced by the media used in the dissemination. The recommendations suggest possible media.

Summary

Personal interviews were conducted with 150 pharmacists in Wisconsin. There were seventy-five members of the Wisconsin Pharmaceutical Association and seventy-five nonmembers in the sample. Some respondents received an advance letter informing them that the author would be in their area during the coming week. The others were contacted personally. All but 6 of the respondents were interviewed in their pharmacies, the others being interviewed in their homes.

The questionnaire consisted of thirty-nine questions, three of which were scaling devices. Two job satisfaction scales were used in the questionnaire. The other scaling technique was the modified Stapel scale. The adjectives used on the modified Stapel scale were obtained from conversations with W. Allen Daniels, Executive Director of the Wisconsin Pharmaceutical Association,

Irving Crespi, an official of the Gallup Poll organization, several Wisconsin pharmacists and other studies.

Respondents in most instances were quite receptive toward the interviewer. They were not told that the study was about nonmembership of the WPhA, but rather were informed that the author was conducting a study about attitudes of pharmacists toward their profession. It was hoped that any animosity toward the interviewer about their nonmembership would not be encountered. Further, it seemed necessary to disguise the actual intent of the study if meaningful results were to be obtained. The respondents' favorable reaction to the interviewer in most situations and the results of the study do not suggest the contrary.

Replies to some questions were different for Wisconsin Pharmaceutical Association members when compared to non-members. This was evident throughout the questionnaire. The first part of the questionnaire was designed to learn about the respondent's education, pharmacy licensure and practice experience. Most of the respondents were educated at the University of Wisconsin, both members and non-members. However, 28 percent of the nonmembers' formal education consisted of less than a baccalaureate degree. Only 12.3 percent of the WPhA members received less than

a baccalaureate degree. The respondents generally exhibited immobility between pharmacies. The WPhA members interviewed were predominately pharmacy owners while the opposite was true of nonmembers. Members of the WPhA worked more hours per week than did nonmembers.

The second portion of the questionnaire focused on pharmaceutical association membership. This was subdivided further into questions about local association membership, state association membership and national association membership. The WPhA members join local pharmaceutical associations with more frequency than do nonmembers. Reviewing national pharmaceutical association membership, the WPhA members join these organizations more frequently than nonmembers. WPhA nonmember pharmacists join with less frequency other pharmaceutical associations. Examining the reasons for WPhA nonmembership, lack of knowledge was the categorized response given by most of the respondents. This may also be the precipitating reason for nonmembership in local and national pharmaceutical associations as well.

The third portion of the questionnaire obtained additional socioeconomic and attitudinal data. Most of the respondents were home owners, were married and had

between two and three children. The WPhA members held more memberships in community organizations. The WPhA members' wives joined community groups with more frequency also. As was exemplified in the joining of local and national pharmaceutical associations and here again in the joining of community organizations, WPhA members could be classified as "joiners" when compared to nonmembers. Both members and nonmembers were inclined to recommend a career in pharmacy for their children. When asked if they would repeat a career in pharmacy, both members and nonmembers generally said they would. The WPhA members were slightly older than the nonmember respondents. Income of the member respondents was higher than nonmember respondents; however, this likely is a function of pharmacy ownership. Member pharmacy owners outnumbered nonmember pharmacy owners two to one.

The two job satisfaction scales used in the study revealed some interesting differences between WPhA members and nonmembers. The mean scores on both scales for nonmembers were lower than the members' mean scores. This seems to signify a lesser degree of satisfaction derived from the practice of pharmacy by WPhA nonmembers than members, as measured by these scales. Whether membership in the state association adds to the satisfaction of a pharmacist practicing his profession is beyond the scope

of this study; however, this is an interesting question for future consideration.

The modified Stapel scale also discerned quantifiable differences between the WPhA members and nonmembers. All ten adjectives used revealed significantly different scores by WPhA members as contrasted to nonmembers. The five adjectives construed "positive" toward the state association were scored higher by the members. The five adjectives construed as "negative" toward the state association were scored lower by the members.

A typical Wisconsin Pharmaceutical Association member interviewed can be compared to the typical nonmember interviewed. The typical state association member was educated at the University of Wisconsin, practiced in one pharmacy during the past five years, owns his own pharmacy, works an average of 60-64 hours a week. Further, the typical WPhA member joins both local and national pharmaceutical associations. The member is married and has between two and three children, he owns his own home, is 44.77 years old and earns between $10,000 and $15,000 per year. The typical WPhA member would recommend a career in pharmacy for his children and if given the choice would again become a pharmacist.

The typical nonmember of the WPhA was educated at the University of Wisconsin, practiced in one pharmacy during the past five years, does not own a pharmacy and works 45-49 hours per week. The WPhA nonmember is also a nonmember of local and national pharmaceutical associations. He is married and has between two and three children, owns his home, is 44.53 years old and earns between $10,000 and $15,000 per year. The nonmember pharmacists would recommend a career in pharmacy for their children and again become a pharmacist.

An obvious difference between the WPhA members and nonmembers is their frequency in joining pharmaceutical and community organizations. The nonmembers' wives also join organizations less frequently than do members' wives.

Other differences between WPhA members and nonmembers were described and quantified. Job satisfaction as measured on each of the two scales was correlated separately with age and income. Significant differences appeared in three of the four correlations. Scores on the modified Stapel scale were compared and significant differences between members and nonmembers were found for each word. This study has attempted to show difference between WPhA members and nonmembers and to use these

differences to make suggestions for increasing membership in the WPhA.

The reasons for differences between WPhA members and nonmembers are not within the scope of this study. Differences between the two groups do exist. The WPhA must analyze carefully the similarities of its members and nonmembers. Dissimilarities also must be analyzed to facilitate effective communication with the greatest possible number of Wisconsin pharmacists.

When asked what activities the WPhA should undertake, one of the respondents answered, "WPhA should be the leader of pharmacy in Wisconsin, not hospital pharmacists or retail pharmacists, but all men and women practicing pharmacy in Wisconsin." This is an excellent appraisal of what the WPhA should undertake, to fulfill its responsibility as leader and spokesman for pharmacy in Wisconsin.

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# APPENDIX A

Questionnaire

1. Where did you receive your pharmaceutical education? _____

2. When did you become a registered pharmacist in Wisconsin? _____

3. Have you practiced continually in Wisconsin since that time? _____

5. Have you ever practiced in a state other than Wisconsin? _____

| | WHERE | WHEN | YRS. OF PRAC. | ASSOC. MEM. | TYPE OF ASSOC. |
|---|---|---|---|---|---|
| Registration | | | | | |
| Armed Service | | | | | |
| Non Pharmacy | | | | | |
| Unemployed | | | | | |

6. How many pharmacies have you practiced in during the past 5 years? _____

| NUMBER | TYPE OF PHARMACY | LENGTH OF PRACTICE |
|---|---|---|

7. How long have you lived in this community? _____

8. Do you own a pharmacy? _____

9. How long have you owned this pharmacy? _____

10. (Non Owner) How many hours per week do you practice?

under 30 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-70 over 70

11. (Owners) What are the total number of hours you devote to pharmacy as well as managerial activity?

under 30 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-70 over 70

12. The _____ pharmaceutical society is the local association in this area. What do you believe to the major contributions of _____ to pharmacists in this area?

13. Are you a member of the _____ association? _____

YES REPLIES TO 13 ARE ASKED #14, NO REPLIES ARE ASKED #15

14. Are dues paid a measure of the benefits you receive? _____

15. Why are you not a member?

16. What do you believe to be the major activities of the Wisconsin Pharmaceutical Association?

| | |
|---|---|
| LEGISLATIVE | LIAISON AMONG PROFESSIONS |
| PHARMACISTS' ROLE IN MEDICARE | PUBLISH (WIS. PHARMACIST) |
| EDUCATION | NOTHING |

17. What (other) activities <u>should</u> be undertaken by the Wisconsin Pharmaceutical Association?

| | |
|---|---|
| LEGISLATIVE | LIAISON AMONG PROFESSIONS |
| PHARMACISTS' ROLE IN MEDICARE | PUBLISH (WIS. PHARMACIST) |
| EDUCATION | NOTHING |

18. Are you a member of the Wisconsin Pharmaceutical Association? _____
YES REPLIES TO #18 ARE ASKED #19, NO REPLIES ARE ASKED #20, 21

19. Approximately when did you join? _____

20. Why are you not a member?

21. Have you ever been a member? _____

If "YES" in what year were you last a member? _____

22. Why didn't you continue your membership at that time?

23. In 1963 the Wisconsin Pharmaceutical Association affiliated with the American Pharmaceutical Association, in other words, in order to be a member of the Wisconsin Pharmaceutical Association you also join the American Pharmaceutical Association. Do you feel that the state association benefits from this affiliation? _____ Why?

25. Card - See page 95

On this card is a list of ten words that could be used to describe the Wisconsin Pharmaceutical Association. The numbers in the line following each word are to be used to show how well YOU believe the word describes the Association. Please circle a PLUS number for the words that you think describe the WPhA accurately. The more accurately you think the word describes the association, the larger the plus number you would circle. Please circle a MINUS number for words you think do <u>not</u> describe the Wisconsin Pharmaceutical Association accurately. The less accurately you think a word describes it, the larger the minus number you would circle. Therefore, you can select any number from +5 for words that you think are very accurate descriptions, all the way to -5 for words that you think are very inaccurate descriptions.

Think of the Wisconsin Pharmaceutical Association as an organization and not in terms of any specific members or officers when selecting the descriptive accuracy of the ten words. Please be candid in your replies.

26. Are the national pharmaceutical associations effective in improving conditions of practice? _____
If "YES" which ones?

28. Card - See page 96

29. Card - See page 96

30. Do you rent or own your own home? _____

31. Are you married?____ Do you have any children?____ How many?____

32. Are you a member of any community organization? _____

33. Does your wife belong to any community organizations? _____

34. Would you recommend a career in Pharmacy for your son or daughter? _____

35. If you had it to do over again would you become a pharmacist? _____

36. Do you have any relatives within one hour's drive of your home? _____

37. What form of governmental structure do you have in the community? _____

38. For classification purposes, how old are you? _____

39. Card - See page 95

25.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Good | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Weak | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Helpful | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Dull | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Friendly | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Worthless | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Active | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Expensive | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Desirable | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |
| Snobbish | +5 | +4 | +3 | +2 | +1 | -1 | -2 | -3 | -4 | -5 |

37. For classification purposes, please circle your income category on this card.

a) Under $10,000

b) $10,000-$14,999

c) $15,000-$20,000

d) Over $20,000

28. Check one of the following statements which best describes how you like being a pharmacist.

_____I hate it

_____I dislike it

_____On the whole I don't like it

_____I like it a little

_____I like it fairly well

_____On the whole I like it

_____I like it a good deal

_____I like it very much

_____I am very enthusiastic about it

_____I love it

29. Check one of the following which best tells how you feel about changing your line of work, either within pharmacy or out of pharmacy.

_____I would like to leave the field of pharmacy altogether.

_____I would quit pharmacy at once if I could get anything else.

_____I would take almost any field other than pharmacy in which I could earn as much as I am earning now.

_____I am not eager to give up pharmacy, but I would do so if I could get into a better field other than pharmacy.

_____I would like to remain a pharmacist and change my line of work within pharmacy.

_____I would like to change my present job for another job in pharmacy but maintain the same line of work.

_____I can't think of any field of work for which I would give up pharmacy.

_____I can't think of any job within pharmacy that I would rather have.

_____I would not change pharmacy for any other line of work.

_____I would not change jobs at all!

# APPENDIX B

THE UNIVERSITY OF WISCONSIN
MADISON 53706



OF PHARMACY
Building
Charter Street

As pharmacists we all have different attitudes about our profession. A fuller understanding of these attitudes likely would identify some common denominators which would lead to improved practice for us. Part of my graduate studies at the University of Wisconsin School of Pharmacy included a study of how professional attitudes vary among Wisconsin pharmacists. Your help is needed to isolate and quantify these attitudes.

For the past two years I have practiced both hospital and community pharmacy in Wisconsin and I appreciate that your time is limited and valuable. However, your attitudes about pharmacy derived from your knowledge and experience in practice are essential to the success of this study. Thus I would like to conduct a brief interview with you which would be about fifteen minutes in duration. I will be in your area during the week of and would appreciate an opportunity to talk with you.

Your cooperation will be appreciated.

Sincerely,

Barry Wawrzyn
Research Assistant

I hope you will permit Barry Wawrzyn to conduct his brief interview with you. The data he will request are for his master's thesis. Your assistance will be most helpful.

Richard A. Ohvall
Assistant Professor

# APPENDIX C

NUMBER AND PERCENT OF RESPONDENTS BY YEAR GROUP IN WHICH THEY BECAME REGISTERED IN WISCONSIN

| | Members | | Nonmembers | |
|---|---|---|---|---|
| Year Group | N | Percent | N | Percent |
| 1900-1920 | 3 | 4.0 | 4 | 5.3 |
| 1921-1930 | 6 | 8.0 | 6 | 8.0 |
| 1931-1940 | 10 | 13.3 | 11 | 14.7 |
| 1941-1950 | 20 | 26.7 | 9 | 12.0 |
| 1951-1960 | 24 | 32.0 | 33 | 44.0 |
| 1961-1967 | 12 | 16.0 | 12 | 16.0 |
| Total | 75 | 100.0 | 75 | 100.0 |

# APPENDIX D

NUMBER AND PERCENT OF RESPONDENTS
BY THE STATES IN WHICH THEY WERE REGISTERED PHARMACISTS

| | Members | | Nonmembers | |
|---|---|---|---|---|
| States | N | Percent | N | Percent |
| Wisconsin only | 61 | 81.3 | 60 | 80.0 |
| Wisconsin and: | | | | |
| Minnesota | 4 | 5.3 | 1 | 1.3 |
| North Dakota | 3 | 4.0 | 1 | 1.3 |
| Illinois | 2 | 2.7 | 4 | 5.3 |
| Michigan | 2 | 2.7 | 1 | 1.3 |
| Nebraska | 2 | 2.7 | 2 | 2.7 |
| Colorado | 1 | 1.3 | 3 | 4.0 |
| Iowa | 0 | | 3 | 4.0 |
| Arizona | 1 | 1.3 | 1 | 1.3 |
| Idaho | 1 | 1.3 | 0 | |
| Indiana | 0 | | 1 | 1.3 |
| Missouri | 0 | | 1 | 1.3 |
| Ohio | 0 | | 1 | 1.3 |

# APPENDIX E

NUMBER AND PERCENT OF RESPONDENTS
BY THEIR HOURS OF PRACTICE PER WEEK

| | Owners | | | | Employees | | | |
|---|---|---|---|---|---|---|---|---|
| | Members | | Nonmembers | | Members | | Nonmembers | |
| hrs./wk. | N | Percent | N | Percent | N | Percent | N | Percent |
| under 30 | 2 | 4.0 | 0 | | 1 | 4.0 | 7 | 14.0 |
| 30-34 | 0 | | 0 | | 0 | | 0 | |
| 35-39 | 0 | | 0 | | 0 | | 0 | |
| 40-44 | 4 | 8.0 | 1 | 4.0 | 11 | 44.0 | 14 | 28.0 |
| 45-49 | 3 | 6.0 | 0 | | 4 | 16.0 | 17 | 34.0 |
| 50-54 | 6 | 12.0 | 3 | 12.0 | 6 | 24.0 | 8 | 16.0 |
| 55-59 | 6 | 12.0 | 2 | 8.0 | 2 | 8.0 | 2 | 4.0 |
| 60-64 | 16 | 32.0 | 3 | 12.0 | 1 | 4.0 | 1 | 2.0 |
| 65-70 | 8 | 16.0 | 11 | 44.0 | 0 | | 0 | |
| over 70 | 5 | 10.0 | 5 | 20.0 | 0 | | 1 | 2.0 |
| Total | 50 | | 25 | | 25 | | 50 | |

# APPENDIX F

## Explanation of the Z Statistic

To test a hypothesis that r has some value other than zero, or set confidence limits on r, a transformation to approximately normalize the distribution of the correlation coefficient (r) must be employed. This must be done because the distribution of r is not symmetric. It is accomplished by use of the following:

$$Z_r = \tfrac{1}{2} \log_e \frac{1 + r}{1 - r}$$

$\log_e$ = natural logarithm, or 2.3026 log .

The standard deviation of $Z_r$ may be expressed approximately as:

$$\sigma_z = \frac{1}{\sqrt{N - 3}}$$

To test $r_1$ against a hypothesis p = 0.9, the following test statistic is computed:

$$Z = \frac{Z_{r_1} - Z_{r_2}}{\sigma_z}$$

This is approximately normally distributed.

$Z_p = 1.47$ for p = 0.90

$Z_r = 0.48$ for r = 0.45

$$\sigma_z = \frac{1}{\sqrt{71 - 3}} = \frac{1}{8.2}$$

Therefore:

$$Z = \frac{Z_{r_1} - Z_{r_2}}{\sigma_z} = \frac{0.45 - 1.47}{8.2} = \frac{-1.02}{.16} = -6.37$$

Since Z is greater than 1.64, the hypothesis that p = 0.90 would be rejected.

# APPENDIX G

## COMPUTATION OF CORRELATION COEFFICIENTS

r is defined by:[1]

$$r = \frac{\Sigma(X - \bar{X})(Y - \bar{Y})}{\sqrt{\Sigma(X - X)^2 \Sigma(Y - Y)^2}}$$

The r is the estimated coefficient of correlation.

X = mean score on job satisfaction scale B

Y = mean income as coded in Appendix K

r simplified is $r = \frac{\Sigma XY}{\sqrt{\Sigma X^2 \Sigma Y^2}}$

The following values were computed:

$\Sigma X = 460$ $\Sigma Y = 137$

$\Sigma X^2 = 3312$ $\Sigma Y^2 = 295$

$\Sigma (X)^2 = 211,600$ $\Sigma (Y)^2 = 18,769$

$XY = 868$ $n = 71$

From the above equation r = .77

---

[1]Edward Bryant, Statistical Analysis, McGraw-Hill Inc., New York, 1966, pp. 139-142.

# APPENDIX H

## COMPUTATION OF THE VARIANCE

There are a number of methods to quantify the amount of dispersion in a sample. One of these methods is the computation of the variance. For a finite population the variance can be defined as the average of the squares of the deviations from the arithmetic mean.[1] The formula used in the computation of the variance is:

$$\sigma^2 = \frac{\Sigma(Y - \mu)^2}{N}$$

N = number of individuals in the population

$\mu$ = the population mean

Y = the variable values

$^2$ = the variance

In this study the variance was computed for six variables, nonmembers' scores on job satisfaction scales A and B, members' scores on job satisfaction scales A and B, nonmembers' hours worked per week and members' hours worked per week.

The values were as follows:

nonmember job satisfaction scale B

$$\sigma^2 = \frac{(12.49)^2}{75}$$

$$\sigma^2 = 2.08$$

---

[1] Edward Bryant, Statistical Analysis, McGraw-Hill, Inc., New York, 1966, p. 49.

member job satisfaction scale B

$$\sigma^2 = \frac{(-6.04)^2}{75}$$

$$\sigma^2 = 0.48$$

nonmember job satisfaction scale A

$$\sigma^2 = \frac{(6.74)^2}{75}$$

$$\sigma^2 = 0.605$$

member job satisfaction scale A

$$\sigma^2 = \frac{(-7.76)^2}{75}$$

$$\sigma^2 = 0.803$$

# APPENDIX I

## EXPLANATION OF THE F TEST

"If $Y_1$ and $Y_2$ are normally distributed variables drawn independently from the same normal population and if $s_1^2$ and $s_2^2$ are their respective variances, then the ratio $s_1^2/s_2^2$ is distributed as F."[1] If $s_1^2$ is very small and $s_2^2$ very large, F will approach zero. If the opposite is true, F will approach infinity. If $s_1^2$ and $s_2^2$ are the same or come from the same population, then the average value of F is near one. Therefore F is highly skewed to the right with a range from zero to infinity, the average value is near one.

Due to the complexity of the F distribution, the right hand portion of the distribution is usually available. By adopting the convenience of placing the larger variance in the numerator, we can make satisfactory use of the upper-end, right hand portion, tables.

In order to determine the values of F at the lower end of the distribution, the following relationship is used.

$$F_{(1-\alpha)} = \frac{1}{F_{(\alpha)}}$$

---

[1] Edward Bryant, Statistical Analysis, McGraw-Hill, Inc., New York, 1966, p. 91.

# APPENDIX J

## Inferences About Two Means

In comparing two groups, we are often interested in differences in the means. The inferences about the mean scores on the modified Stapel scale concerns two independent samples. Independence in samples may be considered as, "two samples in which the individuals in one cannot be related to, or associated with, the individuals of the other in a meaningful manner."[1]

The formula used to test the difference between two means of the modified Stapel scale is:

$$t = \frac{(\bar{Y}_1 - \bar{Y}_2)}{S_p \sqrt{(1/N_1) + (1/N_2)}}$$

$$S_p = \frac{(N_1 - 1)S_1^2 + (N_2 - 1)S_2^2}{N_1 + N_2 - 2}$$

$\bar{Y}_1$ = mean # 1

$\bar{Y}_2$ = mean # 2

$N_1$ = number of sample # 1

$N_2$ = number of sample # 2

$S_1^2$ = variance in mean # 1

$S_2^2$ = variance in mean # 2

Specific applications of the above formulae can be found in Bryant.[2]

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[1] Edward G. Bryant, Statistical Analysis, McGraw-Hill, Inc., New York, 1966, p. 97.

[2] Ibid. Bryant, p. 98.

# APPENDIX K

## Coding of Income Categories

The income categories as presented to the respondents were:

(a) under $10,000

(b) $10,000 - $14,999

(c) $15,000 - $20,000

(d) over $20,000

In order to classify orderly the categories circled by the respondents during the interview, a numerical value was assigned to each category.

(a) 1

(b) 2

(c) 3

(d) 4

When using the income variable in any calculations, these numbers were used rather than a mean of the income range circled.

# APPENDIX L

NUMBER AND PERCENT OF RESPONDENTS

BY TYPE OF PRACTICE

| | Members | | Nonmembers | |
|---|---|---|---|---|
| | N | Percent | N | Percent |
| Community | 61 | 81.3 | 58 | 77.3 |
| Clinic | 8 | 10.7 | 5 | 6.7 |
| Hospital | 5 | 6.7 | 12 | 16.0 |
| Teacher | 1 | 1.3 | 0 | |
| Total | 75 | 100.0 | 75 | 100.0 |